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THE GLOBAL POLITICAL ECONOMY OF GREEN FINANCE AND SOCIO-ECOLOGICAL TRANSFORMATION

Special Issue Guest Editors:
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Global Green Finance and Sustainability: Insights for Progressive Strategies

Abstract *Green finance has been increasingly presented as being an effective solution to global environmental problems and climate change. However, today's global financial structures tend to reproduce global inequalities and contribute to continued, highly unequal over-use and destruction of the environment, as well as a global ecological crisis. This paper introduces the topic with a specific emphasis on green finance, and provides an overview of the contributions to this special issue on Global Finance and Socio-Ecological Transformation. We discuss the implications of global green finance and propose a typology that differentiates between neoliberal, reformist and progressive transformative types of green finance. Based on this, we present insights for progressive strategies and policies for financing a socio-ecological transformation towards global sustainable welfare.*

Keywords *Green Finance, Sustainability, Socio-ecological Transformation, Strategies, Environmental Policies*

> "…[*G*]*reen finance* represents the global financial community's first structured attempt to join financial performances and positive environmental impact …" (Berrou et al. 2019a: 4)

Introduction[1]

It is widely recognised that, besides economic output, the concept of 'welfare' encompasses many additional important dimensions, such as environmental sustainability, job security and a more equal distribution

of income and wealth (Schultheiß et al. 2020, Novy et al. 2020). Debates on de-growth, numerous movements against environmentally destructive projects, concerns about climate change and the loss of biodiversity, and the recent rise of the Fridays-for-future movement, have shown the rising concerns about environmental issues. Additionally, we have seen the emergence of international trade union cooperation, e.g. the Trade Unions Democratic Energy Network (2019), demanding a global democratic energy transition requiring public investment and public ownership to overcome capitalist structures. However, the idea of sustainability had already been rediscovered in the 1970s, and rapidly found its way into mainstream discussions and policies. The original radical transformative perspective was abandoned in the 1980s and 1990s (Castro 2004). In the meantime, sustainability has become a dominant discourse, a central element of corporate social responsibility (CSR), and an important and growing business field. Among industrial companies and non-financial companies in general, it has become more common for them to represent themselves as 'green' by using CSR reporting in order to increase profitability. As Weber/ElAlfy (2019: 57) summarise:

> "Corporations have realized that reporting on environmental and social issues can help achieve long-term profitability through developing a positive corporate image, which should satisfy stockholders' interests."

Green finance, as a central element of sustainable finance, has grown quickly over the past years (IMF 2019, UNCTAD 2020). The rise of green finance took place against the background of the financial crisis of 2008, a crisis that led to decreasing financial returns and that had considerably threatened the image of finance in the public perseption. Hence, it is no surprise that green finance has become the new panacea for making capitalism more sustainable. The increasing importance of green finance has contributed to a more positive image of finance, and is mirrored by the global issuance of green bonds, which started in 2007 with around USD 1Bn globally, and surged to a value of USD 167bn in 2018 (Berrou et al. 2019a: 22). Compared to a total of USD 1.34tn of corporate bond issue in 2018 (Reuters 2018), it is an apparently significant and important development. Besides green bonds, there are also other financial products such

as green asset-backed securities, green loans, green funds, green project financing and green indices (Berrou et al 2019a). Alongside different green financial products, green finance can also be analysed by looking at different sectors or agents in the field of green finance. These agents include banks and the financial sector, multilateral development banks, and non-financial corporations. As an element of green finance, banks have started to introduce criteria to assess the environmental and sustainability risks of their borrowers, which helped to decrease their credit risk. This has been followed by focussing on green investment opportunities by establishing green mutual funds, green indices, such as the Dow Jones Sustainability index, and other investment vehicles (Weber / ElAlfy 2019).

Different institutions provide different definitions for green finance. In general, green finance tends to be defined according to the underlying motivations. Green finance is often referred to as "financial stocks and flows aimed at supporting the achievements of the environment-related SDG." (Berrou et al. 2019: 13). Moreover, green finance is part of sustainable finance, which also encompasses social issues, while climate finance is considered an element of green finance (UNEP 2016, Berrou et al. 2019b: 34). It is generally assumed that environmental issues can be fixed within the current economic capitalist order. Often, reference to the UN Sustainable Development Goals (SDG) is made (Rezende de Carvalho Ferreira et al. 2016). However, it has to be noted that the SDG, although widely accepted or even hegemonic, are also criticised, because they explicitly, and contrary to the Millennium Development Goals (MDGs), privilege economic interests over universal entitlements. In so doing and by not questioning the current development paradigm, the SDG tend to undermine social struggles for more socially just and ecologically sustainable strategies (Weber H. 2017). In addition, it is claimed that the SDG are based on the assumption that decoupling is possible, which is considered a myth (Fletcher/Rammelt 2017), and SDG are considered as prioritising economic growth over sustainable resources use (Eisenmenger et al. 2020). Moreover, when dealing with SDG, international financial institutions such as the International Monetary Fund (IMF) are often criticised for not adequately addressing social inequalities (Donald 2019). In line with this, instead of assuming a compatibility between capitalist growth, a healthy environment, and social goals, critical political economy perspectives argue that capitalist dynamics tend to be in contradiction

with nature. In this perspective, the opportunities to fix global environmental problems are very limited, due to the expansionist dynamics of capitalism and its internal power structures. Therefore, it is argued that an incorporation of environmental issues under a capitalist framework is not a sufficient strategy for sustainability. Instead, the economic system has to be changed (Liodakis 2016; Zeller 2020), i.e. that a fundamental socio-ecological transformation has to take place.

This special issue analyses the implications of finance on the environment and seeks to address the question of which form of finance contributes to a socio-ecological transformation. Therefore, we consider a socio-ecological transformation to be a process needed to change the global capitalist mode of production in such a way that it is globally sustainable (avoiding climate change, the destruction of the biosphere etc.) and ensures globally equitable material living conditions for all. The role of green finance is thereby considered within the broader framework of global financial structures and developments. The recent Covid-19 pandemic has shown the importance of states and governments in combating the pandemic. In the current conjuncture, AK Wien Abteilung EU & Internationales (2020) holds that it is necessary, not just to save banks and multinational corporations, but the people and the climate. The climate crisis and the multiple ecological crises the planet faces are expected to have much more disastrous effects than the Covid-19 crisis. Combating the global environmental crisis requires vigorous public action. Similar to the Covid-19 crisis, environmental issues and policies affect different groups all over the globe in very different ways. Against this background, it is essential to discuss the limits and the implications of current financial structures and green finance in a global perspective, and also with reference to different groups in society.

This introduction starts with a short overview of environmental problems and their uneven nature on a global level in today's capitalism. The overview is followed by a critical assessment of the dominant perspectives on the role of green finance and proposes a typology to distinguish neoliberal, reformist and progressive transformative forms of green finance. The subsequent section demonstrates how the papers in this special issue are related, and which insights into socio-ecological transformation and the role of finance therein they offer. Finally, we present conclusions for progressive strategies and policies.

2. The highly unequal overuse of the global environment by the global North

Global capitalism leads to an overuse of natural resources (Fischer-Kowalski/Pallua 2016). This overuse carries with it significant environmental damage, and is not sustainable. Global warming is one of the most dramatic consequences. To keep global warming to +1.5 degrees centigrade by 2030, it is necessary to reduce global CO_2 emissions by 7.6 per cent per year from 2020 to 2030 (UNEP 2019a: 26). This is extremely unlikely to happen under current capitalist structures and the prevailing capitalist mode of production. Moreover, the access and use of environmental resources is highly unequal: the poorest 50 per cent of the global population account for only about 10 per cent of global emissions, while the richest 10 per cent account for about 50 per cent. It is mainly rich people in the global North (Kleinhückelkoten/Neitzke 2016), but also rich people in the global South who cause these emissions. Oxfam (2015) estimates that the richest 1 per cent is responsible for about 30 times more emissions than the poorest 50 per cent of the world population. Industrialised countries use much more natural resources per capita compared to the usage of developing countries (Ritchie/Roser 2020). One characteristic of this uneven consumption of natural resources is that the global South is a net exporter of natural resources to the global North (Fischer-Kowalski/Pallua 2016). However, economic development goes hand-in-hand with higher use of resources and increased emissions, as shown very clearly in the case of China. Its global share of natural resource consumption increased from 7 per cent to 34 per cent between 1950 and 2010 (Fischer-Kowalski/Pallua 2016: 72). In the 2000s, China became the biggest emitter of greenhouse gases after the USA. Outsourcing 'dirty' production allowed the USA and the EU to reduce their own carbon footprints in domestic production. However, if the carbon incorporated into trade with China is considered, the footprint of the USA and the EU is substantially higher (UNEP 2019b see figure 1, Bergmann 2013). However, the role of China in the reduction of global CO_2 emissions is crucial (Pan et al. 2017). Compared to China, India's emissions per capita are less than one third (see figure 1). If India and other countries from the global South further develop economically, they would require more natural resources. Given the limits of the

planet, however, expanding the prevailing current mode of production and consumption in rich countries to the rest of the world would simply not be possible. Today`s highly unequal overuse of natural resources globally, but also within the EU (Ivanova/Wood 2020), and the use of developing countries as a global sink for waste (Laser/Schlitz 2019), are not a coincidence but an outcome of the specific configuration of contemporary asymmetrically structured global capitalism. In addition, the effects of climate change are unequally distributed among various socio-economic groups. For example, women in rural parts of developing countries are very vulnerable, as they typically rely heavily on climate-sensitive processes for their livelihoods (Oxfam 2015). Poor people are more exposed to natural disasters and less protected against the consequences of these catastrophes than is the wealthier part of society (Hallegatte et al. 2016).

Europe's and the US' relative overuse of global resources and their contribution to global environmental problems are disproportionally high. This is neither sustainable nor desirable from the point of view of the large majority of the world population. The question arises, thus, whether, to what extent, and which type of green finance can contribute to a necessary socio-ecological transformation that takes this international dimension of sustainability into account.

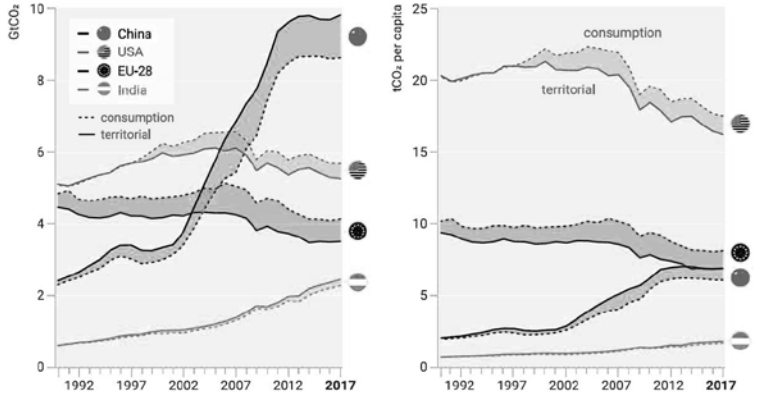

Figure 1: CO2 emissions, 1992–2017
Source : UNEP 2019b

3. Dominant discourses and different types of green finance

Although the IMF (2019) does not find any evidence that sustainable or green investment provides higher risk adjusted returns, it is frequently argued that in general green finance following sustainability criteria is not just beneficial to the environment but also supposed to lead to higher profits for financial investors. Transnational capitalist leaders, their organic intellectuals, and representatives of private finance do not rest when it comes to promoting sustainability and calls for action against climate change. Larry Fink (2020), CEO of the world's largest financial investment company, in his well-known letter to investors is a perfect example of this phenomenon. In public discourses, it tends to be such views that dominate the framing of problems, while working class perspectives are not considered. These dominant discourses spread optimism regarding how capitalism and private finance can contribute to solve the environmental crises and the problem of climate change. We argue that besides these dominant discourses, other types of green finance also exist (for an overview see table 1). Although much less visible, they offer important entry points for progressive policies.

3.1. Neoliberal green finance

The promoted solutions within the dominant discourse on green finance and green capitalism tend to be in line with mainstream neoclassical environmental economics (Anderson 2019). We propose to classify this perspective on green finance, that is in line with neoclassical economic perspectives, as *neoliberal green finance*. These discourses tend to obscure the implications of environmental issues and policies on different economic and social groups in (global) society. Neoclassical perspectives hold that moral sanctions and codes, for example in the form of corporate social responsibility (CSR) or following ESG (Environmental, Social and Governance) criteria, can contribute to solving environmental problems. While the positive environmental effects of voluntary ESG measures tend to be at best quite limited (IMF 2019), they allow companies to promote themselves as environmentally friendly and to differentiate their products as sustainable. Thereby, they feign to avoid more drastic direct government regulation by pointing to their activities, implicitly arguing that there is no need for stricter regulation. This is a common way of justifying the benefits

Types of green finance	Elements of (green) finance	Forms of regulation	Implications
Neoliberal green finance	Private green finance	Voluntary standards (CSR, ESG)	No or very limited positive environmental effects legitimising finance, opposing general binding environmental rules
	Private green finance supported by public money	Subsidies, including public risk taking (guarantees)	Transfer of public finance to private (finance)
	Private green finance supported by neoliberal public regulations and policies	Market-making, transparent non-binding standards, supporting dispossession	Commodification, expropriation of public natural resources, contributing to further financialisation
Reformist green finance	Reformist public green finance	Raising public financial sources (taxes) causing positive environmental and social impact	Reformist strategy to support productivist green capitalism and beyond
	Reformist public command and control policies in finance (and beyond)	Binding regulations for the financial sector (forbidding certain financing activities, enforcing others), restricting harmful cross-border capital flows to allow for reformist domestic monetary and financial polices	Putting public and private finance at the service of productive green development
Progressive transformative green finance	Progressive public command and control policies aiming at global environmental rights and caps	Binding regulations for economic activities (national, international, north-south context)	Providing resources beyond green capitalism towards socio-ecological transformation (global sustainable welfare)
	Transformative public green finance	Public financial resources for public provision (national, international, north-south context)	Decommodification, socio-ecological transformation (global sustainable welfare)

Table 1: Types and elements of green finance, forms of regulation and implications
Source: own compilation

of private green finance (Rezende de Carvalho Ferreira et al. 2016). Weber/ElAly (2019: 69) point to the problem that "[so] far, sustainability reporting rather focused on positive impacts without being transparent about negative impacts." Moreover, the problem remains that voluntary codes of conduct tend to be followed only and exclusively if they do not reduce but rather increase profitability. A series of voluntary codes of conduct has also emerged in the financial sector, representing an important cornerstone of what we call *neoliberal green finance*. Weber/ElAlfy (2019: 72f.) conclude:

> "Hence, financial materiality seems to be the main driver for green finance so far. Though we see an increase in green finance, we also have to conclude that green finance is far from being in the core of the business for most MDB [Multilateral Development Banks], industrial companies, and banks. For most of them green finance is a niche product and service compared to their conventional business. […] If we look on reporting, one might get the impression that green finance plays a major role in MDB, companies and banks. This, however, is less a matter of the ratio of green finance compared to other businesses, but it is because of the way of reporting. Most of the reporting is still to paint a positive picture to stakeholders and shareholders. It is used less as a strategic management tool, but as a tool to increase the reputation of firms. Furthermore, many of the reporting standards focus on what is profitable for the company and not for the environment. It is less about the impact of green finance on the environment, but rather the impact of green finance on the company itself. This supports green finance only as far as it has a direct positive impact on the business or as long as it has a positive impact on the reputation."

The Coase theorem, in the tradition of neoclassical theory, argues that well-established private property rights, together with low transaction costs, represent an efficient solution to environmental problems, which are seen as market failures (Harris and Roach 2013). Tradeable pollution permits, such as the CO_2 trading scheme establishing indirect property rights, can be seen as an example of this argument being put into practice. The financial sector provides financial services and products in the context of the carbon markets created under the Kyoto Protocol mechanism. Establishing property rights on nature, making nature tradable, and implementing financial and regulatory government policies supporting desired (environmentally friendly) behaviour creates new markets and,

hence, possibilities for extracting profit. The increasing importance of *neoliberal green finance* can be understood as an element of a broader long-term process of finance becoming more important in the economy, a phenomenon frequently referred to as financialisation (Lapavitsas 2013). In this regard, *neoliberal green finance* contributes to a further commodification/marketisation of nature by deepening capitalist relations of production and capitalist dynamics, and by contributing to financialisation (Brunnengräber 2009). Against this background, Brand and Wissen (2014) argue that the financialisation of nature represents a strategy to deal with capitalist crisis tendencies. Moreover, when commodifying nature, one assumes commensurability, i.e. the notion that one form of nature can be compared to and substituted by another (Bracking 2020). Hence, expanding *neoliberal green finance* does not contribute to solving environmental problems, but on the contrary, deepens them.

The practical implication of the preferred neoclassical option can be illustrated in the case of Covid-19: instead of generally forcing people to stay at home, permits to go out could have been issued. The permits could then be sold and traded. Those who really wanted to go out (and can afford it) would do so. From a societal point of view, this means that the wealthy can avoid being locked down and the costs of adaptation are shifted onto the poor. In a global perspective, this neoclassical view implies that environmental costs (in form of pollution or waste) should be relocated to poorer countries, because it considers this an efficient solution, as people in these countries are less willing (and able) to pay for environmental protection (Johnson et al. 2007). Hence, this neoclassical perspective helps to legitimise the shifting of environmental costs to poorer countries and people, while providing profit opportunities.

Typically, a neoclassical perspective assumes that environmental problems are caused by externalities. By including so-called external costs, markets will send the correct signals and environmental problems can be solved (Harries and Roach 2013). Including externalities via subsidies or shifting private risks to public institutions, e.g. via guarantees, is attractive from the point of view of green financial capital because these measures increase profitability for private investors. This, however, implies that private financial capital is supported by state subsidies and public money, i.e. by taxpayers. Hence, it represents an element of *neoliberal green finance*.

3.2. Reformist green finance

Dominant neoliberal discourses on green finance suggest that, in order to implement a very costly ecological transformation, it is necessary to mobilise private financial resources. Lagoarde-Segot (2020: 2), however, holds that:

> "… the SDG financing gap is primarily the result of an optical illusion created by looking at sustainable finance through the prism of the loanable fund theory. The biggest obstacle to financing the SDG may not be the scarcity of money, or the unavailability of policy options, but, rather, our economic zeitgeist."

The reason for this illusion is that the common assumption of a 'lack of finance' is based on the loanable funds approach. As alternatives to this approach, Lagoarde-Segot (2020) points to the roles that central banks and endogenous/credit money could play in dealing with environmental problems. There is no lack of finance. The necessary financial means can be provided easily by appropriate monetary and public financial institutional arrangements. Thereby, central banks and also (multilateral) developments banks are potentially important players. However, development banks are criticised for being still much more important for financing brown investment, and in so doing foil their environmental goals while trying to be recognised as 'green' (Weber/ElAlfy 2019). Such public structures of finance, from central banks to public development banks, represent an important element of *reformist green finance*. There is, thus, no lack of finance, but public money should be used for preferably public policies yet not subsidise directly or indirectly finance and industry, thereby inflating profits.

Environmental taxes, although also part of the neoclassical toolkit, are, however, less attractive to private investors than public funding, as they restrict certain behaviour and markets and may reduce profits. From a neoclassical perspective, they are still preferred over command and control policies that simply enforce companies or people to fulfil certain environmental rules and/or forbid certain environmentally damaging behaviour. Nevertheless, these command and control policies, important tools according to political ecology, have been effective in dealing with environmental problems. Examples of such policies include forbidding the use

of toxic substances, forcing industries to use certain filter technology, etc. Command and control policies are not the preferred solution in a liberal perspective as they restrict the freedom of individuals; also, indiscriminately, that of the wealthier ones. In order for private green finance to deliver desired environmental effects, an adequate regulatory framework and binding environmental rules are necessary (Wang and Zhi 2016). In this regard, we propose subsuming taxes and binding environmental rules and financial regulation that indeed provides environmentally (and socially) desirable outcomes under the header of *reformist green finance*.

There have been several initiatives to develop stricter rules. While the EU High Level Expert Group in Sustainable Finance (2018) provides some modest suggestions to increase transparency, China has developed a much stricter framework. A green credit policy requires investors in China to allocate investment towards green industries and to withdraw from industries with a negative impact on the environment. In addition, environmental indicators are considered in banking supervision and risk assessment (Weber 2017). Also, the IMF (2019) insists on the importance of the regulatory context for private finance. However, not necessary all types of regulation can be considered as being elements of *reformist finance*. Introducing standards or standardised labels for what is considered green finance may not address general flaws of *neoliberal green finance*, but instead legitimise certain practices without tackling environmental problems. While institutions such as the European Commission (2019) tend to favour *neoliberal green finance*, UNCTAD (2019) emphasises the role of state finance and public provision (Gallagher/Kozul-Wright 2020). UNCTAD (2019) moreover, is sceptical about the beneficial effects of neoliberal (green) private finance and cross-border financial capital flows and proposes limiting the negative effects of it and relying on domestic public green finance instead. Measures proposed by UNCTAD (2019), hence, represent, to a large degree, central elements of *reformist green finance*.

3.3. Progressive transformative green finance

Progressive transformative green finance goes beyond a Polanyian critique demanding a re-embedding of finance in order to be able to address ecological needs (Lagoarde-Segot/Paranque 2018); it also aims to replace the capitalist mode of production by expanding de-commodified forms of

provision and democratic and rational forms of production. De-commodification of the economy and social planning, instead of capitalist accumulation strategies, become the guiding principles. Such a socio-ecological transformation should reduce the amount of surplus value extracted and assure a sustainable way of production that does not undermine the working and living conditions of others (namely people in other parts of the world, future generations). Reducing the use of nature and assuring an equal access to globally sustainable welfare as an attractive form of production and living are at the centre of this strategy. It is based on international solidarity and democratic well-being, including maximum individual caps for the use of the environment, guaranteeing for everybody today and for future generations decent living and working conditions, referred to as sustainable welfare (Koch/Buch-Hansen 2020). Based on solidarity, international cooperation should ensure that natural resources are used in a rational way and that everybody has the right to have access to a minimum amount of natural resources (e.g. in the form of food, energy etc.). While in the core countries this will imply de-growth in certain areas (but growth in others), in peripheral countries, the preservation of pre-capitalist subsistence-based modes of production and the development of new, less invasive and less resource-intensive forms of production can be important cornerstones of such a strategy. This, however, implies a different form of national and international regulation and a radically different role of finance therein. Cross-border financial flows have to be strictly regulated and national and domestic financial services are to be provided as a public good and guided by democratic decision making. *Progressive transformative green finance* relies on democratically planned public finance financed via central banks and development banks, it taxes capital and the wealthy to generate financial means, and seeks to break with the power of capital while supporting a transformation towards post-capitalist societies.

4. Contributions to this special issue

The dominant neoliberal discourses and forms of green finance turn out to be highly problematic in environmental terms, provide legitimacy to finance and its agents, and, hence, are not part of the solution but rather part of the problem. From a critical progressive perspective, a more radical

rupture is required in order to adequately address environmental problems. Alternative strategies imply a different role of finance and require state intervention and regulations that forbid or demand certain behaviour and technologies. Against the background of a critical political economy perspective, it is not a technical question of implementing binding rules, but an issue of social and political power relations that are decisive. These power relations and social and political struggles will determine the configuration and role of finance and its environmental and social implications. The contributions in this special issue shed light on specific aspects of green finance, show problematic tendencies, processes and structures and also provide insights towards alternatives.

This special issue starts with an overview, by Johannes Jäger and Lukas Schmidt, of the role of green finance within the context of global financial structures. Adopting a critical political economy perspective, they provide a theoretical framework for analysing the environmental impact of global capitalism and the role of finance by focussing on global asymmetries and dependencies. They adapt regulation theory in order to analyse how different development models are related and how different forms of (green) finance fit into specific national development models. Thereby, they distinguish between neoliberal green financial strategies supporting the status quo and related financialised patterns of accumulation, *reformist green finance* contributing to green capitalism, and finally, *progressive transformative green finance*. It is only the latter that could possibly break, they claim, with the disastrous environmental impact of expansionary capitalism and contribute to a fundamental socio-ecological transformation. Such a transformation would avoid the overuse of natural resources by a few and would be consistent with achieving globally viable sustainable welfare.

In his contribution, Samuel Decker analyses the transformative potential of Green Deal concepts. Against the background of the need for a socio-economic transformation, he develops a theoretical framework that systematically allows for the analysis of the transformative potential of different strategies. Therefore, he focuses on the impact on redistribution, socialisation and the role of planning in different Green Deal concepts and assesses the "Ecosocialist Green New Deal" proposed by the Democratic Socialists of America, the "Green New Deal for Europe" of the Democracy in Europe Movement (DiEM), and UNCTAD's "Financing a Global

Green New Deal" and their potential for a socio-ecological transformation. While the "Ecosocialist Green New Deal" proves to be the most progressive proposal, the DiEM and UNCTAD approaches also include some initial versions of planning in the form of central banksupported green investment. This is very different to the European Commission's Green Deal proposal, which makes no mention of any specific policy measures in any of the areas of redistribution, socialisation and planning.

Elisabeth Springler, in her contribution, focusses on macroeconomic stability and financial innovation in the context of green finance and sustainability. She shows how green finance emerged because of the developments of the 2008 crisis and how neoliberal market forces were promoted. Risk is privatised and financial fragility increases because of securitisation and other novel financial techniques. However, against the background of a heterodox economic perspective, a distinction between a neoliberal use of financial innovation and its institutional use is made. She concludes that a strong institutional embeddedness of green finance is required in order to ensure macroeconomic stability. In addition, a strong state is desirable to enable coordination between different agents in the economy, thereby contributing to sustainability.

These rather theoretical and general perspectives are followed by a series of selected case studies. The first of these concerns China. Bernhard Tröster and Karin Küblböck analyse the impact of China's financial strategy on natural resources in Latin America and Sub-Saharan Africa. This is highly relevant as China has started to behave, in certain aspects, in much the same way as a core country of the world economy. The country uses multiple strategies to assure an inflow of natural resources in order to meet its rising demand for resources. Thereby, finance in the form of foreign direct investment and loans plays an important role. There is no doubt that China pushes peripheral countries into a subordinated situation. Nevertheless, the authors argue that China attempts to increase resource efficiency in peripheral countries. This could potentially trigger policies to diversify the economy and contribute to productivist development. However, this leaves the problem of the increasing and unequal overuse of natural resources unresolved.

Simone Claar, in her contribution, analyses green finance and the role of transnational classes in the area of investment in renewable energy. She points to the theoretical gaps in international political economy literature and proposes a global ecological political economy perspective building on a critical tradition. Green economy and green finance are clearly identified as being part of free market approaches. For the case of South Africa, she shows how green finance and green economy are related. It becomes evident that transnational capitalist classes are key actors promoting green investment in renewable energy. Thereby, she points to the conflicts between different classes and their factions at the national and international levels, and asks whether we can already speak of a new green transnationalist capitalist class faction.

In their contribution, Susanne Soederberg and Lama Tawakkol analyse, from a global political economy perspective, the humanitarian-development nexus that frames refugee situations as development opportunities. In the case of the Jordan compact, and the development financing that has derived from it, they show how the global capitalist power structures and paradoxes that go along with neoliberal practices advance global (financial) capitalist class interests. They focus in particular on the role of water as a key resource. They conclude that the Jordan compact turns the Syrian crisis into an opportunity for global development finance and its institutions that supports private finance rather than refugees or communities. With their case study, they clearly show how, under the conditions of finance-driven development strategies, development activities often provide more benefit to the developer and creditor than to the targeted group.

Finally, Yuliya Yurchenko analyses Europe's energy sector, a sector that is crucial due to its impact on climate change. Building on a critical political economy perspective, she analyses the EU's strategies for emissions reduction and the implications of the liberalisation of the energy market, including the potential outcomes of the Green Deal proposals. These measures have not delivered the desired outcome but have led to monopolisation and energy poverty. She concludes that a radically different approach, namely energy democracy, is needed for a socio-ecological transformation

in Europe. This means that universal access, stability and security of supply should be guaranteed, while renewable energy capacity has to be developed quickly and in an organised manner under public and democratic control. This, however, could be jeopardised by the existence of the Energy Charter Treaty and the treaties in the making such as CETA, TiSA and TTTIP that would curtail states' powers.

5. Implications for progressive strategies and policies

Common approaches and dominant discourses of green finance tend to be justified by neoclassical environmental economics and by financial institutions and their allies. Based on the brief assessment outlined in the introduction, the proposed typology and the contributions in this special issue, it can be concluded that the prevailing form of global finance and the green financial strategies that we call *neoliberal green finance* are highly problematic, not just in social terms but also for the global environment. *Neoliberal green finance* relies very much on voluntary standards under the heading of corporate social responsibility (CSR) and environmental and social goals (ESG). Green washing, social washing and cherry picking are common practices. Meanwhile, these practices have started to be considered problematic, even in mainstream financial media (Marsh 2020). Moreover, voluntary measures are often employed to argue explicitly and implicitly against the necessity of implementing binding rules. Standards, such as many of those discussed today, tend to increase the legitimacy of green finance, have a market-making impact, and are therefore more likely to strengthen and support financial capital than effectively contribute to solve environmental problems. Such regulations represent an essential element of *neoliberal green finance*. In general, *neoliberal green finance* contributes to further financialisation, increases global social inequalities, and shifts the burden of environmental damage and costs disproportionally to the working class in both the global South and the global North. From a progressive perspective, alternative forms of finance and binding rules are effective in environmental terms and socially desirable, and hence, a socio-ecological transition is required. While *reformist green finance* potentially contains certain forms of financialisation and, at least in part, contributes to productive green growth in some countries, this

form of green growth is not expected to end the highly unequal overuse of natural resources and the related global environmental problems. Alternatively, a *progressive transformative green finance* based on public finance and public provision is more likely to lead to a socio-ecological transformation that will end the overuse of global environmental resources, and promotes a more equal global use of natural resources based on environmental caps and rights under the title of sustainable welfare.

What to do?

From a progressive perspective, representing the interests of the majority of the working class and the disposed and marginalised groups in the global South, as well as in the global North, a combination of strategies is important. In general terms we distinguish three strategic entry points that are not mutually exclusive but are interlinked and can and should therefore be combined.

Firstly, a central strategy should be a defensive one, combating further financialisation entering through the backdoor of *neoliberal green finance*. This is necessary in order to prevent not only financialisation in the core countries but also a deepening exploitation of peripheral countries via financial means. These defensive strategies should avoid falling into the trap of false promises of *neoliberal green finance,* but rather understand them as constituting a Trojan horse. Although green finance might appear an attractive gift of finance, it brings with it a bias towards private solutions instead of binding public environmental rules, the latter being crucial for a substantial socio-ecological transformation. Moreover, it enhances the possibilities for financial capital to extract surplus value and supports neoliberal forms of uneven and imperialist global capitalism.

More recently, political initiatives such as the important Sustainable Finance Beirat der Bundesregierung (2020) in Germany has been arguing in favour of transparent standards and binding regulations in its preliminary report. However, it proposes a regulatory framework that intends to reach environmental goals and simultaneously to increase the competitiveness of German finance. As the Chairperson of the Sustainable Finance Committee, Karsten Löffler (2020), prominently states on the webpage:

> "With the establishment of the Sustainable Finance Committee, the German government is putting the financing of climate and sustainability goals on the agenda. In doing so, it is highlighting their importance for the entire economy

and thus for the future-proofing and international competitiveness of Germany as a financial centre."

The position of the institution is not surprising, given that a huge majority of its members are representatives from the financial industry. It is very likely that future proposals will be in line with these preliminary suggestions and finally address mainly the needs of the financial sector and industry and to promote finance in Germany. Although this might include elements of *reformist green finance*, it is more likely to contribute, in the main part, to *neoliberal green finance*.

Progressive strategies should not subsidise but push back and contain private forms of *neoliberal green finance* at the local, national, macro-regional and international level. Specific measures at a national level range from ending tax privileges for private finance and avoiding any kind of subsidies for finance, to strict regulation, the closing of environmental markets, and resisting further commodification and financialisation of nature. Instead, de-commodification and a public democratic management of finance and the commons should be introduced. At the international level, international agreements of any form should increase, not reduce, the financial autonomy of peripheral states and avoid all types of dependencies. Internationally active public institutions in the global North, such as development banks, should not support the expansion of private financial capital to the global South, as this is expected to cause financial instability and increase financial dependency, encourage further extraction of financial and natural resources, and deepen environmental and social problems.

At the EU level this means analysing critical current policy issues (EU High Level Expert Group in Sustainable Finance 2018, European Commission 2019) etc. by disclosing the neoliberal tendencies within these, opposing them and providing political alternatives.

Secondly, priority should be given to strict financial and environmental rules as central elements of *reformist green finance*. This can be a first step toward reforming capitalism and making it greener and potentially more equal. In a global perspective this is not sufficient to address environmental problems and the highly uneven use of global natural resources. However, *reformist green finance* can be a first step towards radical reformism. This strategy does not only include measures against financialisation but should

also support finance as a means for productive and more egalitarian ways of organising the economy. *Reformist green finance* should, therefore, rely mainly on public finance based on taxing financial and capital income, on wealth taxes and through a monetary policy that accommodates and directly finances desired forms of public investment by means of binding lending targets for banks, and through the use of public banks with environmental and social goals etc. This is to ensure that the public interest reigns over capitalist interests regarding how the environment is used, and that public financial resources are not appropriated by private financial capital but rather belong to the public and are used for public purposes.

At the EU level, expanding the public sector and using European institutions such as the ECB and its structures to finance a socio-ecological transformation are essential actions. In the EU, this would require opposing all strategies of a Green Deal that do not lead to a productive transformation of the economy and a substantial reduction of the use of resources. Instead, what should be proposed is to strengthen public financial instruments and implement binding environmental rules for finance (and other economic sectors) in general, such as imposing lending targets for banks and other binding measures for the whole sector. In addition, it is important to deal with the inequalities within Europe (EuroMemo Group 2020). Similar strategies may also be adopted by the global South. Beyond the role of central banks, Oscar Reyes (2020) presents a series of further measures, such as the building of green development banks and the implementation of binding rules that force institutional investors and public pension funds to change their investment policies in the direction of sustainable criteria. Christian Zeller (2020) proposes going beyond this, by strengthening public social policy and pension systems in the tradition of pay-as-you go public schemes instead of policies based on financial markets. It is essential that the policy autonomy of countries is not restricted by European rules, international trade and investment agreements or similar treaties. Regarding finance, Europe should support progressive strategies put forward by UNCTAD (2019) that aim at increasing autonomy and repressing international (financial) capital, while making the periphery less dependent and less vulnerable to international (European) capital flows (Gallagher/Kozul-Wright 2020). This includes combatting tax evasion by the wealthy within the EU and its (related) tax havens. In addition, it is

necessary to put limits on EU multinationals in the South and on Southern multinationals in the EU that extract wealth and destroy the environment. *Reformist finance* in an international Nord-South context should consist of grants but not (soft) loans, nor should a form of neoliberal conditionality be imposed that facilitates access of capital, i.e. also green financial capital, from the global North. Moreover, it is necessary to ensure that the public money benefits the working class but does not inflate private financial profits. Instead of supporting green capitalism in the periphery, which often goes along with the destruction of the environment and the expulsion of people from their lands and traditional means of production, the EU should contribute to sustainable welfare and production.

The downside of *reformist green finance* that is oriented toward productive green capitalism remains, however; the strategy of green productive growth is likely to lead to further overuse of nature because of international capitalist competition and the resulting competition for scarce natural resources. However, reducing dependence on foreign resources (or on externalising environmental damage to others) by supporting local and national autonomous self-reliant ecological productive strategies might be a potentially progressive strategy towards more radically reformist processes. *Reformist green finance* could play an important role in that.

Thirdly, *progressive transformative green finance* based on public provision and de-commodification is needed to support a socio-ecological transformation based on international cooperation that promotes development models that go along with an equal and rational global (per capita) use of natural resources. This strategy alone is expected to achieve a sustainable and egalitarian use of global natural resources. The driving forces for such a socio-ecological transformation can only be the subaltern and wage-dependent classes, and an orientation towards international solidarity. Multilateral cooperation based on international solidarity is an essential precondition. Productive and financial capitalists, together with the labour aristocracy, are likely to oppose such an approach. An international regime and agreements that support a transformation towards sustainable welfare must be based on institutions that allow for a globally rational and equitable use of resources, and that introduce maximum caps for the individual use of resources (Koch/Buch-Hansen 2020), and that also confer individual environmental rights to natural resources, such as good quality food

etc. The social and political basis of this would be ecologically and internationally oriented working class and solidarity movements. Undoubtedly, it is important what happens in large globally relevant societies such as China, and also in Europe. Different national hegemonies in these countries (regions) could support a different international mode of foreign relations and an alternative global hegemony and so reinforce progressive domestic movements and developments. While *progressive transformative green finance* and a global social ecological transformation are certainly far from being achievable in the current political conjuncture, these should remain a central point of reference and a goal in progressive discourses and strategies.

How to get there?

To begin with, it is important not to fall into the trap of the dominant neoliberal discourses on green finance promoted by financial capital's organic intellectuals and its institutional allies. These discourses are, rather, merely a strategy to further support and legitimise finance at the cost of workers (and even productive capital). Today`s environmental problems are a consequence of capitalist development models in global capitalism and the class relations they are based on. Strategies to combat environmental problems must, therefore, be based on working class solidarity (in particular with marginalised and less privileged groups at the national and international level) and aim at changing the class relations, and hence, the mode of production. The disfavoured and exploited groups in the global South have a vital interest in preserving the environment. However, it are these groups that less natural resources use and that tend to be most negatively affected by environmental problems and the global ecological crisis.

It is necessary to break with the power of finance (and capital) in general, in order to support workers and democratic autonomy at the national level, and to ensure solidarity at the international level. This means not leaving the political debate about sustainability and green finance to financial capital and its allies, but rather to strengthen the capacity of trade unions, workers associations, and progressive NGOs (those that do not ride the wave of *neoliberal green finance*) and activists to actively participate in these discourses and intervene in them. Alongside building international solidarity coalitions, it is necessary to take action and politically influence national, European and international institutions and agree-

ments, and contribute to a progressive new international multilateralism, thereby opposing a further deepening of neoliberal regulations and practices at the cost of peripheral countries and workers. In so doing, it is necessary to strengthen international progressive forces, not to buy into dominant discourses promoted by (financial) capital but to rely on proper theoretical concepts and assessments to promote solutions that represent a socio-ecological transformation towards global sustainable welfare.

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Abstract *Green Finance wird zunehmend als zentrales Element für wirksame Lösungsstrategien bei globalen Umweltproblemen und gegen den Klimawandel präsentiert. Nichts desto trotz tragen die gegenwärtigen Strukturen des globalen Finanzsystems dazu bei, dass globale Ungleichheiten reproduziert, die Übernutzung von Umweltressourcen vorangetrieben und damit die globale ökologische Krise vertieft werden. Der Beitrag gibt einen Überblick zu den aktuellen Entwicklungen und der Rolle von Green Finance sowie zu den Zugängen in der Schwerpunktausgabe zu Global Finance and Socio-Ecological Transformation. Wir diskutieren die Auswirkungen von Green Finance auf globaler Ebene und schlagen eine Typologisierung vor, die zwischen neoliberalen, reformistischen und progressiv-transformativen Zugängen zu Green Finance unterscheidet. Auf dieser Basis präsentieren wir Schlussfolgerungen für progressive Strategien und politische Maßnahmen zur Finanzierung einer sozial-ökologischen Transformation in Richtung eines global nachhaltigen Wohlstands.*

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The Global Political Economy of Green Finance: A Regulationist Perspective

Abstract *Green finance is often presented as being essential for sustainability. In the tradition of critical political economy, this paper focuses on (green) finance and its impact on the use of natural resources and the environment. Given the global dimension of many environmental problems and the economic interconnections of the use of global natural resources, the paper takes a global view, focusing in particular on global asymmetries and dependency relationships between core and periphery. Against this background, global financial structures and the role of green finance, and their implications, are analysed. However, adopting a regulationist perspective, this paper discusses different forms of green finance, their regulation, and the implications for national development models and the environment. Neoliberal green finance, reformist green finance and progressive transformative green finance are distinguished. We conclude that neoliberal forms of green finance tend to deepen core-periphery dependencies and to contribute to a highly unequal and growing (over-)use of nature and a transfer of natural resources from the core to the periphery. In part, reformist forms of green finance may change this. However, in order to stop the global, highly uneven over-use of nature, a progressive transformative form of green finance is needed to contribute to a fundamental socio-ecological transformation that ends the unequal over-use of natural resources.*

Keywords *Green finance, sustainability, critical political economy, regulation theory, global development*

1. Introduction

Since the financial crisis, financial investment labelled as green, and climate finance have increased significantly (Buchner et al. 2019, UNCTAD

2020). Green finance is a central element of sustainable finance, a broad term that includes a wide range of financial asset classes, from loans and bonds to equity finance and peer-to-peer lending (for a more detailed overview on the term, the emergence of green finance and its importance see Jäger/Schmidt in the introduction). The broader background for the rise of green finance is the 2008 financial crises. This did not just contribute to a loss of confidence in financial markets and financial institutions, but also quantitative easing and a very low interest rate level, which led to a search for new attractive investment opportunities (see Springler in this issue). The emergence of green finance can be seen not just as an attempt to search for more attractive investment and new profit opportunities but also as a strategy to bring back legitimacy to finance. In this vein, Lagoarde-Segot/Paranque (2018) conclude that today's dominant discourses on green finance represent an ideology that supports power structures in finance and its position in economy and society. Moreover, institutions such as the European Commission (2019) and UNCTAD (2019) recently and prominently refer to the importance of green finance as a key to sustainable development (UN 2015). The goal of this paper is to show how green finance can be analysed in the tradition of critical political economy and how, based on this, the implications of green finance can be assessed. While we discuss the structure of global finance and the role of green finance therein, we also focus on the national/regional level and discuss the implications of different ways of regulating (green) finance. Thereby, we distinguish between different forms of green finance and indicate to what extent and how they contribute (or not) to a socio-ecological transformation that allows for overcoming the highly uneven global over-use of natural and environmental resources. The intention is to provide a conceptual framework that does not consider global finance and emerging green finance as simply givens, but seeks to open perspectives for different strategies and progressive developments. This is why we bring in regulation theory and its capacity to analyse different forms of regulating (green) finance and different national development models. The conceptualisation allows us to analyse emerging green finance not as a monolithic and completely unavoidable trend or a new facet of homogenous global financialisation processes, but as a variegated and socially contested terrain.

2. The material (natural) foundations of global capitalism

While dominant mainstream perspectives tend to be optimistic about the role of markets and assume a compatibility between capitalism and nature, critical political economy perspectives are much more sceptical about this (Castro 2004). Whereas traditional mainstream views analyse the economy as a system separated from society, critical political economy (CPE) approaches provide an integrative analysis of economy, society and nature (Marx 2012 [1887], Jäger 2020). As problems of economy-society-nature interaction are at the centre of environmental issues and questions of sustainability, we consider critical political economy to be an adequate basis for the analysis of (green) finance and its potential for a socio-ecological transformation that allows for the end of the highly uneven over-use of global natural resources. On a very abstract level, the pivotal point of CPE approaches is the transformation of nature by human labour. Nature, however, is not just there but produced (Harvey 2014). Historically, changing forms of domination of nature (technology, material resources) went hand in hand with changing ways of organising production in society. Today's prevailing capitalist mode of production is characterised by a unique rapid development of productive forces, namely technologies to use and transform nature. The dynamic development is caused by the accumulation of capital under competitive conditions. However, capitalism is contradictory in multiple ways. An important reason for this is that capitalism is all about the accumulation of capital and the production of exchange value in order to make profit, while the production of use values is simply a by-product. Nature is a mere condition of production for use values. As a consequence, the expansionary search for profits and accumulation in a capitalist mode of production enters into contradiction with nature (Clark/Longo 2017). Foster (2013) refers to this as a metabolic rift. Capitalism's expansionary drive, and the commodification of nature by primitive accumulation (Marx 2012) and accumulation by dispossession (Harvey 2009) are central mechanisms that push this process. Commodifying nature means that commons are expropriated and private property rights are established. These private property rights allow for an exclusive access to nature. The income generated from the ownership of nature such

as land, patents on genetic codes, raw materials, water, carbon sinks, etc. can be considered as a rent that allows for the extraction of part of the surplus value created. In the process of commodification, nature becomes part of the capital circuit and provides financial asset holders with financial flows that give them access to surplus value. Depending on the specific conditions, these financial rents may lead to declining profits for productive capital (Harvey 2014), but also to increasing surplus value and consequently decreasing wages. This implies negative distributional consequences for the rural and urban working class, which has no relevant financial wealth, and represents an important reason as to why a progressive socio-ecological transformation that ends the overuse of global resources should not be based on further commodification but on opposing it.

The use of nature, measured, for example, in terms of the global carbon footprint, is highly unequal both within and among countries (see Jäger/Schmidt in the introduction). Environmental damage and climate change have contributed to the increase in global inequality (UNDP 2019: 173-196). The western way of living, that of a majority of people in the core countries and a small privileged sector in peripheral countries, is not sustainable on a global level (Hubacek et al. 2017). An imperial mode of living (Brand/Wissen 2016), oligarchic well-being (Ehrlich Reifer 2011), and (un-)sustainable welfare (Koch/Buch-Hansen 2020) are concepts used to refer to the fact the natural resources are over-used by a global minority of people in an unsustainable way. From a CPE perspective, specific core-periphery relationships enable and link such unequal modes of living and producing. On an abstract level, the tendency of capitalism to externalise costs and contradictions onto the periphery can be considered an important reason for why the Global North has been able to extract resources from the Global South and has externalised pollution and environmentally damaging production to these countries (Brand/Wissen 2016). Conceptualising this as unequal ecological exchange, Foster/Holleman (2014) show that the current global capitalist system entails a huge transfer of material sources and energy, which they refer to as eMergy, from the periphery to the core.

However, in the methodological tradition of CPE (Jäger et al. 2016; Jäger 2020), we argue that it is important to analyse the specific configuration of global capitalism by conceptualising, at a lower level of abstraction,

the mechanisms and relations that produce the highly unequal over-use of nature. From our perspective, this can be achieved by focusing on the dialectical relation between national development models and global capitalism, or, simply, the global market. Expanding national production and consumption are important for legitimising capitalist modes of production and domination in the core as well as in the periphery. Developing the domestic economy and being competitive internationally (by means of markets, coercion, etc.) enables access to natural resources from abroad. This provides economies with use value from other countries, ensuring an unsustainable mode of welfare. The competition between national respectively regional development models operates within a specific mode of foreign relations (van der Pijl 2007) that fuels the constant and increasing exploitation of nature. The current capitalist mode of foreign relations provides an advantage to the more developed economies. Within this context, it seems unlikely that national and/or regional strategies, which reduce the use of natural resources (from abroad), will be implemented. The reasons are that these resources are important for joining, and/or remaining in, the global core, while the appropriation of use-values contributes to legitimising class dominance. However, strategies that reduce (external) resource dependency based on technological innovation, possibly in the form of a specific variant of green capitalism, may represent a politically viable partial alternative. The problem remains that up to now, increasing resource efficiency has not led to a reduction in the use of resources, but, on the contrary, resource consumption has continued to increase (Fischer-Kowalski/Pallua 2016; Schandl et al. 2018), a problem traditionally referred to as the Jevons Paradox or the rebound effect.

3. The global financial system and green finance

Building on the above theoretical conceptualisation in the following, we analyse global finance in today's capitalism, and show how different national development models relate to it. It is against this background that we discuss green finance. The global financial system and the national financial systems are essential parts of the asymmetrically structured international capitalist political economy. The contemporary financial system,

benefiting the core countries over peripheral countries, is crucial for transferring surplus and use value. Moreover, it leads to (financially) dependent forms of development in the periphery, and has repercussions in the form of the overuse of nature. A central feature of the current global financial system, the so-called Dollar-Wall Street regime, is that of unrestricted cross-border capital flows. The system provides a huge privilege to capitalist core countries, in particular to the USA, as the US Dollar is at the top of the global currency hierarchy (Gowan 1999), but also to other countries that have a high position within this hierarchy. Within the Dollar-Wall Street regime, private and public capital flows have often contributed to a high and increasing level of external indebtedness in peripheral countries (UNCTAD 2019).

External debt and financial dependency are central entry points for imposing conditionality on countries. Frequently, conditionality demands that countries be more open to foreign capital and trade flows, and privatise public infrastructure and natural resources, thereby diminishing the policy space for development (Soederberg 2014). In addition, debt and portfolio investment flows tend to increase volatility and the vulnerability to financial crises (Bortz/Kaltenbrunner 2018). Liberalised capital accounts put monetary policy under pressure and facilitate capital flight, while even passive FDI may turn out to be problematic and so lead to long-term net capital outflows. As in the case of any investment, the goal of financial capital is to have access to cash flows and to make profit by taking out more money than originally invested. Not surprisingly, according to Akyüz (2018) and UNCTAD (2019: 107), the functioning of liberalised private capital markets has led to a net financial resource transfer from developing countries to developed countries of around USD 440 billion annually, which is significantly higher than the global net official development assistance, which amounts to USD 166 billion (World Bank 2020). This figure, however, does not include the likely much higher impact of unequal ecological exchange (that is whenever not easily quantifiable) (Foster/Holleman 2014).

In principle, cross-border green financial flows add to the negative consequences of common capital flows to peripheral countries, as they follow a similar logic. However, green finance has become a new label that claims to legitimise and therefore facilitate the access of traditional

financial capital in the form of banking capital, but also in the form of new and increasingly important forms of financial capital such as mutual funds and private investors to peripheral countries. These investors push for access to these countries, and try to reshape discourses and international and national regulations in their favour. In a similar way, international trade and investment agreements such as the EU-Mercosur agreement may deepen environmental problems (Matković 2019). Financial investors, despite presenting themselves as environmental protectors and by doing green washing, cause dramatic ecological problems, as shown for example in the case of the world's largest investment company, BlackRock, and its activities in the Brazilian Amazon region (Amazon Watch 2020). With this new type of financial investment agent, the share of the so-called shadow financial sector in the external finance of peripheral countries has increased considerably over the past years (UNCTAD 2019). Public financial resources and international financial institutions, such as the European Bank for Reconstruction and Development (see Soederberg/Tawakkol in this issue), often support the expansion of green external financial capital, originating in general from core countries. Hence, green finance follows a similar investment logic as that of traditional finance. Against the background of a developmentalist perspective, cross-border capital flows to peripheral countries, including green finance, are, therefore, highly problematic, leading to instability, and a net outflow of resources from the periphery to the core countries. In addition, they may facilitate access to domestic natural resources and increase their transfer to the global core countries. This is a direct implication of commodification, as a consequence of cross-border financial investment, that mobilises resources for the global market.

Moreover, besides these general effects at the macro-level, green financial investment may have an additional negative impact at the micro-level. In the past years, 'green grabbing' as a form of green finance has raised attention as a way to cover and/or legitimise land grabbing in countries of the global periphery (Fairhead et al.2012; Franco/Borras Jr. 2019). Land appropriations have taken place for the purpose of forest conservation and/or plantation, i.e. as part of emission trading (Heuwieser 2015; Scheidel/Work 2018), or for the production of biofuels (Bracco 2016; Maconachie 2019). The land deals often have a direct negative impact on the most vulnerable

groups: traditional small-scale farmland is acquired for export business, which causes people living in rural areas to lose the access to the land and/or their workplace, which provides the basis of their income (Oliveira et al. 2017). Hence, these green financial investments may reduce (global) food security (Clapp/Isakson 2018). Green microfinance has become another important form of green financial investment. For many years, these micro credits have been heavily criticised as being a debt trap, especially when provided by private lenders (Gosh 2013). The interconnectedness of microfinance and land grabbing and the negative ecological effects were, for example, recently shown by a study that analysed how the dispossession of rural people's land titles is used to keep non-performing loan indicators low in the Cambodian microfinance sector (LICADHO 2019). On a more general level, Hybrechs et al. (2019) point to the problem of the often individualistic framing of these green microfinance programmes, which may not just lead to further social exclusion but also to environmental degradation.

We consider the observed rise of green (cross-border) finance as being part of a larger process of financialisation. This term refers to the increasing importance of the financial sector in contemporary capitalist modes of production (Christophers 2015). The commodification of nature often goes along with financialisation, and has become an essential trend in capitalist accumulation strategies (Smith 2007; Brand/Wissen 2014; Ouma et al. 2018). However, financialisation is a process that does not spread evenly, but may, at least in part, be limited and even reversed at the national (regional) level, as argued below. Our proposed perspective provides entry points to critically analyse green financial strategies, their regulation, and the impact on development models and the environment.

4. A regulationist perspective on green finance

In the tradition of CPE but on a more concrete level of abstraction, regulation theory can be used to analyse how specific national development models are related to each other. Regulation theory was developed to explain how, in capitalism, temporary institutional solutions contain contradictions in order to stabilise capitalist accumulation. Although there is the drive for commodification and a constantly increasing use

of nature, potentially this could be at least temporarily regulated. Originally, the focus in regulation theory was on the contradiction between capital and labour and specifically the contradictions in the area of money and finance. Capitalism constantly tends to undermine its conditions of existence, because it destroys labour power through over-exploitation and faces problems because of over-accumulation. Labour legislation, collective bargaining and welfare policies have contributed to dealing with these contradictions, in particular during the period of Fordism (Aglietta 2000). Becker/Raza (2000) provided a concept within the regulation theory approach to deal with the contradiction between capitalist accumulation and the use of nature which they called the ecological constraint and consider as essential structural form being part of a mode of regulation. Against the background of previous experiences, in particular in the case of Fordism in the core countries and peripheral-Fordism in the semi-periphery, it can be asked how it is possible to change the ecological constraint in such a way that the contradictions are offset, at least temporarily and in part. However, this depends on social struggles (Brand/Wissen 2016). It is, moreover, an open question whether a specific mode of regulation will contribute to stabilising capitalism and transform it into a green capitalism or whether a radical transformation towards a post-capitalist mode of production will be the outcome. We consider the regulation of green finance as an important element of the ecological constraint. The question, hence is, how financial regulation contributes to specific patterns of accumulation, so-called regimes of accumulation, and forms of accessing and transforming nature. For obvious reasons, extractive industries, hand-in-hand with green financial capital in search of long-term income streams, constantly push to change the environmental constraint in a way that gives them access to these income streams. The expansion and appropriation of the use of nature, making it part of accumulation, provokes resistance by those who are expropriated or negatively affected, and results in numerous so-called (local) environmental conflicts (Dietz/Engels 2016; Lust 2014), but may also be resisted at the national and international level fighting respective arrangements.

Although financialisation has become more important in general, the distinction between financialised and productive/extractive regimes of accumulation is still valid, in particular in the case of peripheral economies that often depend to an important extent on the extraction of natural

resources (Jäger et al. 2014). Productive regimes of accumulation may either be intensive, which means that productivity increases and wage goods become cheaper, or extensive, which means that growth is mainly based on increasing inputs. Extractive regimes of accumulation represent a specific form of extensive productive regime of accumulation based on the increasing use or extraction of natural resources. The dynamics of financialised regimes of accumulation are based either on increasing prices for fictitious capital such as financial assets, or on increasing debt levels. However, green finance does not necessarily contribute to financialisation but may also support and expand extractive development models. It is against this background that a more detailed analysis of the specific regulation and role of green finance and its contribution to different and related regimes of accumulation in the core countries and in peripheral countries, and their ecological impact, can be analysed.

Typically today, core countries tend to have either largely productive or largely financialised regimes of accumulation that are specifically related, as shown with the case of the EU (Becker et al. 2015). Within a liberalised global capitalist framework and facilitated by a liberal global financial system, they extract natural resources from peripheral countries in exchange for industrial goods and/or via financial means. Moreover, as CPE suggest, it is not just the transfer of financial value and natural resources (use value), but also exploitation, in the form of the over-exploitation of labour and the transfer of labour value, that are crucial. There are different mechanisms at work. Super-exploitation, because of weaker labour organisation leading to extremely low wages, as well as centralised power structures in global value chains (GVC) (Marini 1991; Smith 2016) play an important role. The specific regulation of the ecological constraint allows these mechanisms to work and leads to an extraction of natural resources from the periphery (or the use of the periphery as a sink or for environmentally damaging production) and their transfer to the core. Hence, a liberal configuration of global finance facilitating the access to the periphery via liberal green financial regulations and instruments is functional for core countries, as it allows for an increasing extraction of (financial) value and natural resources from the periphery, thus supporting modes of production in the core.

Such a regulation of finance that accompanies further commodification and the integration of nature into financial circuits can be considered a central element of *neoliberal green finance*. Private finance capital is an important driving force pushing for a liberal ecological constraint. Thereby, the asymmetric relationship between core and periphery and the transfer of use value and labour value from the periphery to the core is deepened, as well as is the over-exploitation of nature. Moreover, *neoliberal green finance* increases inequality and a very unequal access to natural resources by privileging capitalists and a labour aristocracy, mainly in the core of the global economy. In the case of peripheral countries this might deepen extractivist productive development models and/or lead to financialised models of development. In the latter case, financial bubbles and increasing debt levels may lead to frequent crises. The expanding of liberal economic and financial regulations and market-making institutions under the label of 'green finance' have contributed to this. The proposal by the European Commission (2019) on the Green Deal clearly is an example. It supports private European financial capital's access to the rest of the world in order to facilitate the inflow of natural resources. Such a neoliberal international regulation of finance seems to be in accordance with still existing but declining US hegemonic interests (Cafruny/Ryner 2017), and can be considered an active strategy to compete in global financial markets and extract financial profits. Against this background, it can be analysed how such liberal (green) financial regulations contribute either to extractivist or financialised development models in specific peripheral countries. Although financialisation is a general global tendency, analysing financialisation at the level of national development models, it turns out that processes of financialisation do not just have specific features in peripheral countries but have even been (temporarily) reversed in some cases (Becker et al. 2010) and have led to extractivist and productivist development models.

The destabilising effects of global finance and tendencies towards financialisation were criticised by UNCTAD already some time ago. More recently, UNCTAD (2019), under the heading of a green new deal, proposed multilateral strategies of (green) financial regulation. We see them as central elements of what we term *reformist green finance*. According

to this perspective, finance should be regulated nationally (or on a regional level) in such a way that it contributes to a productive transformation by increasing productivity (relative surplus value). Disturbing international financial flows should be restricted. Financial means for productive investment should be raised domestically via taxes and/or green public bonds and via central bank financing. Further elements of such regulations could be, for example, specific lending targets for banks regarding green finance (for an overview see Lagoarde-Segot 2020; Dikau/Ryan-Collins 2017). Importantly, not relying on external finance decreases external vulnerability and possibly encourages productive (green) accumulation strategies. The assumption that a strong state, domestic finance and increasing the degree of monetary policy autonomy can support catching-up stands in the tradition of a developmentalist perspective on finance. Implementing *reformist green financial regulation*s may contribute to productive growth models that are more inclusive not only in the periphery but also in core countries. Potentially, such productivist development models could be based on coalitions between productive capital and labour. However, such strategies would lead to a further exploitation of natural resources and would not significantly alter the unequal over-use of nature, although the specific distributional patterns would change as a result of the catching-up industrialisation of some peripheral countries. Given the limited amount of global resources, the strategy cannot be employed by all countries (Fischer-Kowalski/Pallua 2016). Therefore, the global struggle for relatively more scarce resources will increase. China is a paradigmatic example of this. Its productive development model is characterised by restricting the access of global finance in order to avoid capital outflows and financial instability. In so doing, China is able to use domestic financial resources for development goals. Today, however, successful catching-up implies expanding a mode of production (and consumption) that is, even if it claims to be a form of green capitalist growth, not sustainable on a global level. China, although building on its own financial means, has started to behave much like a core-country and tries to ensure access to global natural resources. In order to do that, specific financial arrangements and strategies, such as debt for resources contracts with peripheral countries, play an important role (see Tröster/Küblböck et al. in this issue). Hence, China follows other industrial countries and takes advantage of the liberal global financial regulation, with similar consequences.

At the international level, *reformist green finance* can be supported by containing the most destructive tendencies of global finance through adequate regulations. This means that a productive use of finance is enabled by allowing countries to regulate and restrict international financial flows. Multinational and bilateral trade and investment agreements should therefore safeguard national policy spaces and not undermine them. A central element of this could be the reduction of foreign debt and financial dependency. At the global level, peripheral countries could potentially constitute an important group of protagonists for such a change in financial regulations; however, the G20 Sustainable Finance Group (2018) proposes a rather neoliberal approach. The position of China, by far the most important global challenger for a core position, does not seem very progressive either. While the proposal by the European Commission (2019) has a completely neoliberal perspective on global financial structures, it is more ambiguous regarding financial regulations and strategies within the EU. However, a partial productive orientation towards *reformist green finance* could potentially contribute to green capitalism and corresponding investment in technology and infrastructure (EuroMemo Group 2020). Notwithstanding this, the European Commission's approach turns turns out to be highly problematic in terms of how a transformation of the energy regime is envisaged (see Yurchenko in this issue). In addition, against the background of Europe's deep internal core-periphery structure and the related contradictions (Becker et al. 2015), it remains an open question how substantial and coherent a strategy of green growth can be. Moreover, under *reformist green financial strategies*, the problem remains that green capitalism and many projects labelled 'green' indeed contribute to more resource efficiency, but ultimately are expected to lead to a further over-use of nature (Schandl et al. 2018).

5. Conclusions

The main purpose of this chapter was to give an overview of green finance and its global implications, and to provide a theoretical framework to analyse emerging green finance from a global core-periphery perspective. The expansion of green finance in its current neoliberal form can be seen as an element of a further process of financialisation that deepens current

core-periphery relationships and asymmetries on a global level. A regulationist perspective was presented that allows us to discuss different forms of regulation of (green) finance and its (potentially different) impact on national development models, their interlinkages and the environmental consequences. Thereby, we distinguished between a regulation that deepens neoliberal financial structures, which we termed *neoliberal green finance,* and regulations that potentially lead to more productivist (green) development models, which we referred to as *reformist green finance*. Contrary to dominant discourses, we have identified various reasons for why *neoliberal green finance* and, to a lesser degree, *reformist green finance* turn out to be highly problematic. Firstly, they deepen the global ecological crisis. Secondly, international (green) financial flows make the periphery more dependent and contribute to increasing dependency and underdevelopment. However, different forms of regulating finance at the national and international level may have important consequences, as our conceptualisation suggests. While a regulation that leads to *neoliberal green financial structures* supports financialised or extractivist development models, *reformist green financial regulation* is more likely to contribute to productivist (green) development models. However, green capitalism will not stop the expansionary logic of capitalism, and will lead to increasing international conflicts about natural resources becoming scarcer and global environmental damage, e.g. in the form of climate change becoming more drastic and harming poorer countries, in particular the rural and urban working classes (mainly in the global periphery). A socio ecological transformation that ends the global unequal over-use of resources and guarantees equal access for all would definitely break with expansionary capitalism and would be based on de-commodification and *progressive transformative green finance* (see Jäger/Schmidt in the introduction). Although today such a transformation seems very unlikely, given the current form of global capitalism and the specific class relations that go along with it, it is necessary to struggle for it. Given the limited space available here, a more detailed empirical analysis, focusing on different political strategies, projects and regulations in the field of green finance and their potential for progressive development models, would be desirable, but this has to be left for future research.

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Abstract *Green Finance wird oft als zentrales Element zur Erreichung von Nachhaltigkeit präsentiert. In der Tradition der kritischen politischen Ökonomie fokussiert dieses Beitrag auf (Green) Finance und dessen Auswirkungen auf den Verbrauch von natürlichen Ressourcen und die Umwelt. Vor dem Hintergrund der globalen Dimension wichtiger Umweltprobleme und den globalen Zusammenhängen des Ressourcenverbrauchs nimmt dieser Beitrag eine globale Perspektive ein. Dabei wird insbesondere auf die globalen Asymmetrien und Abhängigkeiten zwischen Zentrum und Peripherie eingegangen und die Bedeutung von globalen Finanzstrukturen und Green Finance analysiert. Aufbauend auf eine regulationstheoretische Perspektive werden unterschiedliche Ausgestaltungen von Green Finance und Implikationen für Regulation und Entwicklungsmodelle und die Umwelt konzeptualisiert. Dabei werden Neoliberal Green Finance, Reformist Green Finance und Progrssive Transformative Green Finance unterschieden. Eine wesentliche Schlussfolgerung besteht darin, dass Neoliberal Green Finance Abhängigkeitsmuster zwischen Zentrum und Peripherie vertieft und die global äußerst*

ungleiche Nutzung von Naturressourcen weiter vertieft. Reformist Green Finance kann dies zumindest teilweise verändern. Um jedoch die global höchst ungleiche Übernutzung von Natur effektiv zu verändern bedarf es Progressive Green Finance, welche einen wichtigen Beitrag zu einer grundlegenden sozioökonomischen Transformation leisten kann.

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On the Transformative Potential of the 'Green New Deal'

Abstract *This article examines the transformative potential of various Green New Deal concepts that are currently being discussed in response to multiple crisis symptoms of globalised capitalism. The main focus is on the development of a systematic analytical framework, which will allow the definition and assessment of the transformative potential of different political programmes. Throughout three constitutive characteristics of capitalist production (separation of wage labour and property, of enterprises among themselves and of the totality of enterprises and the state), three levels of transformation are presented (redistribution, socialisation and planning). Subsequently, different Green New Deal concepts are examined in order assess to what extent they can contribute to a transformation of capitalism.*

Keywords *Green New Deal, Transformation, Economic Policy, Economic Planning, Reformism, Alternatives to Capitalism, Mode of Production*

1. Introduction

This issue of the Austrian Journal of Development Studies gathers critical perspectives on green finance and green capitalism, and these are much needed. Scientific research is essential to demonstrate that supposedly 'green' investment and growth, carbon offsetting, emissions trading, and capital-driven mechanisms in general, are not effective in preventing cataclysmic climate change that is currently unfolding. A climate policy that considers privatised forms of credit creation, investment and capital accumulation as potential solutions rather than as part of the problem must be subjected to science-based criticism (see Böhm/Misoczky/Moog 2012,

Scales/Ivan 2017, Klein 2014 on the criticism of green capitalism). There are numerous indications that these economic mechanisms and the growth-dependent macroeconomic system that derives from them are confronted with internal and external barriers, one of them being the novel coronavirus, Covid-19, that began to spread globally in 2020. The depletion of natural resources and sinks, the disruption of interlinked ecosystems, growing social inequality and unrest, as well as increasing levels of economic and political instability, are further examples of how the predominant mode of production has created a network of crises and structural problems that cannot be solved by the mechanisms of the production system itself (see Brand 2016, Brand/Wissen 2012 on the concept of the multiple crisis). A 'social-ecological transformation' that the editors of this volume set out as a goal in the introduction, depends on the development of alternative ways of structuring societal production, which may include alternative forms of investment in the short run, as the green finance approach suggests, but go far beyond them in the long term.

When looking for alternatives to the concepts of green capitalism and green finance as a shorthand solution to a problem that is much more deeply rooted then just on the level of the content of capital investments, one quickly arrives at the concept of the Green New Deal (hereafter, GND), which has been circulating since early 2007, and has been taken up and reinterpreted both by international organisations and left political parties and social movements since then (see Green New Deal Group 2020 on the origin and development of the Green New Deal concept). The emergence and contemporary relevance of the concept could be interpreted as part of a more universal development in which alternative political projects and programmes are gaining momentum in the context of the multiple crisis of globalised capitalism. With the rise of new political programmes, however, the question arises, from a scientific perspective, as to how they can be adequately evaluated and classified. The GND approach in particular is difficult to classify, especially with regarding its transformative potential in relation to the economic system as a whole.

To gain clarity about the transformative potential of the GND, it is necessary to further develop the theory of 'social-ecological transformation' and apply it to the GND debate. Thus, the main focus of this article is on the development of a systematic analytical framework that allows for

the definition and assessment of the transformative potential of various political programmes. Building on the distinction between 'first- and second-order types of transformation' (part 2), I discuss different constitutive characteristics of capitalist production as areas of second-order types of transformation (part 3), which I will then describe in more detail in part 4. In part 5, I will evaluate three different GND concepts regarding their transformative potential. In the last part, I will summarise and discuss the method and findings of the article.

2. First- and second-order types of transformation

To be able to assess the transformative potential of various GND concepts, I will first develop a theoretical model of (social-ecological) transformation. In general, the term 'social-ecological transformation' can be understood as an analytical tool to describe "the relationship between rupture and continuity in the current multiple crisis" (Brand/Wissen, 2012: 548). Besides the analytical dimension, however, it is often used as a normative term that signals programmatic goals from multiple policy areas. Like the term 'green economy', the concept of (social-ecological) transformation is a common point of reference for a broad variety of international (governmental) institutions, civil society organisations and research programmes (see e.g. WBGU 2011). It is against this background that Brand and Daiber (2012) pointed out that "'transformation' has the potential to become an oxymoron (like sustainable development) that opens up an interesting epistemic terrain but remains then blurred" (Brand/Dabier 2012 :4). This comes close to Reißig's (2016) observation that two variants of the transformation discourse exist, namely one as a "discourse of change", and one as a "discourse of stabilization" (Reißig 2016: 222, translation S.D.). In a similar fashion, Stirling (2015) distinguishes between transition-oriented perceptions of social change on the one hand, understood as being "managed under orderly control, […] often emphasizing technological innovation", and transformation-oriented perceptions on the other, the latter involving "diverse, emergent and unruly political alignments" (Stirling 2015: 54).

The understanding of transformation put forward in this article proceeds from the systematisation and critique of the transformation

discourse put forward by Brand (2016). He criticizes the fact that conscious and intended acts of change (e.g. by politicians) are often exclusively understood as the subjects of transformation. Instead, individual actors, companies and governmental institutions should not only be understood as (potential) actors of (positive) change, but as "co-constitutive with societal processes and structures" that must be transformed (Brand 2016: 7). In other words, state policies and investment strategies must be understood as part of the problem and only under certain circumstances as part of the solution (see also Greven 2008). Additionally, he interrogates a naturalising understanding of the object (or drivers) of transformation, e.g. as "demographic trends, the globalization of production, […] technological progress and digitalization" (Brand 2016: 6). Brand argues for a comprehensive understanding of transformation, in which the capitalist growth economy is viewed as a crucial driver of transformation. In this theoretical setting, transformation – observable in changing patterns of living and production, political regulation and discursive changes – is a general characteristic of societies in which the capitalist mode of production is dominant. Following this comprehensive understanding of transformation, the crucial question for any political strategy of transformation is not, 'how could a transformation (e.g.: towards sustainability) be induced', but, rather, 'how could the current mode of transformation be transformed towards a different mode of transformation that builds on other mechanisms of economic reproduction'.

I have termed this a 'second-order' type of transformation (Decker 2019) in order to highlight the necessity of focusing not on alternative investment strategies or economic policies in the first place, but on alternative ways of economic organization on a systemic level. The currently dominant mode of economic organisation is based on three interlinked institutional 'demarcations' that emerged historically and that lay the ground for the capitalist, 'first-order' type of transformation outlined by Brand. These demarcations need to be transformed in order to realise a 'second-order' type of transformation. At the risk of repeating some basic insights of Marxian theory, I will roughly describe these 'demarcations' to afterwards present a more precise concept of 'second-order' transformation.

3. Three institutional characteristics of capitalism

The *first demarcation* runs between property and labour, or more specifically between the (to a greater or lesser extent) legally institutionalised relations of labour and the relations of ownership of means of production. This separation gives rise to the system of wage labour on the one hand, where the societal majority without property (or only with property that cannot be applied as production means) sells its labour power as a commodity on a market for human labour. The relations of ownership, which can in themselves be split between the (institutional) provider of loans, the owner of financialised ownership titles (e.g. shares) and the management of property, employ the commodified human labour available on the labour market in order to produce use-values that can be sold on the commodity market for exchange-value. The separation of ownership and labour makes it possible to employ human labour in a way that it produces use-values that can be sold to a higher exchange-value than was initially invested to produce the use-values. In this process, the relations of ownership that represent themselves financially as a sum of exchange-values become capital by "maintaining and multiplying themselves as an independent social power" (Marx 2000 [1849]: 282). The ability to absorb (exchange-)value from the production process via the employment of human labour creates the possibility of capital accumulation on a 'sustainable' and systemic level.

On a surface level, the demarcation between the relations of labour and the relations of ownership manifests itself in the separation between capital income and labour income, which today is as prevalent as it was in early capitalist times. Certainly, with the differentiation of the relations both of ownership and of labour and the secondary distribution of market income by the state, class relations became more complex. However, it is still valid to claim that within capitalism as a formation of society where capital movements dominate production, people can either be (to a greater or lesser extent) dependent on the demand of labour power that is induced by a capital movement, or profit (to a greater or lesser extent) from the complex flow of capital revenues that closes the capital movement.

The *second demarcation* runs between the different ownership relations that, each for themselves, define a closed system of capital accumulation. Whereas the separation of labour and ownership creates the *possibility* of absorbing more (exchange-)value from the production process than from investing in it, the separation between 'capitals' creates the *pressure* to absorb as much 'surplus-value' from the production process as possible. Capitalism's peculiar character rests upon the inter-capital rivalry for liquidity and sales that activates a competition-based dynamic of capital accumulation on the company level and capital centralisation on the inter-company level (ten Brink 2012: 99). As Marx puts it, "competition is nothing else than the inner nature of capital, appearing and realised as the interaction of the many capitals against each other, the internal tendency as external necessity. […] Capital exists and can only exist as many capitals, and its self-determination appears thus as their interaction against each other" (Marx/Engels 2005 [1857/1858]: 327, translation by S.D.). Just as capital *emerges* as the unity of the difference between labour and ownership, it *unfolds* as the unity of the difference between different capitals, which appears as competition.

The internal competition of capital against itself is mediated via markets, especially the commodity and capital market. This shows how the sphere of production (of exchange-value) and the sphere of circulation (of exchange-value) originate from one another. The overall capitalist context appears as a network of interlinked markets that both enable and enforce the accumulation principle. 'The market' describes nothing else than the unity of the separation of production and circulation, as both constantly create each other. Without a market for labour, credit and means of production and – more fundamentally – the possibility of (exchange-) value to be mediated in the form of money, the production of use-values and their realisation as exchange-values on the commodity market would not be possible. At the same time, without the constant consumption and creation of commodities and income in the capitalist production process, markets could not differentiate and expand, even though both money and markets are, of course, pre-capitalist phenomena. The societal depth and the geographical scope of markets always expands with the simultaneous creation of new spheres of production. The impossibility of producing in a non-capitalist way in an overall capitalistic context expresses itself in the

ever-present dependence of not only companies, but also individuals and states, on markets.

The *third demarcation* runs on a macro-level between the different capitals on the one hand and the network of law-creating and -enforcing institutions in a certain area of jurisdiction on the other. As with all three demarcations, this form of 'separation' must be understood as a contradictory form of unity that manifests itself in the form of an institutional separation, which gives rise to the specific capitalist forms of 'the economic' and 'the political' in the first place. Whereas the single capital absorbs (exchange-)value *in actu* from a concrete production process via employing human labour, the capitalist state absorbs (exchange-)value *ex post* from the sum of production processes via taxing labour- and capital income and via binding capital in the form of government bonds. At the same time, the capitalist state legally constructs and regulates the interlinked system of credit-, capital-, currency-, commodity- and labour-markets, and lays, with its central bank, the foundations for the creation of capital out of credit and for the creation of money itself.

Money is the independent expression of value and makes it possible to accumulate capital in the first place. Without the separation of political and economic power, where the political authority standardises and stabilises the use of money and the creation of money out of credit, the system of value could not take shape in the medium of money and become independent in the form of capital. When central banks, as they do in crisis situations, buy up assets from distressed banks or companies and directly finance government demand, the political nature of money and ultimately the economic character of the political become particularly visible.

4. Three interlinked areas of second-order transformation

The three institutional demarcations outlined above are related to different conceptual areas of a 'second-order' transformation (see table 1). The first demarcation (between labour and ownership) corresponds with the transformation of the relation between labour and capital. Capital exists as the extraction of value out of the production process through employing human labour; the organic relationship between labour and

capital can be transformed via disturbing and ultimately disrupting the process of value extraction by capital at the expanse of labour. We can distinguish between the *a priori* reduction of value extraction through enforcing wages, labour and production conditions that make production less profitable, and the *a posteriori* appropriation of profit after surplus-value has been already extracted. The latter normally takes the form of taxation, where a percentage of capital income or of the source of capital income is retained by an authority capable of doing so. The partial appropriation of extracted surplus labour can also take place by associating employees – usually on a collective basis – in enterprise profits (e.g. Meidner Plan, see Guinan 2019), or by transferring profit shares to a collective fund on a societal level (e.g. Universal Basic Dividend).

These forms of surplus value reduction or appropriation (for which I will use the term 'redistribution' in the following) are highly contradictory, as they undermine the process of surplus-value accumulation on which they ultimately depend. Redistribution thus must be limited – and historically has been limited – to a degree that is bearable for capital. Beyond this threshold, the contradiction between the progressing restriction and appropriation of surplus-value and the need to stabilise capital accumulation to enable those forms of redistribution in the future, must be resolved towards one of two sides. This means that either the measures of redistribution are reduced to a degree that is compatible with capital accumulation, or the process of capital accumulation is disrupted and the production process re-organised in a non-capitalist way. Redistribution, in other words, necessitates and naturally leads to the other two levels of transformation that are needed to resolve the contradictions it creates.

As Patnaik (2010: 6) has put it, the interventions in the accumulation process,

> "if they are significant, make the system dysfunctional, necessitating either a reduction or withdrawal of such intervention, or a further intensification of intervention to overcome the dysfunction induced by the initial intervention. In the latter case, the progressive intensification of intervention in the system ultimately becomes incompatible with its capitalist integument, and requires its transcendence beyond capitalism. In the former case, where intervention is reduced or withdrawn in the face of the dysfunction generated by it, the system starts to lapse back towards its pre-intervention state".

The idea that 'redistribution' (in the broad sense of disturbing and taking possession of the process of surplus value creation) is a 'reformist' political strategy remains rooted in a linear understanding of transformation, which in itself represents the core of the reformist approach. The original concept of reformism assumed that each act of redistribution would enable future redistribution in a gradual manner, instead of assuming the (necessity for the) contrary counter-pressure to take back previous acts of redistribution (see Plumpe 2016 for an overview of the historical reformism debate).

For the discussion of the GND later in this article, it is important to give special attention to the 'Golden Age' of capitalist development, which is associated with the politics of the original 'New Deal' from 1933 onwards. The simultaneous increase in mass production and mass consumption as well as of corporate profits and wages seems to contradict the dialectical interpretation of redistributrive policies, where redistribution leads either to dysfunctional accumulation or the roll-back of redistribution. However, one must consider the profit-squeeze crisis in the 1970s precisely as a sign of the dysfunctionality of the Fordist development model, which had to be countered with a decades-long push back against workers' rights, wages, and other impediments to capital accumulation. The cheap supply of labour and primary commodities in the (former) colonised countries additionally kept the dialectical mechanisms of redistribution in abeyance (Patnaik 2010: 9).

In practice, redistribution neither stabilises capital accumulation in the long-term (as the left critique of redistribution would argue), nor does it enable future redistribution in a linear manner (as the original concept of reformism assumes). Rather, redistribution sets in motion a dialectical dynamic that can be resolved in the direction of the subversion of the measures of redistribution under the logic of capital or in the direction of the the subversion of the logic of capital itself.

The second area of second-order transformation is associated with the demarcation between individual capitals, which appears as competition and unfolds in the realm of the market. The relationship between individual capitals – or the constitution of capital in the form of its internal fragmentation – can be transformed by de-merging individual capitals from the accumulation nexus, and re-organising production towards the

creation of use-values. This form of second-order transformation, which I refer to as 'socialisation' hereafter, logically connects with the contradictions created by the appropriation of capital revenue in the course of redistribution. When the redistribution of capital income in the form of profit participation or taxation completely disrupts the process of capital accumulation, the process of production and use-value creation can only be re-stabilised through the complete socialisation of the respective capital (by the employees or a representative political agent).

Just as is the case with the process of redistribution, the process of socialisation is highly contradictory (see Vrousalis 2017 on the debate on the contradictions and dilemmas of socialisation). While the internal manifestation of capital in the form of surplus value extraction from human labour is replaced with a political unit that organises production collectively and in a use-value oriented way, the external manifestation of capital in the form of competition is still in place. Thus, even though the relationship between labour and capital as the basis for the extraction of exchange-value in one unit of production has been completely internally transformed, it expresses itself as an external necessity to produce exchange-values in order to keep participating in the market. However, the contradiction between labour and capital is transferred from an intra- to an inter-company level.

We can understand the contradiction created by socialisation, on a more abstract level, as a contradiction between production and circulation. The production of commodities is dependent on markets as these are the place to buy intermediary commodities (including human labour) and to sell the final products. Markets are dependent on the continuous purchase and sale of commodities, which must bear exchange-value (alongside their use-value) in order to be tradable. The distribution of commodities through the market is carried out on the basis of exchange-value in the form of prices. The more socialised units of production that are designed to produce use-value participate in the intermediary exchange of goods, the more markets become a non-functional mechanism for distributing use-value. Just as the production and circulation of exchange-value constantly recreate each other, the systemic production of use-value necessitates a systemic mechanism to circulate use-value.

Thus, just as with redistribution, socialisation creates a dialectical dynamic that necessitates either the re-capitalisation of production or the

continuous socialisation of the entire system of production. The belief that the continuous and gradual socialisation of production units (or the creation of production units in the form of commoning) creates a post-capitalist system by itself, runs again into the trap of a linear, un-dialectical understanding of transformation. Both the left critique of socialisation (or commoning) that critiques the lack of a systemic perspective and the 'market-socialist' approach that assumes the concordance of socialised production and a market that operates through prices, overlook how the continuous socialisation of production creates increasing contradictions within and between the production units; contradictions that can become part of a transformative dynamic on the systemic level (see Hollender 2016 for an overview of the debate regarding the transformative character of commons and Chattopadhyay 2018 for an introduction to the market socialism debate). In other words, the progressive socialisation of production requires and enables the construction of new forms of exchange, which come into conflict with the network of capitalist markets.

The socialisation of the entire system of production cannot be carried out with the means of socialisation itself, but necessitates economic planning as the third and final level of second-order transformation. Planning refers to the third demarcation between the totality of capitals on the one hand and the network of law creating and enforcing institutions in a certain area of jurisdiction on the other. As pointed out above, the capitalist state enables the production of exchange-value by means of the separation of labour and ownership and the circulation of exchange-value through the creation of markets, money, and credit.

A possible entry into economic planning could provide that economic activities arise directly from the political generation of money and its planned investment. In this way, the state emancipates itself from its dependence on tax revenues from capitalist surplus value production and from the willingness of private capital to finance state expenditure by purchasing government bonds, thus changing its relationship to capital. The *question of the financing* of public investment therefore plays a central role. Even if public investment does not modify the relationship between labour and capital or between capitals, its financing can be transformative if the state changes its relationship to capital as a whole, depending on the degree of state intervention and the extent to which the state allows

its economic activity to be financed through the creation of money by the central bank (see Roberts 2019 for a discussion of the relationship between Modern Monetary Theory and Marxism).

While the public production and investment of money can constitute an entry point to economic planning, the core idea of economic planning is to establish a mechanism to circulate and distribute use-values. This mechanism involves both political decisions (e.g. from the side of production and consumption councils, or from a representative political authority) and automated processes to match supply and demand (e.g. with the help of algorithms or cybernetic systems). This leads to a society where production and circulation are carried out by (partly automated) systems of societal decision making; in other words, where the demarcation between 'the political' and 'the economic' is dissolved.

An open question at this point refers to the role that a medium of exchange can play in such a system of production. While the private investment function of money (and with it the possibility to accumulate private capital) clearly is taken away from money in its current form, the question remains whether some form of medium of exchange can can remain. One could design a planned economy around the contradiction between the advantages of a medium of exchange when it comes to incentivising labour power and maintaining a certain degree of flexibility in the system, without letting exchange-value dominate production (see Itoh/Lapavitsas 1999 on the role of money and credit in a socialist economy). Another open question refers to the role digital, cybernetic systems of decision making can play on a macroeconomic level and how they can be reconciled with explicitly political forms of decision making (see Saros 2014, Phillips/Rozworski 2019, Morozov 2019 on the role of digital technology in economic planning). Finally, the role of the state and its formation as a system of law creation and enforcement in a planned economy remains open. One could argue for a complete dissolution of the state into a system of councils and decentralised decision making. On the other hand, the need for a certain degree of separation of labour and macroeconomic coordination could support the persistence of representative organs of decision making. In general, a planned economy creates, as does the capitalist economy, a network of contradictions and dilemmas that must be processed by society.

The integration of redistribution, socialisation and planning into a unified scheme of transformation (see table 1) allows for the evaluation, in the next section, of the transformative potential of different GND concepts. Clearly, a GND concept or any macro-economic political proposal does not need to include political measures from all three areas of second-order transformation in order to be acknowledged as 'transformative'. The crucial question is, if a certain area of second-order transformation appears, whether the dialectical dynamic of the respective area of transformation comes into effect and thus whether it can potentially be linked to other areas of second-order transformation.

Institutional demarcation…	**Area of second-order transformation**	**Type of second-order transformation**	**Political examples**	**Contradiction…**
… between labour and ownership	Relationship between labour and capital (income)	**Redistribution**	Profit participation, taxation, levying	… between appropriating surplus value and making capital accumulation dysfunctional
… between individual 'capitals'	Relationship between capitals	**Socialisation**	Worker-run cooperatives, commons	… between (use-value oriented) production and (exchange-value oriented) circulation
… between economic and political power	Relationship between the production system and the state system	**Planning**	Political creation and use of money, labour councils, algorithms and cybernetic systems,	… between automated and explicit forms of decision making; between centralised and decentralised forms of decision making, etc.

Table 1: An integrated scheme of transformation
Source: own elaboration

5. The Green New Deal revisited

In the table below (Table 2) I use the transformation scheme developed in Part 4 to filter out elements of redistribution, socialisation and planning from three different GND concepts; these GND concepts have received some attention in the past and can be regarded as representative for the debate on the GND:

- "An Ecosocialist Green New Deal", called for by the Democratic Socialists of America" (DSA 2019);
- "The Green New Deal for Europe" and the "European Spring Manifesto" proposal by the Democracy in Europe Movement 2025 (DiEM25 2019);
- The GND concept put forward by the United Nations Conference on Trade and Development (UNCTAD), as embodied in the publications "Trade and development report. Financing a global green New Deal" (UNCTAD 2019) and "A New Multilateralism for Shared Prosperity: Geneva Principles for a Global Green New Deal" (Gallagher/Kozul-Wright 2019).

The "European Green Deal" (EGD, European Commission 2019) will also be briefly discussed below; however, the EGD does not – even on a terminological level – refer to a paradigm shift as represented by the historical New Deal, and thus is not in the purview of this article.

After filtering elements of redistribution, socialisation and planning from the GND concepts and collecting them in Table 2, I will give a general assessment of the transformative potential of the GND at the end. Redistribution includes Table 2 all measures that describe government (investment) measures financed by tax revenues, as well as rising salaries, labour rights and the reduction of working hours that would go towards the expense of (short-term) capital revenue. Socialisation includes all measures of appropriation of productive capacity by the state or workers, as well as the public provision of goods and services. Planning includes all measures of the state or social entities (to attempt) to replace market mechanisms with an alternative system of economic coordination; the political creation and investment of money by the central bank can also be understood as an initial transformation towards economic planning.

Area of transformation / GND Concept	Redistribution	Socialisation	Planning
Democratic Socialists of America: "An Ecosocialist Green New Deal"	• Creation of neighbourhood transition councils as hubs of distribution, education, participatory planning • European Investment Bank to provide stimulus by issuing Green investment bonds, backed by an alliance of Europe's central banks • Central banks should guide credit to Green sectors, finance government debt at lower interest rates; • Green quantitative easing: central banks should purchase low-carbon assets and Green bonds	• Nationalising and phasing out fossil fuel producers, socialising fossil-dependent industries and scaling them back or transforming them to fossil-free industries • Establishing public ownership of utilities and the electric grid, and expanding municipal and state public banks • Promoting worker-owned and worker-controlled cooperatives and enterprises at all levels of the economy • Publicly financed social infrastructure	• Creation of neighbourhood transition councils as hubs of distribution, education, participatory planning
Democracy in Europe Movement 2025: "The Green New Deal for Europe" and "European Spring Manifesto"	• Investing at least 5 per cent of Europe's GDP each year towards the transition to renewable energy • European corporate and inheritance tax, ending tax heavens • Investing in communities across Europe to create high quality, skilled and stable jobs; universal job guarantee • Reducing the number of work hours and providing more space for community engagement • Government research and funding	• The jobs created by Green investment must create a greater control over the firms so workers share in the value they create Reclaiming unused homes for public use • Set up a Citizen Wealth Fund that is owned collectively with assets purchased by central banks, a percentage of capital stock and revenues from intellectual property rights	• European Investment Bank to provide stimulus by issuing Green investment bonds, backed by an alliance of Europe's central banks

Area of transformation / GND Concept	Redistribution	Socialisation	Planning
United Nations Conference on Trade and Development: "Financing a global Green New Deal" and "Geneva Principles for a Global Green New Deal"	• Governments need to end austerity and boost demand • Significant public investment in clean transport and energy systems • Green industrial policy, using a mixture of general and targeted subsidies, tax incentives, equity investments, loans and guarantees • Accelerated investments in research, development and technology adaptation, and a new generation of intellectual property and licensing regulations • Raising wages in line with productivity • Progressive tax policies, including on income, wealth, corporations, property and other forms of rent income • Regulating private financial flows		• Central banks should guide credit to Green sectors, finance government debt at lower interest rates; • Green quantitative easing: central banks should purchase low-carbon assets and Green bonds

Table 2: Transformative elements in various GND concepts
Source: own elaboration

As can be seen from table 2, all three GND concepts presented here contain various redistribution elements, e.g. demanding progressive tax policies, an extension of workers' rights, and large-scale government spending. However, the DSA and DiEM25 proposal provide for more

radical redistribution measures and envisage a universal job guarantee which would have to be accompanied by a massive government investment and job creation programme. In terms of financing, the UNCTAD proposal places a stronger focus on the role of central banks ('green quantitative easing'). With regards to socialisation, the two UNCTAD publication analysed for this article make no specific proposals. The DSA and DiEM25 proposal are quite similar in proposing public control of the energy system and a public provision of (social) infrastructure. They also demand the extension of worker-controlled enterprises, with the DSA proposal being more radical in this regard ("Promote worker-owned and worker-controlled cooperatives and enterprises at all levels of the economy" (DSA 2019) vs. "The jobs created by green investment must build greater control over the firms so workers share in the value they create" (DiEM25 2019)).

With regards to the third and final area of second-order transformation, we have to distinguish between initial and advanced forms of economic planning. As pointed out above, the core of economic planning consists in establishing a mechanism to circulate use-values. Instead of creating and stabilising capitalist markets for the circulation of surplus value, the state provides an alternative mechanism primarily designed to circulate use-values. Here, the state transforms its relationship to private capital entirely. However, the state also transforms this relationship through the political creation and use of money by the central bank, but only partially.

We can find different variants of the latter preliminary form of economic planning in the GND concepts examined here. The DiEM25 proposal proposes, green investments carried out through a European Investment Bank, which should be "backed by an alliance of Europe's central banks". The UNCTAD proposal similarly suggests green quantitative easing, where central banks directly buy assets of low-carbon economic activities.

With regards to more advanced forms of economic planning, only the DSA concept proposes) "transition councils as hubs of […] participatory planning". The other two concepts do not present any advanced measures for economic planning, while the DSA approach also does not seem to aim at replacing market mechanisms with an alternative system of economic coordination on a macro-level. As explained above, the transformative

potential of a certain political programme must be evaluated along with the questions of whether a) a certain area of second-order transformation appears, b) if the dialectical dynamic of the respective area of transformation would presumably come into effect and c) if it can potentially be linked to other areas of second-order transformation. Against this background, all GND approaches presented here have transformative potentials, whereby the UNCTAD aims at a renewal of classic welfare state policy while at the same time transforming the function of the central bank. The DSA and DiEM25 proposal are more transformative in this regard, as they propose more far-reaching redistribution as well as socialisation measures. However, it is questionable as to what extent any of the three concepts presented aims at a transformation beyond capitalism, especially with regard to the weakly developed or missing elements of economic planning. The GND concepts outlined above represent a collection of far-reaching policy proposals, but they do not span the strategic horizon of a true post-capitalist transformation. What is missing is a strategic link between the three levels of transformation, in which the destabilizing effect of radical redistribution is dissolved through measures of socialisation and planning. Also, the financing of green investments by central banks in the variant proposed in these concepts does not lead to a second-order transformation unless it is carried out on a massive scale and so fundamentally changes the role of the central bank in the economy.

For the sake of completeness, it is worth taking a look at the EGD project of the European Commission, even though it cannot be classified as one of the GND concepts focused on in this article. The EGD describes a bundle of legislative packages and action plans to be developed at EU level. It also sets policy objectives, such as a faster reduction of the EU's CO_2 emissions and the strengthening of 'circular' product design. However, hard policy *measures* that could be classified as redistribution, socialisation or planning are rarely included in this concept. The EGD builds on existing institutions, as the European Investment Bank and the Innovation and Modernisation Fund, and proposes new institutions, such as a Just Transition Fund. However, there are no proposals for the public endowment of these funds. In contrast, the private sector is seen as playing a key role in financing the transition (European Commission 2019).

6. Summary and discussion

The main focus of this article was on the development of a systematic analytical framework which allows for the definition and assessment of the transformative potential of different political programmes. Building on the distinction between 'first- and second-order types of transformation' in part 2, I discussed different constitutive characteristics of capitalist production as areas of second-order types of transformation (separation of wage labour and property, of enterprises among themselves and of the totality of enterprises and the state) in part 3. In part 4, I described in detail how redistribution, socialisation and planning correspond to these areas of transformation, with the aim of advancing an integrated, dialectical scheme of transformation. In part 5, I used this scheme to filter out elements of redistribution, socialisation and planning from three different GND concepts (from the Democratic Socialists of America, the DiEM25 platform, and the UNCTAD).

In this analysis, all three GND concepts displayed various redistributive elements. The DSA and DiEM25 proposals, however, showed to be more transformative in this regard, as they propose more far-reaching redistribution as well as socialisation measures. The DSA concept was shown to be the most progressive proposal, as it entails more far-reaching socialisation measures and was the only one proposing an advanced (bottom-up) version of economic planning. The DiEM25 and UNCTAD proposals, however, entailed an initial version of economic planning in the form of central bank-supported green investment.

The transformative potential of the GND can be classified as follows, using the method laid out in this article. Firstly, the transformative potential varies, as there are considerable differences between the various proposals. Secondly, the GND approaches focus on redistribution measures which, theoretically, can develop transformative potential, but only if these measures are far-reaching enough and are combined with further levels of transformation. Some GND approaches do indeed include far-reaching proposals for socialisation. Macroeconomic planning plays hardly any role. The GND combines 'classical' social democratic redistribution policy with new and more radical ideas, with a focus on the former; its transformative

potential depends on how far-reaching the redistribution policy turns out to be and to what extent it is linked (also in any future GND concepts) with socialisation measures and economic planning.

The analysis has revealed both strengths and weaknesses of the method. On the one hand, the 'filter effect' of the three transformation categories made it possible to effectively evaluate and classify the various GND concepts and their concrete policy proposals. In view of the increasingly imprecise use of the 'transformation' term, an added value lies in the availability of clear categories that allow a distinction between important and less characteristic components. The transformation scheme developed in this article can help us to directing the debate about a GND and social-ecological transformation to the question of transforming capitalism and the creation of alternative modes of production.

On the other hand, it has become clear that the rather abstract and schematic transformation model needs to be further developed in order to allow for more robust and systematic analyses. Overall, there is a lack of transformation models that work with the concrete characteristics of capitalism and alternative economic systems. Future transformation research should close this gap, focusing in particular on the level of socialisation and planning and on the connection and transitions between the three levels. In addition, global relations of dependency and critical developmental perspectives are underrepresented, as the transformation scheme mainly focuses on state-capital relations on the national level. One could include, in future research, the international dimension in an extra category of transformation.

As stated in the introduction, as alternative political programs are gaining momentum in the current, multiple crisis of globalised capitalism, it becomes increasingly important to scientifically examine alternative policy proposals and thereby contribute to their further development. Political programmes and projects are in turn indispensable for guiding and intensifying processes of social change, especially since political initiatives and movements come and go, whereas programmes are more durable. At the same time, there is added value if political programmes cannot be easily reinterpreted and so deprived of their transformative potential. For example, the European Commission's Green Deal proposes, in its own words, a "set of deeply transformative policies" (European Commission

2019: 4), but it does not mention any hard policy measures that could be assigned to any of the three transformation areas explored in this article. The power-driven reinterpretation of the concepts of social-ecological transformation and the GND is already well-advanced. If progressive politics wants to reacquire the concept of transformation and the GND, it must be able to clearly state to what extent and by what means a transformation beyond capitalism and the construction of non-capitalist forms of economic reproduction are to be achieved.

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WBGU – German Advisory Council on Global Change (2011): World in Transition. A Social Contract for Sustainability. Berlin: WBGU.

Abstract *Dieser Artikel untersucht das transformative Potenzial verschiedener „Green New Deal"-Konzepte, die derzeit als Reaktion auf die vielfältigen Krisensymptome des globalen Kapitalismus diskutiert werden. Das Hauptaugenmerk liegt dabei auf der Entwicklung eines systematischen Analyserahmens, der die Definition und Bewertung des transformativen Potenzials verschiedener politischer Programme ermöglichen soll. Anhand von drei konstitutiven Merkmalen kapitalistischer Produktion (Trennung von Lohnarbeit und Eigentum, von Unternehmen untereinander und der Gesamtheit von Unternehmen und dem Staat) werden drei Ebenen der Transformation herausgearbeitet (Umverteilung, Vergesellschaftung und Planung). Anschließend werden verschiedene „Green New Deal"-Konzepte daraufhin untersucht, inwieweit sie zu einer Transformation des Kapitalismus beitragen können.*

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Financial Innovation, Macroeconomic Stability and Sustainability

Abstract *It is claimed that financial innovation meets the demanded changes in economic investment towards environmental sustainability and a transition towards low-carbon economies. While the underlying narrative for the proposed transition of economic structures highlights the necessity to search for an economic alternative to the profit-seeking resource-based production mode advocated by mainstream neoliberal economists, it becomes evident that the suggested tools of financial innovation to promote environmentally friendly investment, namely green finance, further promote neoliberal market forces to a large extent. After critically evaluating tools of green finance, this paper discusses the possibilities of strong institutional embeddedness of new green finance tools in order to mitigate the former's negative effects.*

Keywords *Financial Innovation, macroeconomic stability, sustainability, green finance*

1. Introduction

The financial crisis of 2008/2009 was largely caused by the shift towards innovative and structured financial products, such as mortgage-backed securities (MBS), which in the process of securitisation were bundled and sold off as seemingly low risk financial products. These mechanisms increased the inherent financial instability of capitalist economies and were driven by the neoliberal agenda of deregulation to unlock the advocated positive effects of (competitive markets in a globalised financial sector. These processes, which also entail a structural shift in the under-

lying financial system from so-called *bank-based* to *market-based financial systems* (Epstein 2005: 3), and promote *financial instability* as advocated by Minsky (1992), are defined as financialisation in this paper. Financialisation processes speed up when financial innovation enforces the increasing role of financial motives and spreads to areas which were up to then not incorporated into the global financial sector. In the case of the transformation of the banking sector, the development is described by Chick (1993) and Dow et al. (2008) as stages of banking. Liberal financial markets – mainly driven by capital markets – cause changes in timing, risk sharing and profit accumulation, which are summed up in the transformation from *bank-based to market-based* financial systems (for an overview see Sablowski 2008; Springler 2006). Building on that, this paper largely draws on the broad definition of financialisation as presented by, e.g. Epstein (2005: 3f.) and Heires/Nölke (2014: 19), applied, e.g. in Parenteau (2005: 111ff.) for the US bubble of the late 90s, and analysed in Stockhammer (2014: 40f.) as consequences for the financial markets themselves, with increases in the so-called shadow-banking system and other less regulated areas of the financial sector.

Focusing on these definitions, increased financial fragility and overall macroeconomic instability are the effects of financialisation, which are the center in the analysis below and build on the fundamental conflict of modern capitalistic societies between the aim of maximising economic profits and the search for a sustainable socio-economically determined society where the economic outcome would serve the needs of civil society and macroeconomic stability is actively promoted. While mainstream economists mostly advocate for the former, heterodox approaches embrace the latter. In the mid-2010s, the two contradictory views on the fundamental goals were seemingly coincided with the introduction of the *tools of green finance,* which were expected to serve the goals of both ideologies: environmental transformation and high profits of financial markets. The deeper conflict between the theoretical economic approaches certainly remained unresolved. These dynamics coincide with the search for new investment possibilities by international investors, who are confronted with over-liquidity on financial markets. While expansionary monetary policy to overcome the financial crisis of 2008/2009, that had aimed to redirect investments into the real economy, had failed and instead pumped

up financial markets, the question arises as to whether green finance tools redirect investments back to the real economy or heat up the process of financialisation even further and destabilize the economy.

To critically evaluate the prospects of green finance tools, the paper proceeds with the following. Firstly, the history of the Green Agenda is revised. Furthermore, tools of green finance are evaluated for their impact on promoting macroeconomic stability, which, according to our argument, can only be reached when financial tools are institutionally embedded within national financial intermediaries. In the third step, tools of green finance are discussed in an enlarged institutional setting. Drawing on the argument that processes of financialisation can be depicted within the shift from bank-based to market-based financial systems, this section of the paper follows the arguments of Sawyer (2014), which evaluate the links between *financial systems* and *varieties of capitalism* (Hall/Soskice 2004). These arguments are applied in this paper to the concepts of a 'Green State', in which the process of financialisation is kept to a minimum and macroeconomic stability is not hampered, whereas the implementation of tools of green finance into a liberal structure promote further financialisation processes and financial fragility.

2. A global perspective of macroeconomic stability and sustainability: The Green Agenda

Global macroeconomic developments of the last decade can be summed up in three lines of arguments, which seem to be mutually dependent:

Firstly, the history of *uneven recovery between developed and emerging/developing economies* and within these countries; secondly, the *focus on monetary policy* to overcome the economic slump of 2008/2009, which resulted in the *hierarchical preference of financial markets of the real economy* and led to asset market price increases, e.g. the housing sector; and, thirdly, the *global agreement to incorporate the Green Agenda into the capitalistic structure* of developed economies.

Emerging Markets and Developing Economies, which were mostly hit by the Global Financial Crisis of 2008/2009 – due to the downturn in

international trade – had to overcome a slump in economic growth and a setback in their aim to create national stable and sustainable development frameworks (Kose/Ohnsorge 2019). The promotion of global value chains in boosting international trade in the aftermath of the financial crisis upheld the macroeconomic recovery of developed economies on the back of emerging and developing economies. Emerging and developing economies in particular had witnessed an increase in capital inflows (private investment) which speeded up again immediately after 2009, but ultimately could not reach the volume seen in 2007, and an opposite effect in foreign direct investment inflows, which were gradually decreasing (Koh/Yu 2019: Table 3.1.C.). Despite these differences in the economic recovery path between nations, the economic policy measures applied differed only marginally, as *easy money* to ensure liquidity, in combination with mechanisms to foster financial stability and soundness via macroprudential regulation, were promoted as main instruments to ensure sustainable economic development. The immediate role of the Central Banks during the financial downturn of 2008/2009 concentrated on the re-establishment of the interbank market, and the boost of liquidity in the banking sector to help the banks' balance sheets. The European Central Bank continued with its ultra-expansionary monetary policy via quantitative easing (and its asset purchase programme; ECB 2015: 15–18; ECB n. Y.) until December 2018. However, as there was the need for further liquidity to limit inflation to the 2 per cent goal, the European Central Bank returned to this programme as early as in the third quarter of 2019. In this situation of *easy money,* green investments were not explicitly promoted within the existing framework, so that some economists even called this situation a *high carbon financial lock-in* (Campiglio et al. 2017: 333f.).

The third line of argumentation refers to the global agreement on a Green Agenda. International organisations had already started to discuss environmental sustainability in the early 1970s. However, not only the process of implementation, but the discussion itself were only incorporated into concrete programmes in the 1990s (Berrou et al. 2019: 8). The situation does not look different when focusing on the European Union. Although the General Directorate for the Environment was also established in the mid-1970s, action plans became important, in line with the implementation of the Kyoto Protocol. Currently the 7th European Action Program

to 2020, "Living well, within the limits of our planet" (Official journal of the European Union 2013) is on the way and goals up to 2050.

Joining these three lines of development of the last decade, it can be stated that while economies worldwide were struggling to re-boost economic growth, development paths diverged. While the fear of speculative bubbles on asset markets increased, the search for new investment opportunities in the real sector seems to have found a new agenda with the Paris Agreement in the Conference of the Parties in 2015. For the first time, the term *green finance* was introduced at international conferences (Berrou et al. 2019: 9). The investment volume required to satisfy the financial needs of restructuring current economic processes in emerging markets amounts to US$ 23 trillion in the period from 2016 to 2030 (Stein et al 2018: 3). However, estimates of financial needs vary significantly among reports and studies, e.g. see Dorfleitner and Braun (2019: 207) who argue for an annual need of, on average, US$ 2.5–3.5 trillion until 2050 for both developed and less developed nations. To meet these needs, international organisations argue for the necessity to use financial innovative products and tools to direct private financial funds towards green investment (Sommer 2017). However, proposed strategies and tools to meet these investment levels vary significantly in their institutional set up and societal embeddedness.

3. Financial Innovation and the tools of Green Finance

Financial innovation can be understood as disruptive finance, in the sense that it transforms the functions of financial intermediaries. These changes in the financial sector, which can be attached to *product* and *process innovations* as well as new *institutional settings* are mainly driven by changes in the institutional, regulatory and policy framework of the banking sector on national and international level (Dabrowski 2017: 6f.). Milestones for regulatory changes, e.g. the banking directive in the mid-1970s and the free movement of capital, enabled the creation and deepening of innovative financial products.

Similarly, the institutional structure of the underlying national financial system deserves attention. As discussed above, national financial

systems can be classified as a stronger *market-based* or a stronger *bank-based structure,* from a macroeconomic point of view. Despite the financing structure (flow of funds) for the investment financing of companies, which might rather rely more strongly on bank loans or on the stock exchange, the relation between creditor and debtor, as well as the resulting institutional embeddedness of the system, differs (Springler 2006). While numerous studies of the International Monetary Fund and the World Bank emphasise the growth potential of market-based financial structure, it can be shown that higher *financial fragility* is inherent in market-based financial systems, compared to bank-based financial structures (Demirgüc-Kunt/Levine 2001: 11). Innovative financial products enable higher growth rates, butat the same time promote financial fragility, and, within the institutional structure of the national financial system, the shift towards a market-based financial system. The question arises whether financial innovation that uses elements of green finance will similarly change the existing structure of financial intermediaries. Firstly, focus is laid upon the impact of financial innovation on national financial systems, while secondly, green finance tools are integrated into features of financial innovation.

• A new financial system driven by financial innovation is strongly built on decentralised structures where financial intermediaries, but neither commercial banks nor the stock exchange, are important actors, and leads to a so-called *ultra market-based situation*. Financial innovation might not only serve as a necessary tool to top up the existing structure of financial intermediaries, but also to work as a *decentralised alternative* promoting the transformation of the existing national financial system. However, surveys show that green products have already been implemented by banks in emerging economies, e.g. 94 per cent of Latin American Banks offer Green Credit (Stein et al. 2018: 9), as soon as technical assistance for implementation (e.g. identifying risks) is offered. Potential obstacles to green commercial bank lending refer to environmental investments as a public good, the duration of investment, as well as the fact that private companies might not capture all the benefits arising from an environmental investment (Anger/Barker 2015: 178f.). According to mainstream economists, these factors might cause market failures and, subsequently, could lead to weak innovation and too little demand for credit to

enhance the shift towards a low carbon economy. Conversely, the structural shift towards an *ultra market-based situation* is argued for to promote economic growth and development.

• Given this situation of a theoretically high demand for financial means for the transition of economies towards low-carbon production, in combination with a potential lack in demand for finance as long-term green investment involves higher risk and obstacles for established intermediaries, forms of *green finance use financial innovation*. These innovative tools aim to address these obstacles from various angles, leading to opposing results: rather a stronger neoliberal market approach outcome, with an *ultra market-based system* that is decentralised from existing institutional financial settings, or the situation whereby these tools embed new technology within the pre-set structure of financial intermediaries and are turned into a structured bank-based system.

Figure 1 links tools of green finance to categories of financial innovation (see among others Tufano 2002: 5f; Berrou et al 2019; Dorfleitner/Braun 2019; Clarke 2019; Hyung/Baral 2019) and presents them on a continuum from neoliberal use towards a strong institutional use of financial innovation.

In the category of *product innovation,* green finance offers, among other things, green loans and green bonds, and also enables the set up of securitised products such as Green Asset Backed Securities (see figure 1). Financial technology is understood in this case as an enabler to attract new investment by tracing scarce investment volumes to green projects. Green bonds are considered the most important innovation in this category (Berrou et al 2019:15; Nassiry 2019: 327). Issuance of the green bond markets increased continuously from 2013 to 2019, and outperformed in 2019, with an increase of 43 per cent compared to 2018 (Nielsen 2020: 6). The market of green securitised bonds, asset backed securities and mortgage backed securities (MBS) have gained importance, especially since 2017, driven by the United States and the issuance of MBS by Fannie Mae (Nielsen 2020:7), which is the pioneer and the largest issuer of green MBS (Climate Bonds 2020: 2). Despite the highly speculative features of financial markets experienced during the global financial crisis, not only

Product	Strong focus on market structure: e.g. securitisation	Moderate focus on market structure, embedded in existing intermediaries: e.g. Green bonds, Green Loans, Green funds	Strong focus on financial intermediaries in product placement: e.g. Green bonds offered by investment banks, Green Loans
Process	Strong implementation of new processes, which work in a decentralised way: e.g. Robo adviser, Blockchain technology	Implementation of new processes within structure of intermediaries: e.g. Commercial banks incorporate Fintech modes to ease information – apps	
Institutional frame	Decentralisation – disruptive institutional setting: e.g. peer-to-peer platforms	Weak use of decentralised platforms: e.g. peer-to-peer platforms	Strong focus on National Investment Funds: e.g. Green Investment Funds; "Green only" Financial Institutions
	Neoliberal use of financialation » institutional use of financial innovation		

Figure 1: Financial innovations and tools of green finance
Source: own elaboration

the USA, but also the European Union fostered the implementation of green MBS, with the establishment of securitisation within the capital markets union (Lovells 2020: 24). Despite this, a global shift towards neoliberal market-based structures can also be observed when taking the total outstanding volume into account. The globally outstanding volume of Green Bonds already exceeds US$ 100 trillion, compared to a global stock-market capitalisation of US$ 63 trillion (Guttman 2018: 176). This means that green finance products will be sold off by commercial banks, and then bundled and resold as financial derivatives. Following the experience of 2008/2009, where financial fragility was increased and created a situation as described by Hyman Minsky (1992) as heading towards a *Ponzi finance*, the implementation of green finance tools into a neoliberal structure could also create another round of the *Minskian supercycle* (Palley 2013: 132f.). Palley (2013: 126-142) shows, applying Minsky, that low institutional embeddedness and a light regulatory frame encourages a

deep economic downturn when a turning point (Minsky Moment) in the economic business cycle applies.

In the category of *process innovation*, decentralisation and therefore the strengthening of neoliberal processes concentrates on the use of e.g. robo advisers and blockchain technology for green finance. The main aim is to actively disrupt the existing financial structures and to involve the public. Minimum investment requirements are lower compared to traditional forms of asset management, and additionally robo advisers charge lower fees (Dorfleitner/Braun 2019: 211). This segment experienced a recent boom from 2017 to 2019, especially in Europe, which amounted to an increase of more than 400 per cent in 2019 compared to the volume of 2017 (Dorfleitner/Braun 2019: 212). According to the neoliberal argumentation, this should enable a broader participation rate among households and should serve as a tool for *financial inclusion*, attracting people with lower wealth levels to participate in financial markets (Nassiry 2019: 322). However, on the other hand, this seeming enrichment of possibilities for households to participate in economic development enables financial capital to flow freely, while allowing the consequences of systemic risk to be transferred to consumers precariously positioned at the "bankable frontier" (Gabor/Brooks 2017: 433), and increases financialisation for households.

As with developments within process innovation, *innovations in the institutional frame* also produce a strong focus on neoliberal market approaches when decentralisation is fostered, e.g. by peer-to-peer platforms and crowdfunding. Conversely, an institutional frame for green finance that focuses more strongly on traditional intermediaries and involves the public sector can be found in Green investment funds. In this case, a strong commitment from the national commercial banking sector and the public sector is required. Hyung and Baral (2019) outline different modes of Green Funds, which differ in the way the public sector is involved – namely, via state guarantees or income tax reductions – but with a focus on a strong state commitment. Alternatively, the establishment of *Green only Financial Institutions,* as introduced by Noh (2019: 51f), aims to directly support small and medium businesses, a form of funding which might not only consist of loans, but also focuses on subsidies and joint investment.

4. Privatisation of risk vs. institutional embeddedness

As described above, instruments of green finance vary substantially in their relation to traditional financial intermediaries. It becomes evident that the majority of instruments with significant importance for the dynamic acceleration of the market are clearly disruptive for traditional financial intermediaries, especially in developing and emerging markets (e.g. Clarke 2019: 865), while financial innovation applied for green finance is said to increase financial inclusion for investment and financing (e.g. Nassiry 2019: 322), according to the neoliberal argumentation. Besides these neoliberal arguments to curb investment and open up new markets with aid of financial innovation, heterodox economists refer to the increasing volatility and financial fragility of the economy, applying a Post Keynesian framework of Hyman Minsky or Regulationist approach, referring to the instability of financial integration and capital mobility within a post-Fordist capitalistic structure (Janicko 2015). To evaluate the options of integrating green finance successfully, which means promoting the transitory shift towards low carbon economies without enhancing financial fragility, structures of institutional embeddedness are presented that follow up on the concept of *varieties of capitalism* of Hall and Soskice (2004). Within the notion of *varieties of capitalism*, a continuum of liberal and coordinated states is framed, in which *bank-based* and *market-based* financial structures can be incorporated (Beck/Scherrer 2013:155f.). However, the shift towards market-based financial systems, which is also manifested by the increase in financialisation, would signal a convergence towards liberal capitalistic structures. Especially after the financial crisis of 2008/2009, critique regarding the applicability of the typology, which is based mostly on an ahistorical analysis (see among others, May/Nölke 2013: 109f.) and the numerous neglected aspects, as among others, of power relations between actors and the distribution effects of different capitalistic structures (see among others Bruff et al. 2013: 15), increased. In this sense, the typology of varieties of capitalism needs not only to be reframed, but focus has to be placed on the existing dynamic fault lines and fragilities in capitalism (see among others Bruff/Hartmann 2013: 50). Joining these fundamental elements of criticism from the perspective of critical political economy towards varieties of

capitalism with the core elements of Post-Keynesian economics (see among other Hoffmann 1987: 27), which focus on the need for an implementation within the *historical frame (historical time),* the *active role of the state* as an economic actor in the institutional setting as an essential element to promote aggregate demand within an ergodic system of uncertainty, and the impact of money for the real economy, which includes the *acceptance of capitalistic fragility*, a structural set-up for the effects of integrating green finance tools is presented along these lines.

The view of the public sector as an *entrepreneurial state* (Mazzucato 2016) fits into the scheme of the state as an active economic actor, and allows for an alternative monetary theory and economic innovation, but only if it can be shown that modes of green finance are applied only indirectly. Mazzucato defines it as "a willingness to invest in, and sometimes imagine from the beginning, new high-risk areas before the private sector does. Business has tended to enter new sectors only after the high risk and uncertainty has been absorbed by the public sector, especially in areas of high capital intensity" (2016: 149). In this sense, innovation towards an ecological shift in capitalism and green investment would be institutionally embedded and strongly and actively supported by the state. Then, applying this active role of the state in a broader sense to the capitalist structure (see figure 2), the term 'Green State' is introduced and stands for the "belief in de-privileging Gross Domestic product (GDP) growth as a political objective and the utilization of the state to ensure environmental protection" (Bailey 2020:5).

Developing the argumentation introduced in this paper, this implies that a heterodox perspective on a socio-economically sustainable society is the focus. Applying this approach, figure 2 builds on Bailey's discussion of Peter Christoff's typology of environmental states (Bailey 2020), which can be viewed as a modified the setting of varieties of capitalism. A so-called Green State would therefore prioritise green goals over other macroeconomic indicators, national budgets are strongly devoted to eco-modernisation. Modes of green finance complementing the institutional frame and public sector commitment are attached to the typology of the Green State. A Green State asks for a strong public sector commitment in terms of finance, which can most closely be identified with a focus on the institutional frame National Green investment funds, or 'Green only' institutions are discussed in figure 2. This follows the frame of a Post-

Keynesian setting, in which financial innovation has to be accompanied by strong institutional embeddedness in order to reduce financial fragility and the speculative moment as seen in the economic and financial crisis of 2008/2009. When moving through the typology, as presented in figure 2, towards an environmental neoliberal state, market forces of green finance which apply financial innovation maximise their importance. Decentralised structures should help to mobilise financial means via the financial inclusion of households at the cost of higher indebtedness (Clarke 2019: 866). This means that within this structure, investment risks and environmental restructuring are highly privatised, while profits are concentrated in new decentralised actors/groups in the economy, which furthermore are only indirectly covered by a national or supranational regulatory frame.

Types of Nation States	**Defining features**	**Forms of Green Finance – Financial innovation**	
Green State	Strong eco-modernisation through: • High levels of state environmental capacity • Strong cultural and political institutionalisation of ecological values • High commitment • Strong budgetary commitment	Strong state commitment in finance: • Entrepreneurial state • Moderate use of international organisations in finance • Moderate use of bond markets	Continuum from an active role of the state and institutional use of green finance towards a neoliberal use of green financial tools.
Environmental neoliberal state	Very weak eco-modernisation through: • weak state environmental capacity and intervention • strong market orientation • weak to moderate budgetary commitment to social and environmental welfare	Strong market finance • strong use of securitisation products • strong use of decentralised forms of investment • weak use of financial structure of international organisations	

Figure 2: Types of Nation States and the Forms of Green Finance
Source: Based on Bailey (2020) Table 1, own presentation; (enlarged by forms of financial innovation.

5. Conclusion

Green finance serves as a roadmap for the ecological transformation of capitalist structures. However, this new market source incorporates, on the one hand, financial risks for individuals and leads, on the other hand, to the even stronger dependency of long-term investment and innovation strategies on financial markets, which are mainly interested in short-term profits. An adequate structure with strong state commitment could empower certain tools and modes of green finance to promote a sustainable and stable shift in economic structure. Whenever this form of Green State is developed, close coordination between actors and institutions in the economy is required and the financial sector is only a minor player in this change. From a macroeconomic perspective, stability can be enhanced whenever the institutional embeddedness of financial tools is given. So far, empirical evidence of the last years seems to prove the opposite – not a Green Finance tool with strong state commitment, as embraced by heterodox economists gain momentum – but ultramarket-based positions. Securitisation gets back on stage within the frame of Green Finance, with additional, strongly decentralised products. Applying the question of economic growth versus financial stability, as it is used in the analysis of national financial systems, to the current situation, it can be concluded that the ultra market-based path of capital accumulation would lead to high financial fragility, with economic profit as the major goal.

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Abstract *Auf der Suche nach der Finanzierung von Investitionen, die eine ökologische Transformation der ökonomischen Produktionsweise ermöglichen, gewinnt die Anwendung von Finanzinnovationen an Bedeutung. In Zuge dessen wird der ökonomische Widerspruch zwischen der Notwendigkeit einer Systemveränderung in der ökonomischen Produktionsweise und die Anwendung des neoliberalen Paradigmas zur Steigerung der Profite und Bedeutung von Finanzmärkten deutlich. Finanzinnovationen, die ressourcenschonenden Investitionen finanzieren sollen – grüne Finanzierung genannt –*

sind oft als hochspekulative und risikoreiche Produkte strukturiert. Auf Basis dieses paradigmatischen Konflikts, diskutiert der vorliegende Beitrag institutionelle Rahmenbedingungen, die zu einer Verringerung der negativen Effekte dieser Finanzierungsmaßnahmen beitragen können.

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Shifting the Course? The Impact of Chinese Finance on Extractivism in Latin America and Sub-Saharan Africa

Abstract *China's demand for commodities and its role as an investor and creditor in the global periphery are closely connected. In the past two decades, China's external policies have perpetuated commodity-based development models in the Global South, which are linked with negative socio-ecological effects. In this paper, we assess China's engagement in Sub-Saharan Africa and Latin America, by analysing China's outward financial flows. We show that these flows reflect China's growth model, but also vary by destination, given the regionally prevailing development strategies. We argue that whether new Chinese policies for more resource efficiency will trigger more sustainable development models in these regions, depends on these regions' existing relationships and experiences with China. However, the risks for continued extractivism remain high.*

Keywords *Extractivism, China, Latin America, Sub-Saharan Africa, commodity-based development models, capital flows*

1. Introduction

Over the past two decades, global demand for natural resources has risen sharply. From 2000 to 2017, for example, the global extraction of minerals increased by more than one third, but with clear regional differences. While mineral extraction has decreased in Europe, it has doubled in Asia and increased by around one quarter in Latin America and the Caribbean (LAC) and Sub-Saharan Africa (SSA), respectively (World Mining Data). Consequently, commodity dependence has continued to be a very persistent feature of most low- and middle-income countries, with few changes over the last 20 years (UNCTAD 2019).

The dynamics in the commodity sectors since the early 2000s have led to a rise of development models based on commodity extraction in the Global South, and to a reassessment of these strategies in the academic debate. The changes in global commodity demand and trade are mainly associated with China's unprecedented, export- and investment-led growth (Schmalz 2018). Today, China is the largest importer of energy commodities and specific metals such as copper and iron ore. China is sourcing a significant share of its external commodity demand from SSA and LAC and has become the most important single export destination for most countries on both continents[1]. In this way, China has exacerbated commodity dependence in many countries in SSA and LAC.

The rapid rise of China has also restructured global financial flows. Chinese policy banks have turned into major lenders in SSA and LAC in the past years, and Chinese state-owned and private enterprises expanded their physical presence via foreign direct investment. Assessing China's role in SSA and LAC remains, however, a source of controversy, with interpretations ranging from new forms of colonialism leading to over-indebtedness and socio-ecological conflicts, to fruitful new forms of South-South cooperation creating opportunities for structural transformation (Küblböck et al. 2019).

This article describes the evolving role of commodities in development theories and discusses the rise of commodity-based development models in SSA and LAC in this context. Building on a review of China's development path, we analyse the most recent estimates of Chinese outward capital flows and compare the flows to SSA and LAC by volume, type and composition, and thereby assess China's influence on the major development models in these regions. We note that new Chinese policy initiatives for more resource efficiency could alter China's financial engagements and trigger more sustainable development with less commodity extraction in many countries. We conclude that existing relationships and experiences with China will be decisive in this context. Risks for continued commodity dependence remain high, particularly in Latin America.

2. Revival of commodity-based development models

The heavy reliance on the extraction and export of commodities is a long-standing form of accumulation in most countries in the Global

South, often rooted in the colonial exploitation of natural resources (Peters 2019). Given the global division between the extraction, processing and consumption of these commodities, the potentially negative implications for economic development of commodity-dependent countries have always been a central element in development theories (e.g. Prebisch 1950; Singer 1950). After the boom-bust cycles of commodity prices in the 1970s, scientific attention focused particularly on the interconnection between commodity price booms and deindustrialisation (termed 'Dutch Disease' by Corden/Neary 1982). With country case studies (Gelb 1988), the thesis of the 'resource curse' gained prominence, which, supported by empirical analysis, postulates negative economic development effects for resource-rich countries (Auty 1993; see also Peters 2019 for an overview of the role of commodities in development theories).

The view of resources as a curse became entrenched at a time when most countries of the Global South remained highly commodity-dependent, despite active industrial policies in the 1970s (Nissanke 2019). During the neoliberal period of the 'Washington Consensus', policies did not, however, pursue active diversification efforts, but rather promoted extensive liberalisation of commodity sectors in LAC and SSA (ibid.). In combination with openness to trade and financialisation, these approaches have been largely detrimental for these regions, leading to financial and currency crises in various LAC countries (Schmalz 2019b).

The perception of the dominance of commodity sectors as unfavourable, however, seemed to reverse with the beginning of a commodity boom in the early 2000s. Triggered by China's growth (as discussed below) and speculation in commodity derivative markets (i.e financialisation of commodity markets; Ederer et al. 2016), prices and extracted volumes of all types of commodities increased in an unprecedented way. The mode of accumulation via extraction and the export of large volumes of unprocessed energy, mineral and agricultural commodities, which Gudynas (2019) defines as "extractivism", provided the basis for new development models.

In LAC, the term 'neo-extractivism' was coined to describe a growth-oriented development path in which intensified extractivism is combined with a leading role for the state, capturing and redistributing rents to reduce poverty and inequalities, and thereby gaining social legitimacy (see

Svampa 2019 for definitions and uses of the term). While dynamics in individual countries differed in terms of the relative importance of commodity sectors, the economic and social policies applied, and the role of the state, the entire region experienced economic growth and reduced poverty rates up until 2014, particularly in countries with progressive left and centre-left governments (Jäger et al. 2014).

In SSA, extractivism also gained momentum in the early 2000s. The economic stimuli of the commodity boom, particularly in oil and mineral-rich countries, have been perceived as a positive signal for future development paths (Peters 2019). The type of extraction, however, remained largely conventional despite new pieces of legislation and strategy papers such as the African Mining Vision (Küblböck 2014). No comprehensive commodity-based development models, which included redistributive policies, were introduced in SSA countries. Policy debates and initiatives focused instead on the creation of productive linkages in and around commodity sectors (UNECA 2013) and on infrastructure-induced development (AfDB 2018). While these approaches in SSA aim at industrialisation and diversification, they remain directly linked to commodity extraction and rents.

When global commodity prices started to decline in 2012, the socio-ecological contradictions of the commodity-based development models became evident. GDP growth rates slowed down significantly, public revenues declined, and poverty reduction in both regions came to an end. Most importantly, the highly negative ecological footprint of extractivism and the related socio-spatial and socio-ecological conflicts came to the surface, in particular as commodity extraction further increased to compensate for lower resource rents or due to a return to conventional extractivism under right-wing governments in LAC (Svampa 2019).

Even though the resource curse literature has become more diverse over time, also addressing adverse social and ecological outcomes (Papyrakis 2017), policy recommendations often refer to better management of macroeconomic variables rather than to measures to reduce commodity dependence (Peters 2019). However, in order to design paths towards alternative development models, it is crucial to identify the drivers behind extractivist development models. Dietz (2017) emphasises the fact that these models are characterised by socio-spatial dynamics, with interac-

tions of global factors and local processes with multiple international and national actors involved. In this article, as one of these global factors, we focus on China's policies and activities, taking Chinese outward financial flows as an indicator, as the different types of capital exports can directly and indirectly shape production structures in recipient countries (Schmalz 2019a). The comparison of these flows to SSA and LAC, respectively, allows us to distinguish their effects in both regions and to draw conclusions on opportunities for alternative development models.

3. China's financial flows and commodity-based development models

3.1 China's evolving role in global commodity markets

China and its role in the global economy has substantially evolved over the last decades (Schmalz 2018). In the 1980s, rural industry and domestic consumption constituted the sources of economic growth (Yuan et al. 2017). China employed commodity-based strategies, e.g. by the use of concessional loans from Japan for the import of manufactured products and technology against the export of oil and coal (Brautigam 2009: 47–51). In the 1990s, export-oriented manufacturing industries became the new growth engine, underpinned by low wages, high savings rates, and foreign direct investment (FDI) inflows, as well as a system of state-owned companies, including a government-controlled financial sector (Yuan et al. 2017).

In the late 1990s, this development model reached its first limits, amongst other factors due to high material input for manufacturing export goods and for increased energy consumption. Consequently, the Chinese government adopted a strategic change towards a more prominent global economic and political role, reflected in its 'Going Global' strategy of 1999 (Schmalz 2018). The main goals of this strategy are the acquisition of strategic resources and energy supplies and the increased access to global markets and value chains (Brautigam 2009). This economic engagement is embedded in China's traditional diplomatic and political approach to international cooperation, combining foreign policy, development aid and economic cooperation (ibid.).

The resurgent global growth after 2002 allowed China's export- and investment-led accumulation regime to continue and further increased China's demand for commodity imports (Yuan et al. 2017). After the global financial crisis in 2007/08, international demand collapsed, and China initiated a further attempt to restructure its economic growth model, with fiscal expansion and monetary policies aimed at increasing investments in infrastructure, higher private consumption and service provision (ibid.). It was, however, only in 2014 that China embarked on a slower growth path, with consumption outpacing exports and investment as the biggest drivers of growth (Schmalz 2018).

In the past two decades, China has become a global player in the commodity sector. In 2017, China accounted for about half of the global demand for metals, and China's share in the global demand for aluminium, copper and nickel rose from less than 10 per cent to more than 50 per cent between 1997 and 2017 (DERA 2019). Consequently, China has rapidly become the single largest destination for exports of resource-rich countries in SSA and LAC, which consist almost exclusively of unprocessed commodities (UNCTADstat data). Trade flows from SSA and LAC to China have therefore a higher environmental footprint compared to exports to the rest of the world, in terms of carbon emissions, water use and impacts on biodiversity (Ray et al. 2017).

3.2. China in the global financial system

Along with China's economic transformation, its financial sector has evolved very rapidly since the beginning of the 2000s. Besides financing its domestic economy, the financial system has been instrumental in channelling investment and credit flows to strategic sectors and investment outside China, in line with official policies (Horn et al. 2020; Schmalz 2019a). Even though details on Chinese international financial flows are not systematically disclosed, various databases collect data on Chinese outward flows.[2] According to these estimates, China's claims towards the rest of the world amounted to more than US Dollar (USD) 7.5 trillion, equivalent to 9 per cent of world GDP, up from around USD 900 billion or 2 per cent of world GDP in 2004 (ibid.; SAFE 2020). The largest outward capital position (USD 3.1 trillion) is part of the People's Bank of China's foreign currency

reserves and is invested in government bonds of high and higher-middle income countries. Outward FDI (OFDI) flows have increased strongly, adding up to more than USD 2 trillion in 2019. Moreover, claims from direct loans and trade credits amount to almost USD 1.3 trillion (ibid.).

There are particular patterns in the type of Chinese investment and lending, according to the income level of recipient countries. Debt and equity portfolio investment go mostly to high-income countries, which makes China the largest creditor to the USA (Jenkins 2018). Further, OFDI flows to high income countries have increased drastically and account now for 50 per cent of Chinese OFDI (AEI 2020; Schmalz 2019a). In contrast, cross-border lending in the form of direct loans and trade credits goes almost entirely to developing countries (Horn et al. 2020). While outward FDI (OFDI) is increasingly carried out by Chinese state-owned as well as private corporations, portfolio investments and international lending are still almost entirely conducted by state-owned financial entities (ibid.).

The various types of Chinese financial flows towards countries of the Global South indicate that they are largely state-driven. Firstly, Chinese state-owned enterprises (SOEs) have been the major drivers of OFDI so far (Schmalz 2019a). Secondly, Chinese cross-border lending consists of official loans granted by the two Chinese policy banks, the China Development Bank (CDB) and the Export-Import (Exim) Bank of China, both created in 1993 under the authority of the State Council and mandated to implement the economic policies of the government (Irwin/Gallagher 2014). China's engagements in the Global South therefore incorporate strong strategic elements and reflect China's demand for commodities, grounded in its export- and investment-led growth path.

3.3. China's direct investment in extractive sectors in SSA and LAC

An essential part of Chinese expansion in SSA and LAC has taken place through OFDI. In the initial phase of the 'Going Global' strategy in the early 2000s, Chinese OFDI went largely to resource-rich countries in Central Asia and SSA, based on intergovernmental cooperation (Brautigam 2009). Over the last decade, however, flows to LAC have outpaced investment in SSA. Total Chinese OFDI flows between 2006 and 2019 add up to USD 88 billion in SSA and to USD 130 billion in LAC (AEI 2020), which is equivalent to around 20 per cent of additional FDI stocks in SSA, and 8.5 per cent in LAC[3].

Chinese OFDI to these regions is highly focused on extractive sectors, accounting for 66 per cent (SSA) and 84 per cent (LAC) of total OFDI flows (ibid.). The major recipient countries are the largest and most resource-rich countries in both continents (Nigeria, South Africa, Zambia, Brazil, Chile and Peru). However, smaller and lower-income countries have also received large OFDI flows, for instance, China entered niches in SSA countries with comparably small extractive activities (Guinea, Mozambique, Niger) and in conflict-affected countries (DR Congo, South Sudan) (Ulbrich 2017). In LAC, China is further engaged in countries that have been sanctioned or avoided by Western investors (Ecuador, Venezuela) (Jenkins 2018).

With higher Chinese demand for commodities, the volumes of extracted minerals and fuels have increased significantly in both regions over the last two decades, driven specifically by mining activities, which increased by 31 per cent in SSA and by 21 per cent in LAC from 2011 to 2018 alone (World Mining Data). In particular, 'niche' countries in SSA, for which China has become the major source of FDI, show surges in above average mineral output. Consequently, the share of value added in the mining and quarrying sector, in total GDP, has increased from 2005 to 2018 in DR Congo from 11 per cent to 29 per cent, in Mozambique from 1 per cent to 12 per cent, and in Niger from 2 per cent to 6 per cent (with a high of 11 per cent in 2013) (UN Data).

In larger, resource-rich countries in SSA and LAC, China's OFDI has come in addition to already existing, large-scale extractive activities under the control of traditional US and EU investors. However, estimated Chinese OFDI flows to these regions have exceeded the total inflows from the USA since 2005 to LAC by 30 per cent and to SSA by a factor of four (Bureau of Economic Analysis data). Most importantly, China's concentration on extractive sectors is significantly higher compared to OFDI flows from other countries to LAC over the last two decades (UN ECLAC 2018), while the share of mining in US OFDI stocks in SSA declined from 60 per cent in the early 2000s to less than 37 per cent in 2019 (Bureau of Economic Analysis data).

Generally, already existing extractive sectors in large SSA and LAC contributed to satisfying the demand for commodities, but new extractive capacities were importantly driven by the entry of Chinese actors, which also replaced traditional actors through takeovers of whole companies or of specific projects (Tröster et al. 2017). In 2018, Chinese actors were estimated

to control one third of the mining sector in Peru (Küblböck et al. 2019), and 30 per cent of copper production and 50 per cent of cobalt extraction in SSA (Ericsson et al. 2020). Overall, mining and quarrying as a share of GDP remained stable or increased in most SSA and LAC countries up to 2015, but declined thereafter due to lower commodity prices, in particular in oil (UN Data). Nevertheless, countries that received Chinese OFDI in the extractive sectors in 2018 and 2019 still show increasing extracted volumes of minerals and fuels (AEI 2020, World Mining Data).

3.4. China as foreign lender in SSA and LAC

Beyond OFDI flows, China has become a major creditor to many governments in LAC and SSA over the last 20 years. These cross-border loans are largely handed out by the two Chinese policy banks, the China Development Bank (CDB) and the Export-Import (Exim) Bank of China, in the form of project finance and trade credits, and often involve national governments. The majority of loans to the Global South are made on commercial terms, with only the Exim Bank granting concessional loans to a limited extent, in particular to governments in SSA (Jenkins 2018). In total, Chinese credits to SSA between 2005 and 2017 amounted to USD 135 billion, out of which 60 per cent were from the Exim Bank (CARI 2020). In LAC, the CDB is the most important lender, with USD 137 billion since 2005, which makes Chinese policy banks the largest lenders in LAC (Gallagher/Myers 2020).

The major difference in cross-border lending to SSA and LAC is the breakdown by sector. SSA countries received Chinese loans for construction contracts, transport, and infrastructure (30 per cent) and for power generation (26 per cent; especially hydro dams) that typically involve Chinese SOEs. The extractive sector is only the third largest target for loans, with 13 per cent (CARI 2020). In LAC, loans largely fund extractive activities. Loans to the energy sector (oil, gas and coal) make up for two thirds of these loans and are strongly concentrated in the oil sector in Venezuela (USD 62 billion) and Brazil (USD 29 billion).

Loans for projects in non-extractive sectors can nevertheless create an indirect link to resources, as these are used as collateral or even as means of repayment. The Chinese policy banks generally do not impose policy conditions on loans, but link loans to access to commodities, equipment

purchase or contract requirements, which allows China to enter into risky capital markets and to promote Chinese exports and construction companies (Brautigam/Gallagher 2014). Mihalyi et al. (2020) list 30 resource-backed loans in SSA with a volume of USD 66 billion and 22 in LAC with a value of USD 98 billion, mainly financed by CDB and Exim Bank. Roughly half of Chinese credits to SSA and LAC are collateralised by commodities. In SSA, these loans are linked to infrastructure projects and are known as 'resource-backed loans' or 'Resource-for-Infrastructure' deals. In LAC, most collateralised loans go directly to extractive sectors.

4. Opportunities for new development models in SSA and LAC

As shown above, the volume and composition of China's financial flows to the Global South strongly reflect its policy priorities. Its growing demand for commodities has led to the direct and indirect engagement of China in extractive sectors in SSA and LAC and thereby enabled countries in these regions to perpetuate and deepen commodity-based development models.

As policy changes in China influence its external policies (Shinn 2016), it is foreseeable that a transformation of China's growth model will have far-reaching implications for SSA and LAC, triggered by (i) higher environmental standards, (ii) China's upgrading strategy, and (iii) its infrastructure initiatives. However, the impact of China's recent policy shifts on countries in SSA and LAC will strongly depend on their pre-existing economic and political relationship with China.

Until the mid-2000s, the environmental impacts of its activities were not perceived as a pressing issue in China. However, the 11th Five-Year Plan 2006-2010 marked a policy shift, as it introduced resource efficiency and environmental protection as one of its main objectives and set national targets of a reduction in CO2 and sulphur emissions (Compagnon/Alejandro 2013). In recent years, the Chinese government has also taken a range of measures to improve its performance on environmental standards, formulating guidelines for the social and environmental impacts of its projects overseas and China has issued more than 60 policy documents regarding overseas development (Myers 2019). While China's environ-

mental legislation seems to be strong on paper, its implementation tends to be weak. Implementation of environmental regulations will therefore mainly depend on the will and ability of host governments to strengthen national laws and standards (Shinn 2016). Taking up China's initiatives on stronger environmental standards will be crucial, as a turn away from commodity-based development models requires a transition period with a move to a "sensible extractivism" with strict compliance to social and environmental laws (Svampa 2019: 51).

China has been making further attempts to transform its economy towards domestic consumption, innovation, and outbound investment as sources of growth (Schmalz 2018). China's industrialisation policy 'Made in China 2025' wants to develop Chinese companies as world leaders in high-tech manufacturing, which is reflected in more OFDI flows to high-income countries (Yuan et al. 2017). Chinese enterprises are encouraged to transfer the processing and assembling part of the industrial supply chain abroad, and to maintain high value-added production in China. The initiative will possibly result in increasing resource efficiency, more demand for higher quality metals, and lower demand for metal ores and energy commodities (DERA 2019). Consequently, China's total demand for unprocessed commodities could reach a tipping point, which would reduce the basis for commodity-based development models. However, relocation of processing and manufacturing offers opportunities for structural transformation in many countries.

The experiences with China's engagement in non-extractive sectors and the respective economic circumstances differ between SSA and LAC. Generally, the Chinese OFDI flows to SSA countries have gained large shares in total inflows and particular countries have seen Chinese flows driving extractive sectors. However, substantial shares of FDI inflows to SSA also entered manufacturing and services sectors, such as real estate, finance and transport, in which private Chinese actors play an increasing role (Jenkins 2018). In many cases, these investors produce for domestic markets (Wolf 2016). Chinese investment in extractive sectors also created backward linkages through the use of local inputs to the extractive industries and upgrading into value-adding processing activities (Jenkins 2018), and light manufacturing has been outsourced from China to selected countries (Altenburg et al. 2020). Even though activities beyond extractive

sectors have not yet reached a large scale in SSA and remain challenging, they provide guide for future co-operation with Chinese investors in these fields.

In LAC, Chinese investments in sectors other than mining, energy and agriculture are of minor importance, with the exception of Mexico, for two major reasons. Firstly, the relatively high level of wages in LAC make outsourcing of manufacturing from China less likely. Secondly, many LAC countries have their own manufacturing industry, and Chinese products are generally competing on the export and the local markets with products manufactured in LAC (Jenkins 2018). China's focus on higher value-added manufacturing might even create more competition with LAC producers and other dominating FDI investors from the US and the EU.

In 2013, China introduced the Belt and Road initiative (BRI), which focusses on infrastructure development, investment and trade facilitation. Its objectives are to overcome gaps in the infrastructure that constrain outsourcing of production and to support Chinese companies with insufficient experience in overseas investment (Myers 2019). As noted in section 3.4, SSA governments have received substantial amounts of loans for infrastructure projects and 38 (out of 46) SSA countries have already joined the BRI (Nedopil 2020), which fosters investment-driven development strategies (AfDB 2018). In LAC countries, China's cross-border lending has directly focused on commodity sectors while loans for infrastructure projects still play a minor role. However, as of March 2020, almost all LAC countries (18 out of 20) have become members of the BRI (Nedopil 2020).

In principle, the new Chinese modernisation strategy carries the potential for SSA and LAC countries to diversify their economy and thereby depart from unsustainable commodity-based development paths. The use of China's capacities for such a transition strongly depends however on the will and ability of national governments and actors to move towards alternative development models. Chinese engagements have so far tended to strengthen national elites in power in SSA and LAC (Banik/Bull 2018). Thus, new development paths depend on interests and visions of such elites. Further, the type of relationship with China is important. Sino-African inter-governmental cooperation has been more intense, based on historical relations, which go back to the early days of decolonisation (Brautigam 2009). The first Forum on China-Africa Cooperation (FOCAC) took place

in 2000 and explicitly mentioned the translation of energy and resource potential into "real socio-economic development" as a goal (FOCAC 2015). In contrast, the first Forum of China and the Community of Latin American and Caribbean States (CELAC) took place only in 2015 and the region moved back closer to the US sphere with a right-wing government coming into power (Küblböck et al. 2019).

Nevertheless, shifts in China's engagements also entail risks. The relocation of commodity processing and manufacturing might even exacerbate commodity extraction and cause negative socio-ecological effects, depending on local environmental and labour standards. Further, infrastructure projects can themselves be considered as extractive activities and equally generate adverse ecological consequences and social conflicts (Svampa 2019). In particular, the financing of such projects with 'resource-backed loans' could even accelerate the commodity dependence in many countries.

5. Conclusions

China's financial flows to SSA and LAC in the form of OFDI and loans, with their focus on extractive activities, have created a strong Chinese influence in these regions and have even further increased their dependence on commodity extraction and exports. Thus, China's engagement in these countries is also directly linked to the negative ecological and social effects of commodity-based development models that have generated multiple conflicts in SSA and LAC.

Chinese financial flows to SSA and LAC also reflect China's growth model, and its demand for energy commodities and specific minerals. Differences in the flows to these regions can serve as an indicator for assessing the potential to overcome extractivism and to implement alternative development models, once China manages a transformation towards higher domestic consumption and the development of high-tech manufacturing.

Many SSA countries might find themselves in a better position, as they have diverse experiences with relocation of manufacturing and with infrastructure investments, while the China-LAC relations have been highly concentrated on extractivism. Nevertheless, a structural transformation

depends on the will and ability of national governments and actors to use the potential policy spaces, even though these opportunities are still confined within the global system of commodity-intensive production and consumption.

1 We are aware that the individual countries in the regions are highly diverse. However, we largely refer to general, regional trends in this article.
2 Official data on Chinese OFDI by the Chinese Ministry of Commerce do not reveal the detailed breakdown by country and sector. In addition, the data report that the majority of flows goes to Hong Kong and other offshore financial centres in the Caribbean, which veils the final destination of OFDI. Also, detailed official debt statistics are not reported. Therefore, we rely on data from various sources, such as the AEI and Heritage Foundation (AEI 2020), the China-Africa Research Initiative (CARI 2020), as well as Horn et al. (2020) and Gallagher/Myers (2020).
3 Given the lack of a consistent database on bilateral and sectoral FDI flows, the comparison of FDI data from different data sources should be interpreted cautiously. Here, AEI data on Chinese OFDI is set in relation to changes in FDI stocks as reported in UNCTADstat.

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Abstract *Die Nachfrage Chinas nach Rohstoffen und seine Rolle als Investor und Gläubiger in der globalen Peripherie sind eng miteinander verbunden. Chinas Auslandsaktivitäten haben in den letzten zwei Jahrzehnten rohstoffbasierte Entwicklungsmodelle im globalen Süden gestärkt,*

die mit negativen sozio-ökologischen Auswirkungen verbunden sind. In diesem Artikel betrachten wir Chinas Engagement in Sub-Sahara Afrika und in Lateinamerika basierend auf Chinas Finanzströmen. Wir zeigen, dass diese Ströme das Wachstumsmodell Chinas widerspiegeln, aber je nach regional vorherrschenden Entwicklungsstrategien variieren. Ob die neuen chinesische Politiken, die auf höhere Ressourceneffizienz abzielen, zu nachhaltigeren Entwicklungsmodelle in diesen Regionen führen werden, hängt von bisherigen Beziehungen und Erfahrungen mit China ab. Die Risiken für eine Fortsetzung des Extraktivismus bleiben jedoch hoch.

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Green Finance and Transnational Capitalist Classes – Tracing Vested Capital Interests in Renewable Energy Investments in South Africa[1]

Abstract *The green economy's general global agenda is to attract investments into renewable energy. Within this setting, transnational capitalist classes are one primary driver as well as being key investors. The article investigates how transnational classes shape green investments, particularly in renewable energy in Africa. This is demonstrated by tracing the ownership structures and links to transnational capital classes and private equity through one case within the South African Renewable energy procurement programme (REI4P). The article, thus, addresses the lack of consideration of ecology and class issues in critical International Political Economy, arguing that colonial relationships are perpetuated within the green economy and finance.*

Keywords *International Political Economy, green economy, green finance, renewable energy, South Africa*

1. Introduction

Worldwide, investments in renewable energy (RE) have reached new heights in recent years. In 2019, global RE investment was $301.7 billion. $15.2 billion was invested in renewable energy capacity in the Middle East and Africa in 2019 (Frankfurt School-UNEP Centre/BNEF 2020: 11, 46ff., 58ff.). And, even though we can expect a slow down due to the Covid-19 pandemic, renewables seem less affected than other conventional energy source (IEA 2020).

This overall trend is noteworthy, especially for emerging economies in Sub-Sahara Africa, which have been presented with an opportunity to benefit from greening their economies through renewable energy projects. Environmental concerns and sustainability have become a feature of major economic development, offering promising growth rates through greening portfolios by means of innovative financial products. The main ideological perspective on which the green economy rests is that environmental services and green financial instruments can solve environmental degradation. Alongside, we could observe the shift from production to finance capital, and finance capital has become one of the main shapers of the global economic system, with palpable effects on the environment (Foster 2007: 1; Katz-Rosene/Paterson 2018: 48ff.).

Within the International Political Economy (IPE) debate, the attention is mainly on the environment and classic resources such as oil. There has recently been a shift towards research into renewable energy (e.g., Sovacool 2018; Newell 2018). I expand on this engagement of IPE and renewable energy investments by focusing on the role of Transnational Capitalist Classes (TCC) within these developments, paying particular attention to the various political and economic conditions underpinning green finance. Up to now, debates on class and ecology within IPE have been few and far between. Given the rise in transnational investment, it is necessary to connect these perspectives by asking the question: How do transnational capitalist classes shape green investments?

I argue that the emerging alliance between transnational actors and their investments in RE projects reflect the influence of different fractions and interests of capital in the RE investment context. The complex nature of this argument is approached by using a combination of different theoretical debates surrounding IPE, the green economy, and transnational capitalist classes in the field of renewable energy. In the next step, South Africa's transnational competitive bidding scheme REI4P, its potentials and pitfalls in attracting many transnational conglomerates to its solar and wind sectors is reviewed. In terms of methodology, the single case of Biotherm Energy Ltd. is selected out of a cross-sectoral analysis of 82 RE projects (2011 to 2016).[2] This player is briefly outlined and then analysed to demonstrate the deep entanglement of transnational classes within the renewable energy realm.

2. Ecological interventions in International Political Economy

Historically, the IPE literature mainly focused on pillars such as trade, finance, and production. The IPE perspective presents central analytical categories such as the relationships and interactions between international and national political economies, between public and private, and between the state and social forces (e.g.; van de Graaf et al. 2016). More recently, though, IPE has forayed into new areas, including political ecology, sustainability, energy, and environment, and discussed their intertwined connection with classical theoretical approaches of IPE (e.g., Kuzemko et al. 2018). For instance, this critical engagement had a bearing on global politics in the critical discourses surrounding the Rio Summit, where the neoliberal green economy framework was presented, and within environmental concerns raised around contemporary trade policy and trade agreements (Clapp 2014: 108). As becomes clear in this context, the connection between economics and the environment had turned into an analytical category within the ambit of IPE. However, given the dominant influence of the world market price for oil, its rents, and the potential resource course (van de Graaf et al. 2016: 21ff.), renewable energy and the role of electricity remain a small research subfield (Hancock/Vivoda 2014).

In more recent debates, Katz-Rosene and Paterson (2018: 4) address the concern of "how thinking ecologically transforms our understanding of what IPE is and should be" (Katz-Rosene/Paterson 2018: 4). They call for an understanding of IPE themes as "ecological phenomena" (Katz-Rosene/Paterson 2018: 34) with direct and indirect linkages to, for instance, trade, production, and finance. Katz-Rosene and Paterson (2018) label this heuristic framework "Global Ecological Political Economy". The strength of this framework is to think ecological issues along with all spheres of life, thus upending prevailing notions of the environment merely being an add-on to trade, investment, and finance (Clapp 2014: 110ff.). By zooming in on the interconnection of the state-business relations, this stream also widens an already existing focus on formal international cooperation on environmental issues. Clapp and Helleiner (2012: 490ff.) rightly call for this debate to be connected to the financial market, structures and power relations in order to understand the link between finance and the environment. Parallel to the development within IPE, the transdisciplinary field

of (global) political ecology gained prominence during the 1990s. Similar to critical IPE, the historical conjunctures, relation to production, the relationship of forces etc. are analysed along different policy fields (see more in Peet et al. 2011), whilst consistently establishing links between political economy and the environment.

These two strands demonstrate IPE's increasing engagement with research fields such as the environment, climate change, and energy. They, thus, provide better insights and developments within the field of IPE and highlight the increasing relevance of (renewable) energy in social science (Sovacool 2014; van de Graaf et al. 2016; Kuzemko et al. 2018). As well as the broad macro-economic perspectives, it is necessary to build concrete analytical tools within critical IPE to shed light on the process of energy transition. However, the importance of finance, in energy transition only briefly touches the concrete relationship to class relations. Newell (2018: 10ff.) offers one of the few exceptions, connecting energy transition with neo-Gramscian IPE, and shedding light on the role of the state and hegemony. This article contributes to filling the absence of research on the role of transnational capitalist classes within green finance and renewable energy investments. Analysing the driving factors of green economy and green finance from a critical perspective is key to this endeavour.

3. Filling the gap: Transnational Capitalist Classes in the green economy and in green finance

Before delving into the role of Transnational Capitalist Classes (TCCs) in the renewable energy investment landscape, it is important to shed light on the globally propagated principles that underpin, facilitate and justify the engagement of TCCs in green, and particularly renewable, energy investment. I will first introduce the 'green economy' concept before tracing key components of contemporary green finance. The discussion of their entanglement with TCCs will wrap up this section.

3.1 Green economy

The 'green economy' is the umbrella concept underpinning transnational market-friendly policies in the energy sector and beyond. It gained

popularity in the international organisations around the time of the financial crisis in 2007. For the United Nations Environment Programme (UNEP), green economy is not only "a new engine of growth" (2011: 3) but also "low carbon, resource efficient and socially inclusive" (2011: 2). This UN model focuses on embedding ecological aspects into trade and investment policies and creates policy innovations and incentives for the private sector. However, it does not give a description of interventions into the market or forms of regulatory governance. As such, the nexus between theoretical understanding and practical concepts are highly interwoven in these debates. A crucial critique points to green economy strategies and the resulting framework for ecological change being mainly Northern-driven, despite the South having to bear the environmental brunt of the lifestyles and forms of imperialist way of life in the North (Brockington/Ponte 2015: 2199; Katz-Rosene/Paterson 2018: 63-64; Brand/Wissen 2018). Many authors conclude that, in light of this, the green economy as a strategy will not lead to any change in capitalism's nature, as it reproduces capitalism's need to continuously expand its markets (Harris 2013: 468; Brand 2015; Katz-Rosene/Paterson 2018: 50). Even in the Covid-19 induced financial and economic crisis, the green economy and green finance are regarded as the main pillars to a post-Covid recovery and 'building back better' (see e.g. OECD 2020).

Thus, the green economy provides the green platform for the internationalisation of states, especially when it comes to emerging economies; there is thus a need to unpack new economic dependencies and capital formations (e.g., Harris 2013; Brand/Wissen 2018). In unpacking these connections, it becomes notable that the green economy continues the free-market approach (Ehresman/Okereke 2015: 16) and does not provide any alternative to the current economic order. Quite the opposite – the green economy seems to provide capital fractions, particularly capital and financial actors, with renewed legitimacy (Monk/Perkins 2020) and opportunities for capital accumulation in times of ecological crisis.

3.2. Green finance

According to Clapp and Dauvergene (2005: 189ff.), there is a strong link between global finance and the environment. This includes various ways of providing access to different types of financing, such as public and

private loans, technical assistance, and multilateral and bilateral grants. The financial flows are always on the move as there is always the demand for liquidity (Gabor 2019), which is satisfied through financial tools such as green bonds. Gabor (2019) suggests that these standardised channels of financial flow play an important role in investment in ecological and sustainable development. Within this context, "finance can be seen to have an important role in shaping patterns of environmental degradation, particularly through its structural power and in this way, it shapes the incentives of actors across the spectrum – states, other businesses, or social movements – to act in particular ways." (Katz-Rosene/Paterson 2018: 48) Over decades, a shift from production to finance capital has taken place (Foster 2007: 1), and finance has become one of the main drivers and configurations of the global economic system, also having an "indirect effect on ecological questions" (Katz-Rosene/Paterson 2018: 48).

The problem with this practice is that the basic principles of growth and maximising profit remain non-negotiable, even if the ecological crisis remains unaddressed (Sandberg 2015:6). Svartzman et al. (2019: 110f.) go as far as to argue that the financial markets cannot adequately react to climate change, as they are incapable either of reflecting on the damage of eco-systems or creating ecological achievements. Financial capital, historically, has strong ties with fossil fuel-based accumulation regimes (Newell 2018: 12ff.).

The concept of financialisation adds layers to these problems. Critical political economists such as Fine (2010: 99) describe financialisation as a process in which "economic activity, in general, has become subject to the logic and imperatives of interest-bearing capital." Though the term financialisation has found frequent usage and enjoys different definitions and divergent approaches (Mader et al. 2020: 6ff.), this paper focuses particularly on the mechanisms of financialisation, which happen to be the same mechanisms used in the field of green economy, as shown below. In addition to a Northern driven ecological change, the Southern economies have a subordinated role in financialisation that leaves them limited financial opportunities (e.g., Bonizzi 2020).

Under the umbrella of the green economy, new (financial) markets and areas (such as locations and sectors) of investments are created and "can lead to […] vast profits for those corporations producing and deploying

the green technologies" (Harris 2013: 469). Another selling point is the oft-believed positive effect of the green economy, by reducing the environmental risks and the impact on the nature (UNEP 2011, see also Harris 2013: 469). Through financial innovation, the financialisation and commodification of nature have progressed significantly. This is evident in carbon emission schemes such as the Redd+ (Müller 2017), but increasingly also in financial innovations that bank on the environmental risks, such as catastrophe bonds (Bracking 2019). These concepts illustrate how ecological issues are often 'an afterthought' in discourses, and strictly separated from the financial value (Bracking 2015).

Within capitalism, nature is used as a commodity, i.e., as a sink of exploitable resources. As the above examples illustrate, within the financialisation of nature, nature itself is re-invented as a commodity, from which profit has to be generated for finance capitalism.

3.3 Financing renewable energy

The debates around financing renewable energy focus on development finance institutions such as the World Bank and the African Development Bank, which not only lend money directly, but also make various funds available and provide guarantees and other de-risking tools as catalysts for the private sector (see, e.g., Gabor 2019; Elsner et al. 2020). Depending on the fund's structure, state actors, companies, or a combination of both, have access to financing for their renewable energy projects. Other parallel framework conditions are also being discussed in order to make investments attractive to the private sector. These include various financial and policy de-risking mechanisms that are provided not only by development finance institutions, but also by nation-states. For instance, de-risking are loan guarantees, Partial Private Risk Guarantees, public equity for co-investments, and national policies to ensure the legal ground, for instance, renewable energy investment has a national legal ground for feed-in-tariffs (Wassbein et al. 2013; Schwerhoff/Sy 2017: 397). In this way, the financial de-risking instruments for private investors are financed through public resources (Mazzucato/Semieniuk 2018: 16). Schwerhoff and Sy (2017: 399) argue that renewable energy projects will gain from hard loans or equity finance, as the project itself is more financially viable for investments. In practice, financing of infrastructure projects includes these transnational

financial links with multilateral financial institutions and developmental and private banks. Overall, these developments in the financial system limit the room for alternative pathways for the Global South, as Gabor (2019: 26) highlights: "Public resources have to be dedicated to de-risking "developmental" assets, to identifying "bankable" developmental projects that can easily be transformed into tradable assets […]." (Gabor 2019: 26). These practices have also spilled over into the capital markets, where green bonds are another form of debt provision for renewable energy projects (Schwerhoff/Sy 2017: 397ff.)

Crucially, all these practices of financing renewable energies keep the imperialist way of living intact (Brand/Wissen 2018), in that these financial practices perpetuate the dependencies between North and South. In view of this, a critical political-economic perspective can gain insights from postcolonial debates on the economy (Kayatekin 2009: 1115). So far, the engagement of critical IPE and postcolonial thinking are limited; however, three additional points are important in relation to green economy and finance. Firstly, just one type of capitalism does not exist (Gruffydd Jones 2013: 59). Secondly, there is a need to connect the global finance structure with colonialism and slavery; this is especially so since the growth and current dominance of the credit system, joint-stock companies and insurances in the colonising states were built on slave exploitation and trade in the 18th century (Gruffydd Jones 2013: 55). Lastly, this knowledge offers the opportunity to understand in more depth financial needs from the perspective of the South.

3.4 Transnational capitalist classes and the green economy

TCC fractions involved in the green economy and finance are linked to various forms of capital. National and foreign capital as well as finance and banking capital are essential drivers of green investments, including, and in particular, for renewable energy investments. The state and its apparatus do not just provide the political framework. Instead, the state is a "specific material condensation of the relationship of forces among class and class fractions." (Poulantzas 2000 [1978]): 132) that is also reflected at the international level (Jessop 2017: 195f.; Brand/Wissen 2018: 54, Claar 2018). There, TCCs receive support from the international state apparatus, institutions such as the United Nations and the World Bank. For instance,

in 2007, the European Investment Bank issued the first climate-linked Bond (EIB n/a), followed by the Green Bond of the World Bank a year later (World Bank 2019; Monk/Perkins 2020). These actors' function as catalysts for private investment, and as supporters of the regulatory liberalisation of capital flow. Brand et al. (2011) describe this as a "second-order condensation of the relationship of forces". In this article, I draw on a theoretical framework that investigates the relationship of forces in the semi-peripheral state in order to get an in-depth understanding of transnational financial capitalist class fraction and its interests in renewable energy investments (Poulantzas 1976; Claar 2018: 15ff.).

The growing role of transnational capital in renewable energy investments (see among others Sovacool 2012; Clapp/Helleiner 2012; Hancock/Vivoda 2014), and in large corporations which are operating in Europe and the US and which profit from renewable energy investments (Harris 2013), needs to be analysed through a critical IPE lens which also considers historical dependencies. We need to understand the driving forces within these 'greening' debates and which 'voices' and interests are dominant. Considering class relations on the national and transnational levels fosters an analytical focus which highlights specific investment interests and patterns. Up to now, social-class analysis in the context of the global South is limited in the context of green investments and renewable energy, because the existing research have rarely focused on real social forces. However, drawing on Svartzman et al. (2019: 112f.), it is necessary to understand that green investment might be just one pillar in the change with a ecological transformation. Within these green settings the financial instruments remain the same as in other investment fields.

A good starting point for analysing transnational capitalist classes is locating and understanding the kind of actors involved and how they are embedded in the transnational and national relationship of forces. Drawing on work explicitly focused on financial actors in RE investments, it becomes clear that the structure and motivations of the actors influence their form of investments (Mazzucato/Semieniuk 2018: 9f.). It also highlights the role of different capital fractions and interests within the field of RE investments. In order to broaden the scope of IPE, these concepts must not only point out current North-South relations, but must also acknowl-

edge their historical conjunctions and various types of economies. In so doing, we capture a few missing links: we relate critical IPE to financialisation on the micro-level, which is oftentimes neglected (Mader et al. 2020), and further the debate surrounding green political economy with an empirical example deeply entrenched in these North-South-relations.

4. Renewable energy investments in South Africa

South Africa's competitive bidding scheme has become a blueprint for accelerating a low carbon transition by market means and can be situated at the heart of green economy endeavours. After briefly touching upon the political economy of energy in South Africa, this bidding scheme will be outlined in more detail. Following that the structure of one successful company, BioTherm Energy, will be unpacked to try to understand some of the driving factors of the green economy and finance, and the role of TCCs.

The South African energy market has been under strain for decades. Dependent on a crisis-ridden state-owned energy provider, Eskom, which supplies 95 per cent of the state's electricity (Deloitte 2017:25), and which is bound by continuing contracts with the coal mining industry, Eskom is part of the specific accumulation regime known as the minerals-energy-complex (Fine/Rustomjee 1996) or minerals-energy-finance-complex (Ashman/Fine 2013). The complex has a strong impact on other economic sectors, such as services and manufacturing. Also, the MEC perpetuates the dependence on foreign financial capital, which, through increased capital mobility, has led to the economy being massively affected by capital flight over the last decades (Claar 2018: 42, 88; Nölke et al. 2020: 159ff.).

To address the energy shortages and grapple with the global climate crisis, the South African government introduced a flexible, competitive bidding scheme called the Renewable Energy Independent Power Producer Procurement Program (REI4P) in 2011. Four bidding rounds have taken place so far. The selection criteria are based not only on price (70 per cent) but also on economic development factors (30 per cent), which include job creation, ownership, and socio-economic indicators

(e.g., Eberhard et al. 2014:12f.; Baker et al. 2014; Baker 2015). The overall investment in REI4P was R201.8 billion, of which R48.8 billion (24 per cent) was foreign investment (DoE 2018: 28). Thus, while REI4P seems to be a highly efficient and transparent liberal transition tool, it has generated a dynamic of its own. Among other things it has promoted various national interests and distinct investment patterns in South Africa's green transformation process.

A cross-sectorial analysis illustrates that transnational shareholding and capital play a crucial role in all four bidding rounds. In total, 69.5 percent of the projects have transnational ties, and a large amount (37.8 percent) of the renewable energy projects are embedded in transnational capital (see Müller/Claar 2020). Notably, most of these head companies are concentrated in Europe or the United States. One can, therefore, preliminarily conclude that TCCs play a significant role in the REI4P process. However, the issues go further; even though domestic investment companies such as the black-owned Thebe Investment Corporation are part of the shareholder consortiums and specialise in 'green investment', they merely ensure that TCCs implement the mandatory Black Economic Empowerment criteria (Eberhard et al. 2014, Baker 2015: 150ff.). More strikingly, Franziska Müller and myself (2020) found that, within the REI4P bidding scheme, transnational investors usually hold a blocking minority and are in charge of the entire sequence of the project cycle, from bidding over financing to the operating processes. Generally, the projects financing is based on private equity and debt provided by equity firms and banks. Given their extensive equity holdings, transnational companies can bear the risk of project development more readily and have cheaper access to finance (Baker 2015: 150ff.), thus giving them a structural advantage.

Within the 82 projects, there are companies and financing constellations that appeared regularly in several bidding rounds. One such company is BioTherm Energy Ltd. Over the four rounds, the transnational company successfully bid for nine projects, four in wind, four in solar, and one in biogas, respectively.

Firstly, it was selected as an example, based on it having projects in different bidding rounds and financing through private equity. One financier is the global equity firm Denham Capital. Its parent company is a Dutch renewable energy company owned by Denham Commodity Partners Fund V. LP. Before the renewable energy process in South

Africa, Denham Capital provided US$ 150 million to the development of BioTherm Energy in South Africa (Gauteng Business News 2008; Baker 2015: 150). These early ties demonstrate that transnational finance capital classes are expected to reap a profit from the South African RE market. It also explains how significant portions of BioTherm Energy projects in South Africa are financed mainly through Denham capital equity.

Secondly, the RE projects receive credit from Standard Bank or Nedbank and the Industrial Development Corporation. The Konkoonsies II project further shows the interlinkage between Nedbank's involvement and the fact that the renewable energy fund, called the South African Vantage Green X Fund, provided financial resources for the project (BioTherm Energy 2018; Vantage Capital n/a; Takouleu 2018).

Finally, the financial ownership structure of BioTherm Energy has become increasingly more complicated. In 2019, Denham Capital sold it to Actis, which had already been active in another eight South African RE projects via Globeleq Africa (Actis 2019, n/a). In light of this, it is clear that only a few companies are involved in several projects, such as the firms like BioTherm Energy and Globeleq under the umbrella of Actis, Enel, and some others. This demonstrates that RE investment is highly embedded in global finance capital. TCCs have more possibilities for capital-intensive RE infrastructure projects in South Africa than national investors.

Looking at the BioTherm Energy case, a few things can be generalised: firstly, that equity firms might not expect a long-term return, and that a much more dangerous pathway looms on the horizon on the African continent, where the RE sector will be concentrated in the hands of a few. Secondly, in the long run, the monopoly will have broader implications for the investment schemes and the communities that barely benefit, as it was also evident in the Zambian case (Elsner et al. 2020). These investment flows show that there would be a financial demand for national capital to compete with the transnational capitalist classes. Beyond the energy sector being reshaped, the REI4P revealed that the expertise, technology, and capital power to participate in the tender emanate from the global North. Dependent relationships in terms of capital and technical innovation are, thus, perpetuated. In sum, the analysis demonstrates that large RE investments are taken by global financial capital. The transnational pattern complicates the understanding and transparency of the RE projects' ownership structures, and not only in South Africa.

5. Conclusion

This article traced the key role of transnational capitalist classes in promoting and benefiting from renewable energy investments. By deploying an ecologically-conscious critical IPE approach, I scrutinised prevailing green economy and green finance concepts and traced how these practices enable new markets – and thus opportunities to reap profits – to form. By examining the ownership structure of the company Biotherm Energy, I demonstrated the relevance of transnational class fractions in reaping profits from new green economy schemes. These structures show the active involvement of transnational financial capital, although it is not easy to follow the financial flows, as the access to data is limited. However, due to these emerging financial structures, hardly any local ownership takes place in the renewable energy transition process in South Africa. These structures also relate to colonial, political, and financial dependencies and indicates that it is necessary to rethink critical IPE, ecology, and class from a post-colonial perspective. A class perspective on ecological issues helps capture and light the conflicts between and among various fractions on a national and transnational level (Jessop 2017: 195f.). More critical inspection of the green economy and green finance, particularly from a critical IPE vantage point, is needed to deepen the understanding of TCCs in contemporary low-carbon transition endeavours. More in-depth investigations may be able to advance the question as to whether this inspection can, indeed, identify new fraction of the green transnational capitalist class.

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2 The data analysis was backed by expert interviews with policymakers, social entrepreneurs, social partners and research institutions in South Africa in 2018.

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Abstract *Die globale Agenda der 'Green Economy' unterstützt Investitionen in dem Bereich der erneuerbaren Energien. Eine zentrale treibende Kraft sowie Investoren sind transnationale kapitalistische Klassen. Der Beitrag untersucht, wie grüne Investitionen, insbesondere erneuerbare Energien in Afrika, finanziert sind. Entlang einer illustrativen Einzelfallstudie innerhalb der südafrikanischen kompetitiven Wettbewerbsverfahren für erneuerbare Energien – South African Renewable Energy Procurement Programme (REI4P) - werden die Eigentumsstrukturen und Verbindungen zu transnationalen Kapitalklassen und Private Equity aufgezeigt. Der Artikel befasst sich*

mit der Forschungslücke von Ökologie und Klassenproblemen in der kritischen Internationalen Politischen Ökonomie. Dabei wird deutlich, dass koloniale Beziehungen in der grünen Wirtschaft und im Finanzwesen fortbestehen.

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The Humanitarian-Development Nexus and the Jordan Compact: Tensions and Trajectories in Global Capitalism

Abstract *The humanitarian-development nexus (HDN) frames protracted refugee situations as win-win development opportunities, building on dominant tropes like sustainable development and global risk management. Focusing on the Jordan Compact as part of the HDN, we question for whom it presents opportunities, highlighting its politics and tensions. We argue that the HDN and Jordan Compact are not win-win strategies whereby refugees and host countries benefit equally, but rather fail forward strategies with longstanding material roots in the power relations and paradoxes of global capitalism. Moreover, the neoliberal fail forward practices both frameworks embody legitimate themselves by depoliticising capitalism's underlying contradictions. We highlight how the HDN, similar to its undergirding tropes, is a political project that advances the interests of private actors over those of its intended beneficiaries.*

Keywords *Humanitarian-Development Nexus, Jordan Compact, fail forward neoliberalism, global capitalism, development finance*

1. Introduction

Sustainable development has served as an enduring and foundational plank of global development over the past three decades. Its roots are often traced to the report, *Our Common Future*, issued by the Brundtlund Commission in 1987, where sustainable development was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations General Assembly 1987: 43). Despite its vagueness, sustainable develop-

ment, which has been said to encompass economic, environmental and social dimensions, has underpinned landmark global initiatives, notably the United Nations (UN) eight Millennium Development Goals (2000–2015) and its successor, the more expansive 17 Sustainable Development Goals[1] (SDGs) (2015–2030; United Nations 2019).

Since its inception in the late 1980s, sustainable development has been continually updated and often revised with equally elusive concepts ranging from good governance and resilience to risk management (Mikulewicz/Taylor 2020; Sharma/Soederberg 2019). One of its more recent and celebrated iterations is the humanitarian-development nexus (hereafter: HDN). Although not a new concept, the HDN was reinvigorated at the high-level "Supporting Syria and the Region" London Conference in 2016, where key donor countries, multilateral development banks (MDBs) and the United Nations pledged a record $10 billion[2] to integrate a sustainable development approach to humanitarian response planning with regard to protracted refugee situations in the global South[3] (European Commission 2016b; Hendow 2019). The European Union (EU), a key ODA donor and destination for refugees fleeing the Syrian conflict and elsewhere[4], has favoured the HDN as a broad-ranging approach that can deliver a "win-win scenario for both displaced and their host communities" in the global South (European Commission 2016b: 5). The HDN supports primary host countries of Syrian refugees: Jordan, Turkey and Lebanon.

Jordan, a small landlocked kingdom, is one of the largest proportional recipients of refugees. It is also the third most water-scarce country in the world. The arrival of over half a million Syrian refugees since 2011 into the country has compounded its low water levels. Added to this, the country has been experiencing crushing public debt, rising unemployment, and increasing poverty levels – all of which had existed prior to the influx of Syrian refugees in 2011 and coincided with the wave of Arab uprisings that same year, of which Jordan had its share.

The 2016 Jordan Compact, which falls within the ambit of the HDN, was seen as a game-changer in terms of how the international development community, specifically the EU, and host countries sustainably deal with protracted refugee situations. On the ground, the Compact has promised more funds to Jordan, particularly in support of its national development goals (i.e. in infrastructure), as well as preferential trade terms with the EU

in exchange for facilitating refugees' employment and easing their access to the Jordanian job market.[5] Guided by the HDN framework, the Compact thus aims to respond to protracted displacements by transforming refugees from a financial and environmental burden to a *development opportunity*, and has been discussed as a model for refugee compacts in the future (UNDP 2016). It has also been heralded by many development practitioners, policymakers and donors as a paradigm shift in which aid can be made more effective and efficient, leading to self-reliance and a stimulus for sustainable economic growth (Hedow 2019: 11; Oxfam 2019; UNDP 2016).

While scholars and practitioners have critically examined the HDN with regard to the Jordan Compact and its promises of improving Syrian livelihoods (Parkes/Pauwels 2017; Lenner/Turner 2019; Morris 2020), analysing the geopolitics of donors therein, the Compact's human rights dimensions and what has been referred to as Jordan's "refugee rentierism" and "refugee diplomacy" (Arar 2017; Kelberer 2017; Panizzon 2019; Meral 2019; Al-Mahaidi 2020; Burlin 2020; Seeberg 2020), few analyses have questioned the Compact's development aspect, namely the aid and infrastructure projects promised to Jordan; the focus has predominantly been on refugees' job market access and livelihoods. To fill this silence, we ask: how might we understand the power, politics, and paradoxes involved in transforming environmental (water supply), economic (debt), and humanitarian (refugees) challenges into sustainable development opportunities in Jordan? Whose opportunity and why?

To address these questions, we draw on a critical political economy of development lens to interrogate the Jordan Compact and HDN on two levels of analysis, corresponding to Sections Two and Three respectively. First, we locate the HDN, and, by extension, the reproduction of the prevailing paradigm of sustainable development, in the wider macrodynamics and power relations of global capitalism, including the neoliberal solutions embodied in achieving sustainable development. Neoliberalism describes a disciplinary set of policies, regulations and discourses aimed at ensuring the dominance of highly individualised market logics over collective solutions supported by public consumption (Gill 1995). Importantly, neoliberalism is not a one-off event, but refers to ongoing, contradictory and uneven processes driven by *fail forward* strategies (Shields 2020). Following Peck and Tickell (2002), fail forward strategies respond to the

problems caused by neoliberalism through more neoliberal processes. In the context of the Global South, this has often meant offering loans with conditionalities, such as privatisation and fiscal austerity, as elaborated in Section 2.2 below. Second, we query how the macro-political economic processes of sustainable development, including HDN, have played themselves out on the ground, by concentrating on the Jordan Compact from 2016 to 2020, specifically its projects for improving infrastructure and public service delivery in Jordan's water sector.

Seen from the above angle, we argue that as a vector of sustainable development, the HDN, including the Jordan Compact, is not a win-win strategy in which refugees and host countries benefit equally. Instead, the HDN and Jordan Compact represent a fail forward strategy with long-standing material roots in the power relations and paradoxes of global capitalism. From this viewpoint, the primary beneficiaries of these fail forward strategies have neither been the refugees nor the poor. Instead, those who have benefited the most from the Jordan Compact so far have been private actors – operating at the local and global scales – and EU donor countries, who have been eager to keep the refugees out of the continent. We also argue that neoliberal fail forward practices embodied in the HDN and Jordan Compact legitimate themselves by depoliticising and erasing underlying contradictions of capitalism that have been intensified under neoliberalism, notably growing levels of income inequality and environmental destruction. Together, both prongs of our argument highlight the fact that the HDN, similar to its undergirding of sustainable development, is a political project that advances private sector and accumulation interests over those of its intended beneficiaries.

2. Sustainable development: Global tensions and trajectories

2.1 Tensions in global capitalism

Sustainable development, embodied in the HDN and Jordan Compact, has existed uneasily with already ongoing tensions, along its three definitional dimensions outlined above, namely: economic, environmental and social features. These frictions are most evident in three major and interlinked global crisis tropes that have accompanied efforts to achieve sustain-

able development in the new millennium: the 2007-08 financial crisis, environmental crisis, and the refugee crisis. In what follows, we explore each in turn.

The global financial crisis catapulted tens of millions of people across the globe into poverty and/or deeper levels of destitution for prolonged periods. The aptly named Great Financial Crisis (GFC), which was fuelled by property speculation in the global North, also resulted in a prolonged recession from which many countries across the globe are still recovering, including many parts of the European Union (EU) (Bieling et al. 2016). The renewal of fiscal austerity – a key feature of neoliberalism – resulted in a fresh round of public spending cuts affecting key social services (health, housing and education). These post-crisis austerity measures, coupled with decades of neoliberal restructuring on the continent, in many ways played an important role in creating the conditions for Europe's alleged refugee crisis (Bhagat 2019; Soederberg forthcoming). The general solution to the GFC has been, as was the case with previous financial crises, to maintain the status quo. Voluntary guidelines and benchmarks achieved through consensus-building among powerful state leaders, international financial institutions (IFIs) and private financial actors have ensured that the freedom of financial flows continue to serve as a cornerstone to achieve sustainable development (Sharma/Soederberg 2019).

The second main crisis is global warming. Despite the rhetoric of sustainable development, global fossil fuel consumption has continued to be the norm. The planet has been experiencing rising levels of global warming brought about by greenhouse gas emissions, bringing the world's temperature increase in this century to 2 degrees Celsius above preindustrial levels (Mayer 2019; Mikulewicz/Taylor 2020). The solution to this crisis was forged at the Paris Agreement, the world's first universal and legally binding global climate change agreement, adopted at the climate conference (COP 21) in 2015, and which sought to limit global warming to 1.5°C. This ethos was also incorporated into SDG 13 (Climate Action; UN, 2019).

In 2015, the same year that the COP 21 was signed, more than a million migrants and refugees, many of whom were fleeing the Syrian war (2011—present), undertook the perilous journey across the Mediterranean to reach Europe (UNHRC 2016). The mass influx of displaced people into the EU culminated in its so-called refugee 'crisis'. Notwithstanding the EU's crisis

trope, many of the approximately 5.6 million Syrian refugees do not reside in the EU, but instead in the global South, where 95 percent of the growing number of displaced people live (Oxfam 2019). A proposed solution to the protracted refugee situation in host countries in the global South was the HDN, and the individual country compacts, notably the Jordan Compact, which we discuss below.

The three primary crises have hit poor countries in the global South and the most vulnerable residing therein (refugees) hardest. How might we explain this ongoing friction between the rhetoric of sustainable development and the actually existing triple crisis? To begin to answer this question, we rely on a more critical understanding of development that allows us to see its connection with the power and paradoxes inherent to the uneven dynamics of capital accumulation and capitalism's insatiable pursuit of profit maximisation. Drawing on Rist (2007: 488), we suggest that the trope of sustainable development obscures its position in global capitalism as "the general transformation and destruction of the natural environment and social relations in order to increase the production of commodities geared by means of market exchange to effective demand".

In line with this view, sustainable development, including its newest additions, the HDN and the Jordan Compact, cannot be divorced from class interests that benefit from the continual expansion of capital accumulation powered primarily, albeit not exclusively, by fossil fuels and financial speculation. Despite the Paris Agreement, SDG 13, and the ongoing warning by scientists that, without serious leadership and effective action, the world will continue to experience, among other things, habitat loss, heatwaves, ecosystem degradation and shortages of water supply, capitalist development continues to rely on high carbon consumption, production and distribution to achieve growth. The UN's Emission Gap Report reveals that countries around the world are falling short of the emission reductions laid out in the Paris Agreement, "and [that] even if they met those targets, a disastrous 3–5 Celsius rise would occur" (Mayer 2020: 36).

Financial-driven accumulation has not delivered the high levels of economic growth that existed prior to the neoliberal turn in the early 1980s (United Nations 2020). For instance, more than one billion people continue to live in extreme poverty, income inequality has increased both within and between many countries, and long-term unemployment and

precarious work (zero contract hours, gig economy jobs, involuntary part-time) exist alongside the expansion and deepening of financial markets and increasing levels of concentration of corporate and individual wealth (ILO 2020). With 1.4 billion people (or around 42 percent of total employment), the people facing vulnerable employment conditions in global capitalism is quite substantial (United Nations 2017: 15).

Rist's above understanding of sustainable development also makes visible the influence of donor countries, and by extension, global development institutions such as the IMF, World Bank, and European Bank for Reconstruction and Development (EBRD), which possess the power – expressed through money and conditionality – to construct and reproduce a social reality in which economic growth is viewed as the only viable alternative to meet the SDGs (Shields 2020). As Altvater (1993: 137) notes, these power relations are fraught with tensions insofar as development finance (aid and loans) "never just promote the institutional and technological modernization of debtor countries; they always also serve the development of the lender nation. And the two functions not only can but must enter into contradictions with each other".

2.2. Fail forward trends in sustainable development: Good governance and risk management

The tensions between, on the one hand, the promises of sustainable development and, on the other, the crisis-prone nature of capitalist accumulation, have been continually resolved through fail forward neoliberal development practices and policies (Soederberg 2004; Shields 2020). Neoliberal development has served to uphold the preference for private consumption and individualisation over public spending, which is further constrained by the constant presence of fiscal austerity measures and the fixation on endless economic growth as a panacea for poverty (Altvater 2002). By briefly highlighting the global fail forward trends of good governance and risk management, we aim to reveal how these strategies attempt to resolve these frictions inherent to sustainable development, and how these fail forward policies, wrapped in the guise of institutional modernisation, serve donor and capitalist interests. Together, both insights assist in problematising the novelty and neutrality of the HDN, and, by extension, the Jordan Compact.

In response to the growing critiques of neoliberal development during the 1980s, and the legitimacy problems associated with these turbulent times in the mid-1990s, the IMF and World Bank began to overhaul their policies, as they were considered to be too top-down in policy formation, economistic (devoid of historical, institutional and social considerations) and exclusionary with regard to various civil society groups (Pender 2001). Engaging in fail forward strategies, these leading international development institutions began to expand their traditional policy emphasis on *getting economics right* to include what they considered to be a proper institutional environment to facilitate economic growth. *Getting politics right* under the rubric of good governance policies was thus a way to support the pro-growth policies of the 1980s (World Bank 2002, 2015). A core initiative of this fail forward strategy was the good governance agenda. This promoted the idea that donor countries could achieve sustainable development by implementing the donors' neoliberal structural adjustment policies alongside good governance practices such as rule of law, transparency and accountability.

The good governance agenda and the increasing power of corporations in sustainable development are illustrated by the projects and policies pursued by the EBRD (Shields 2020). The EBRD is a key development institution, owned by 69 countries and dominated by several powerful donors, including France, Germany, the United States, the European Union and the European Investment Bank. In 2019, the EBRD Annual Meeting and Business Forum relaunched good governance policies "to strengthen its sustainability, transparency and accountability", practices aimed at, among other things, guiding its commitment to environmental and social policy (EBRD 2019). In Jordan, the EBRD has advanced these policies and been actively involved in the HDN and the Jordan Compact through its Refugee Response Plan, as elaborated in Section 3.2.

Owing to the increased exposure of financial and non-financial corporations to conditions that could potentially threaten the profitability of their investment abroad, the good governance agenda of the EBRD and other major donor institutions has entered into another fail forward strategy. This time, the focus of sustainable development has been increasingly concerned with mitigating and managing global risks as an important mechanism for achieving the SDGs. The World Bank's 2014 report

suggests that "risk management can be a powerful instrument for development not only for building people's resilience and thus reducing the effects of adverse events but also by allowing them to take advantage of opportunities for improvement" (World Bank 2014a: 5). Risks thus have an alleged upside: if properly managed through good governance and embrace of market-based tools, risks can become transformed into opportunities for prosperity or value creation in a win-win manner (World Bank 2014).

As we discuss below, there are at least four aspects that characterise the fail forward global risk management paradigm that have also found their way into the HDN, and, by extension, the Jordan Compact: (1) the counter-concept of risk appears to be *opportunity*, (2) risk management entails a win-win relationship, (3) good governance is central to the effective management of risk, and (4) the main preoccupation of risk management is to protect and encourage economic growth (Sharma/Soederberg 2019).

Throughout these fail forward strategies of good governance and global risk management, including that of resilience, the unequal distribution of growth is erased along with the unwillingness to acknowledge the environmental dimensions of growth. The latter involve the transformation of natural resources and raw material and energy for the ends of production, consumption and distribution – all of which run counter to the SDGs (Altvater 1993, 2002). In many ways, these good governance and global risk management strategies are reflected in the HDN and the Jordan Compact.

2.3 Displacement as a development opportunity: The HDN and the Jordan Compact

The Jordan Compact, signed as part of the EU-Partnership Priorities at the London Conference, draws on and underlines the above-mentioned tropes. Resilience (through risk management), good governance and sustainable development stand out, both implicitly and explicitly, in the Partnership's avowed aim of "turn[ing] the challenges posed by the Syria crisis into concrete *opportunities* to the benefit of the population of Jordan, the Syrian refugees and the EU" (European Commission 2016a: 5-6; our emphasis).

The Compact itself translates these broad goals into specific objectives. It emphasises the need to improve refugees' economic situation in

Jordan, but also to build up (vulnerable) host communities' resilience (European Commission 2016a: 11). Most of these targets are geared at Jordan's economy and the pressures it has faced in absorbing such large numbers of refugees; they include increasing investments and job opportunities, advancing sustainable growth, and creating a private sector-friendly economy. Other objectives, such as promoting education, preventing radicalism and violence, managing migration between the EU and Jordan and fostering justice, democracy and human rights, are similarly presented as strengthening the economy and creating job opportunities for sustainable development. In contrast, Jordan's environmental and resource challenges are only briefly considered in the document and then also to highlight their potential economic benefits.

The Compact's tropes are reflected in the support of EU regional development banks such as the EIB and EBRD, and other IFIs. This is evident in MDBs' joint commitment at the 2019 Global Refugee Forum[6] to respond to forced displacement, through, among other things, support for the private sector as well as these donors' individual strategies. Both EIB and EBRD emphasize resilience as a means to address Jordan's increased challenges. The former has financed various projects under its broader Economic Resilience Initiative (ERI), and EBRD's 2020-2025 Country Strategy for Jordan outlines economic growth and financial inclusion, employment and private sector participation in the economy as part of its Refugee Response Plan and as the way to achieve resilience (EIB 2019; EBRD 2020). Similarly, the World Bank's Country Partnership Framework for Jordan invokes the Compact in its resilience-building strategies, stressing investment and job creation, and the IMF's latest funding package highlights economic growth and job creation as a sustainable resolution to Jordan's challenges (World Bank 2016; IMF 2020a). It is thus worth noting that when we refer to the Compact in our analysis hereafter, we mean the document itself as well as related projects in Jordan by these institutions, which often jointly fund them.

Despite its emphasis on sustainable development and focus on the needs of refugee and host populations as its foremost aim, the Compact is a direct reflection of the EU's own (geo)political and economic interests, as elaborated below; for example, it is inherently an attempt to curtail the arrival of refugee populations to its shores and advance European

economic interests (Anholt/Sinatti 2020). This is more explicitly evident in the EU's broader document on forced displacement and development which considers these "[s]econdary and multiple displacements…a collective failure to address the specific mid- to longer term needs and vulnerabilities of forcibly displaced people and their host communities and to provide them with durable solutions" (European Commission 2016b: 2). The following section draws on our above discussion of sustainable development and fail forward neoliberalism to situate the Jordan Compact and its related development projects within global capitalism and outline these interests and the tensions they embody.

3. The Jordan Compact: Trends and tensions on the ground

Exploring how the Jordan Compact's developmental promises have materialised on the ground, we highlight the contradictions and power relations inherent to the HDN in Jordan. We historicise IFIs' involvement in Jordan prior to the Syrian conflict to show how neoliberal policies gave rise to many of the problems it faces today, and which the Compact seeks to address. Drawing on Altvater's (1993) insight regarding the institutional and technological modernisation of debtor countries, we analyse the Compact's current advancement of these same policies as the key to Jordan's sustainable and long-term development. While HDN support for Jordan includes donor grants, some of which top up loans, we focus on the significant number of loans extended under the Compact's auspices. Among creditors have been the EBRD, EIB, World Bank, Global Concessional Financing Facility (GCFF)[7] and IMF. We zoom in on the West Irbid Wastewater Project (hereafter WIWP) as one of these public infrastructure and service delivery projects (particularly in the water sector) to identify for whom these projects actually present an opportunity. WIWP aims to build new wastewater networks with the overall goal(s) of improving the sector's performance and, hence, strengthening its resilience in the face of added pressure from the influx of refugees; it is funded by a EUR 25 million EBRD loan as part of its Refugee Response Plan and topped up by grants from the EU Madad Fund[8], the GCFF and the EBRD's Shareholder Special Fund (SSF), which amount to a total of around EUR 28 million.

3.1 Erasing underlying causes and histories

The Jordan Compact is a fail forward strategy insofar as it depoliticises Jordan's current problems and erases their history. It completely ignores the fact that many of the challenges facing Jordan in the wake of the refugee influx actually have their roots in the country's historical experience with aid and neoliberal policies.

Jordan has relied on foreign assistance since its inception in the 1920s (Brynen 1992; Ryan 1998; Peters/Moore 2009; Abu-Rish 2014). Most of the Compact's key donors today, including the EU, EBRD, World Bank and IMF, extended loans to Jordan before the Syrian refugee influx and HDN framework. While they have claimed their financial and technical support helped Jordan achieve growth and reduce its deficit, hailing it as a reforming success (Harrigan/El-Said 2009: 75), the situation today complicates this narrative given that Jordan's debt has more than doubled since 2008 (World Bank 2020).

The conditions of and interests vested in this assistance further relate it to Jordan's present challenges. The professed goals of the EU's Euro-Mediterranean Partnership (EMP), or Barcelona Process, first initiated in 1995, explicitly supported deregulating public services and implementing reforms to attract investment. Its grants and EIB loans stipulated specific reforms, including privatisation and trade and financial liberalisation and a rollback of state spending and subsidies. Rather than promoting economic well-being, these structural measures facilitated European accumulation in the region, as the EU became one of the largest exporters to these countries, including Jordan (Hanieh 2013: 39-42, 69). EIB and EBRD (operating in the region since 2011) loans have also promoted public-private partnerships (PPPs), which Jordan has implemented for its airport and energy and water provision, thus supporting private sector accumulation by handing it public wealth and further restructuring the economy along neoliberal lines (Hanieh 2013: 55f.).

Contrary to donors' claimed goals at the time, however, Jordan's problems remained. Its poverty rates increased in the 1990s despite IFIs' aid and assistance (Harrigan/El-Said 2009: 104). The situation worsened after the 2008 financial crisis, which weakened the economy and necessitated further austerity measures (Seeberg 2016: 175). As mentioned above, its debt also increased. The effect on the public has been evident in the

protest waves against these reforms, dating as far back as 1990, reoccurring in 2010 and 2011, and culminating in Jordan's 2018 protests against tax increases and neoliberal reforms, which explicitly blamed privatisation and foreign aid for their problems (Ababneh: 208). In contrast, these reforms consolidated local private sector and economic elites' historical privileges and mutually beneficial relations with the monarchy (Greenwood 2003; Wils 2004). For example, in 2001, the Jordanian government dissolved parliament due to regional instability and took advantage of the vacuum to implement controversial reforms, including massive privatisation (Harrigan/El-Said 2009: 84). Local elites, particularly the ethnically Palestinian business class, accumulated from this privatisation and other investment incentives, such as tax reductions (Wils 2004; Abu-Rish 2012: 239).

Before the Syrian crisis, Jordan's neoliberal reforms, alongside sudden population surges resulting from various refugee waves, such as after the 2003 Iraq War, had already contributed to a fragile economy, strained public services, decreased public spending and increased demand on resources (further exacerbating its environmental problems as well). As donors present the same policies as new solutions to the Syrian Crisis, however, this history—and the uneven benefits and interests served by these reforms—is erased from HDN narratives. We elaborate on the Compact's fail forward strategies since 2016 below.

3.2 Power and paradoxes of the compact's development 'opportunities'

The Compact's approach to Jordan's sustainable development and resilience in the face of overlapping challenges has translated to two interrelated solutions: more debt and more neoliberal restructuring of Jordan's economy. Both solutions contribute to the expansion of local and global capitalist accumulation and the prioritisation of European geopolitics over the needs of the Compact's intended refugee and local beneficiaries. This is particularly evident in proposed solutions to Jordan's water scarcity challenges, which are further threatened by climate change, given these solutions' almost exclusively economistic understanding of what an environmental problem is. Though in its early stages, WIWP is a prime example of this.

The Compact stresses the importance of sustainably managing Jordan's natural resources and highlights the impact of climate change, but this environmental focus is mostly absent from its strategies. The document devotes less than half a page to this, vaguely noting that the EU will add to its previous activities on water and sanitation to improve Jordanian and vulnerable people's quality of life (European Commission 2016: 15). On the ground, it casts the problem in primarily economic terms. Global development financiers, specifically IFIs and MDBs, present their loans as much-needed support to the Jordanian budget in light of the water sector's unsustainable financial situation and the strain its debt places on the budget (OECD 2014: 9; World Bank 2017: 6f.), highlighting their rates as lower and more favourable than the market's (IMF 2020b). WIWP similarly capitalises on the country's stressed services and the political costs of increasing service tariffs – even though its objectives include raising them—to justify these external funds (European Commission 2018: 2). Donors further emphasise their loans' long-term benefits for the economy and good governance: EBRD officials note that their projects' longer duration creates stronger relationships with local parties, fosters accountability, and ensures the facilities' maintenance and sustainability (Interview 2020). Even when climate or green action or environmental impacts, i.e. making the sector more energy efficient, decreasing water losses and improving water quality, are invoked, the means are always neoliberal and the desired ends (Green) growth and more (private) investment (World Bank 2017: 7; EBRD 2020).

Thus framing the problem as a primarily economic one and their loans as essential, these loans, under the auspices of HDN, further entrench Jordan in a cycle of debt. Since 2011, Jordan's total debt has multiplied by around 181 per cent and its net long-term debt flows (i.e. subtracting its annual debt repayments) have consistently grown since 2014 (World Bank 2020). The latest empirical indications of this have been the recently approved €100 million in EU macro-financial assistance (MFA) in 2019 and the IMF's $1.3 billion package (European Commission 2019; IMF 2020a). To service these loans, Jordan will most likely need to incur even more debt in the future, something that is already being proposed by IFIs. Within the water sector, the World Bank's now completed Energy and Water Development Policy Loan outlines central government borrowing

(i.e. debt) as the way forward to service the sector's mounting debt (World Bank 2018b: 30). This additional debt will paradoxically perpetuate the sector's financial constraints, and, by extension, inability to effectively provide public services that these loans allegedly address. It will also come with further conditionalities that Jordan has to abide by in order to maintain these loans (Momani 2020: 67).

Through their emphasis on Jordan's financial and economic constraints, IFI loans and proposed solutions impose conditions largely reminiscent of early structural adjustment programmes (discussed above) in Jordan and elsewhere in the Global South, which primarily advance market interests (Pender 2001). Priorities for addressing refugees' added pressure on Jordan's scarce water resources focus on minimising financial and water losses, notably through tariff reforms (read: increases) in the water sector, increased reliance on PPPs, and improved infrastructure (World Bank 2016: 19f.; World Bank 2017: 7; EIB 2018; EBRD 2020: 14ff.). While WIWP[9] explicitly presents these policies as the means for ensuring service 'sustainability' (European Commission 2018; EBRD n.d.-a), these policies not only promote market-oriented governance, and hence *opportunities* for capital accumulation, but also maintain neoliberalism as a whole and constantly reinvigorate it at the national level (Shields 2020). Furthermore, donors' emphasis on stronger governance, democracy and the rule of law (European Commission 2016a: 7), reflected in WIWP's stated goal of improving Jordanian water utilities' governance and institutional performance, similarly benefits market interests by legitimating neoliberal reforms and creating the political conditions for their implementation (EBRD n.d.-a; Hanieh 2012).

Rather than serve its intended beneficiaries, i.e. local and refugee communities, through a comprehensive development response to the pressure on Jordanian resources, the Compact thus advances other interests with these loans. Donors, Global North governments with vested economic and political interests in Jordan and the region for whom these loans offer a valuable and lucrative investment through their interest, are primary beneficiaries. Equally significant, donors are emphasising the private sector's crucial role in infrastructure and (public) service delivery in lieu of traditional financing schemes, particularly in the wake of the GFC.[10] This is part of a broader pattern of capitalising on infrastructure as an investment

opportunity to ease the glut in global savings since 2008, and more so since 2015 (Bayliss/Van Waeyenberge 2018). The private sector also stands to considerably benefit through these projects' implementation. Roberts (2014) highlights how development money becomes (private) profit for the development contractors increasingly hired to implement these projects. Though in their early stages, the HDN's infrastructure projects in Jordan reflect this trend, as contracts get awarded to massive global firms for large sums of money. WIWP's feasibility study and environmental and social due diligence assessment were both awarded to global consultancy firm Mott MacDonald, with a contract valued at EUR 145,438 (EBRD 2017: 10). Similarly, the consultancy contract for As-Samra wastewater treatment plant's second expansion, EBRD's first project in Jordan as part of its Refugee Response Plan, was awarded to French KPMG Corporate at a value of EUR 499,320 (EBRD 2017: 1).

The loans, and cycle of debt they perpetuate, also serve key (geo)political interests. By maintaining financial leverage, Jordan's creditors influence its policymaking to align with their interests. As a major donor to Jordan, through the WIWP, and the Jordan Compact more broadly, the EU is a perfect example. As mentioned above, its sponsorship and funding of the Compact is tied to its efforts to contain Syrian migration to the EU. It is also reflective of Jordan's strategic importance in relation to regional security threats, given its role in counterinsurgency operations in Syria (Seeberg 2016: 169; 2020:7) and in light of its normalised relations and shared transboundary water resources with Israel (Hanieh 2013: 34f.; Robins 2019: 199).

The benefits are not exclusive to global donors or private actors, though; Jordanian political and economic elites continue to considerably benefit from these loans. Jordan has not been immune to the uprisings that have shaken the Middle East and Arab world since 2011. These loans provide the Jordanian regime with the financial means to manage opposition, helping it survive relatively unscathed (Hanieh 2013: 162; Beck/Hüser 2015; Momani 2020: 65). For example, Jordan's above-mentioned 2018 protests against increased taxes and neoliberal policies merely resulted in the appointment of a new prime minister and a change in government, without significant political or social change (Ababneh 2018). The loans and their conditionalities further guarantee benefits to politicians with

private interests, who quickly approve them, reflecting the strong relationships between donors and Jordanian political institutions and elites (Al-Shawabkeh/Ghbari 2016; Al-Ajlouni/Hartnett 2019).

Meanwhile, these projects do not significantly help the public or environment, but could actually disadvantage them. While WIWP's objectives include creating employment for vulnerable populations, including refugees, through its implementation, evidence shows that these benefits are not guaranteed and, even when jobs are created, they are mostly temporary and do not significantly improve refugees' lives in the long-term or their resilience (IRC 2017a: 4; IRC 2017b: 13). Furthermore, despite the Compact's promises for joint developmental benefits for both host communities and refugees, Jordanian unemployment increased to 18.5 per cent in 2017 and the poverty rate for Syrian refugees is around 87 per cent (Huang et al. 2018: 14). In that sense, these loans are (indirectly) paid off by the Jordanian public, who bear the brunt of budget deficits and the austerity allegedly necessary to offset them, despite their worsening conditions, as the 2018 protests show (Momani 2020: 68f.). Similarly, in addition to facilitating accumulation for the private sector, PPPs in infrastructure are expensive to set up, have relatively little revenue stream and rely on central government funds (Interview 2020). As such, they place an additional toll on already strained public finances (which these loans purport to support), even if the government prefers them for the purpose of spreading the cost over time. Equally significantly, neoliberal policies advanced by these loans have been largely related to exacerbating climate change (for a broader discussion of the relations between capitalism and the environment, see Peet et al. 2011). That the Compact does not address Jordan's environmental concerns is unsurprising, however, considering that EU financing (which includes both EIB and EBRD among other institutions) spends three times as much on fossil fuels and unsustainable energy sources as it does on renewable and alternative energy (Bankwatch 2015: 1).

Examining the Compact through the lens of debt and the interests it serves shows it as an opportunity for private and Global North interests to continue to benefit in Jordan rather than as a positive breakthrough for refugees and vulnerable host communities. The Compact erases both the underlying histories of Jordan's economic constraints and structural threats to its environment, extending and perpetuating power relations and

uneven interests in Jordan. It provides as solutions fail forward policies that primarily benefit the economic and geopolitical interests of donors and the private sector. Overall objectives of sustainable water infrastructure and more efficient sector management translate to less public spending, price increases, more privatisation and more debt, all policies historically shown to favour capitalist accumulation over public interests, environmental and otherwise.

4. Conclusion

The Jordan Compact and development financing that has derived from it claim to present a novel and sustainable solution to the challenges Jordan has faced in the wake of the Syrian refugee crisis. These challenges include further strains on its economy, finances and natural resources, especially water, and increased demand on public services. A closer look at the Compact's proposed solutions and promises from a global political economy lens highlights them for the contradictions they are, however. Through our analysis, we have broken down some of these contradictions, highlighting the Compact's politics and power relations, particularly in relation to its development projects and promises. We have argued that through fail forward neoliberal practices and policies, the Compact turns the Syrian crisis into an opportunity for global development finance and private market actors, rather than for refugees and host communities. The conditions it attaches to assistance and the policies it advances have a longer history in Jordan. This history is erased in the Compact's narrative, however, to depoliticise it and hide its uneven power relations and the benefits it embodies. This is made clearer with a closer look at the almost solely economic solutions offered for Jordan's water challenges.

The tensions we discuss are not unique to Jordan and its Compact; they serve to problematise the HDN as a broader development paradigm in global capitalism. They raise questions on what is actually meant by key development tropes such as sustainable development and resilience, revealing the politics inherent to seemingly technical and apolitical solutions. More specifically, they highlight that, within the context of contemporary capitalism and its fossil and finance-driven accumulation strategies,

development activities always involve (more) benefit to the developer, or creditor, than the developed.

1 Our discussion of the geopolitics of sustainable development refers to the Brundtland definition, which is present in the 17 SDGs – several of which are pertinent to our analysis, notably SDG 1 (no poverty), SDG 8 (decent work and economic growth), SDG 10 (reduced inequality), and SDG 13 (climate action). For more information, see https://sustainabledevelopment.un.org/?menu=1300 (accessed on 15 May 2020).

2 "Record $10 billion pledged in humanitarian aid for Syria at UN co-hosted conference in London," UN News, 4 February 2016. Available at: https://news.un.org/en/story/2016/02/521552-record-10-billion-pledged-humanitarian-aid-syria-un-co-hosted-conference-london (accessed on 14 June 2020).

3 A protracted refugee situation is defined by the UNHRC as one "in which '25,000 or more refugees from the same nationality have been in exile for five consecutive years or more in a given asylum country" UNHCR, 2018f: 22 cited in Hendow, 2019).

4 The five main countries from which EU-bound refugees originate are Syria, Afghanistan, Somalia, Sudan and South Sudan (European Commission, 2016).

5 For more details on the Compact's emergence and terms, see Howden, Daniel, Hannah Patchett and Charlotte Alfred, "The Compact Experiment: Push for Refugee Jobs Confronts the Reality of Jordan and Lebanon," Refugees Deeply, December 2017. http://issues.newsdeeply.com/the-compact-experiment (accessed on 15 October 2020).

6 Zgheib, Nibal, "Multilateral Development Banks Stepping Up Support for Refugees." EBRD, 16 December 2019. www.ebrd.com/news/2019/multilateral-development-banks-stepping-up-support-for-refugees.html (accessed on 15 October 2020).

7 The GCFF is a multilateral initiative, jointly launched by the World Bank, UN and Islamic Development Bank group, which provides Jordan and Lebanon with concessional financing to cope with their refugee influx to address long-term development needs alongside humanitarian assistance. It is now comprised of various development banks, including EBRD, other private actors and a range of donor governments, including US, UK, France, Germany and others.

8 The EU Madad Fund is an EU regional trust fund that brings together EU aid to the region to respond to the Syrian refugees' needs and the needs of their host communities. It is an integral component of the Jordan and Lebanon Compacts. For more information, see https://ec.europa.eu/trustfund-syria-region/content/our-mission_en (accessed on 15 October 2020).

9 These policy directions are also evident in the professed objectives and achievements of key loan-funded projects in Jordan, available on the donors' websites, including but not exclusive to: the World Bank and GCFF's Water and Energy Development Policy Loan, EIB's Deir Alla Water Supply and Sanitation, EBRD's NEPCO Restructuring Loan and West Irbid Wastewater Project, as well as IMF policy prescriptions.

10 "Why Infrastructure Matters." *EBRD*. www.ebrd.com/infrastructure/infrastructure-matters.com (accessed on 15 October 2020).

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Abstract *Der Humanitarian-Development-Nexus (HDN) präsentiert lang anhaltende Flüchtlingssituationen als Win-Win-Chancen für Entwicklung und stützt sich dabei auf dominante Diskurse wie nachhaltige Entwicklung und globales Risikomanagement. Am Beispiel des Jordan Compact, der Teil des HDN ist, hinterfragen wir, für wen dieser Ansatz tatsächlich eine Chance bietet, und beleuchten dabei die politischen Zusammenhänge und Spannungsfelder. Wir argumentieren, dass der HDN und der Jordan Compact keine Strategien zur Schaffung einer Win-Win-Situation darstellen, von*

denen Flüchtlinge und Aufnahmeländer gleichermaßen profitieren, sondern vielmehr Fail-Forward-Strategien, die tief in den Machtverhältnissen und Paradoxien des globalen Kapitalismus verwurzelt sind. Darüber hinaus legitimieren sich die neoliberalen Fail-Forward-Praktiken, die beide Rahmenwerke verkörpern, durch die Entpolitisierung der dem Kapitalismus zugrunde liegenden Widersprüche. Wir streichen hervor, dass der HDN, ähnlich wie die ihm zugrunde liegenden diskursiven Formationen, ein politisches Projekt darstellt, das die Interessen privater Akteure über die der vorgesehene Empfänger stellt.

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The Energy Sector and Socio-Ecological Transformation: Europe in the Global Context

Abstract *Global climate change politics is moving ahead, while policy effectiveness lags behind. The overwhelmingly capitalogenic climate change (Moore 2015; Street 2016) necessitates a global ecosocialist transformation (Yurchenko 2020). In many ways, the EU is a champion of green politics and policy, although its decarbonisation framework has been criticised for being ill-conceived, ill-prescribed and insufficient, especially in the context of internationalised production and consumption of Green House Gas (GHG) emissions. A radically socio-ecological transformation of 'global' Europe, and the decarbonisation of the EU energy sector as a complex socio-ecological system are needed (SES; Ostrom 2012). Focusing on some 20 years of EU energy market reforms, I argue that decarbonisation aims are jeopardised without (1) public national, local and collective forms of ownership and financing of energy (generation and supply) as a common pool resource (CPR)/commons, and (2) a polycentric mode of governance (Ostrom 2010).*

Keywords *ecosocialism, global climate change, socio-ecological systems, commons, Ostrom, polycentricity*

1. Introduction

Global economy as a system is underpinned by policy models – international and national – derived from economic theories that, since the Industrial Revolution, have assumed exponential economic growth (Jones 2015). Predominantly quantitative, such growth is materialised via industrialisation, increasingly mechanised and digitised production, and a faster consumption of goods with increasingly shorter lifespans in increasingly

capitalist economies (Malm 2017). Those processes require increasing amounts of predominantly fossil energy and thus any climate action must involve an examination of the relationship between society and nature (Malm 2017), grasping the role of the capitalocene – "a system of power, profit and re/production in the web of life" (Moore 2017: 1) – in the current environmental catastrophe, while imagining and designing alternative systems of generation, distribution, ownership, and governance of energy systems. This entails the dismantling of the growth models required for capitalism to function that produce a capitalogenic – i.e. driven by capitalism – climate change (Moore 2015; Street 2016). The consensus among (green) Marxists resonates with Kovel and Löwys' (2001) declaration, made in "An Ecosocialist Manifesto", that the end of capitalism can be the only hope for our own and for many other species. And indeed, even by its own, neoclassical economic reductionist metrics and standards, the capitalist market is failing to deliver decarbonisation, let alone sustainability or the fixing of the metabolic rift between human economic systems and nature (Foster 2016; Yurchenko 2020).

The case of the energy sector is a testimony to the need for a systemic policy approach. It binds other sectors, keeping them 'alive' through the grids and wires. In the EU alone it "employs close to 2.122 million people, spread over 90,000 enterprises […], representing 2 per cent of total added value" (EC 2019). Between 1994 and 2004 in the EU-15, 246,000 jobs were lost in electricity and 23,000 in gas across 20 member states (ECOTEC 2007). In the energy sector as a whole, 197,400 jobs were lost between 2010 and 2016 (EC 2017) due to the compound effects of liberalisation, decarbonisation, digitalisation and automation (Heyes/Lewis 2014). Many workers in fossil and nuclear industries in the EU (and beyond) are losing jobs, and only few of them find new employment in renewable energy (RE) or energy efficiency industries (IRENA 2017: 168). The transformation thus needs to be carefully thought through, as jobs and livelihoods of millions of workers in related sectors also depend on the shape of change to come.

In 2017, EU marked a 20 year anniversary since member states' energy markets began to liberalise and move towards a single energy market. In those 20 years, significant progress in global climate talks and in the EU decarbonisation effort have been achieved. The global financial crisis of

2007-9 led to an economic recession and austerity, both of which put constraints on individual (e.g. affordability) and governmental (e.g. budgetary and policy choice constraints, not least ideological) action towards sustainability. Despite this, the Paris Climate Agreement was signed in 2015. Now, the COVID-19 disruption, following the School Strike and the Extinction Rebellion (Hesters 2020), has placed climate politics centre-stage globally, while spurring the EU to organise the climate-focused Next Generation EU recovery plan (FT 27 May 2020).

Having built a reputation of being a champion of climate politics (Oberthür and Kelly 2008), the EU has been pursuing decarbonisation policies by means of an integrated energy market and its four policy packages to date, that (it was hoped) would improve efficiency, empower consumers, and attract green investment. The apogee of such commitment to date was the European Commission President Ursula von der Leyen's unveiling of the European Green Deal on December 11, 2019, defining it as Europe's "'man on the moon' moment" (Euronews 11 Dec 2019). Yet, is the plan fit for the task? And what role do the energy systems play in it, and in the context of a wider socio-economic and ecological transformation?

In this paper, I deploy Ostrom's model of socio-ecological systems (SESs) and common pool resource (CPR)/commons governance in analysing the EU energy market and its decarbonisation frameworks. The carbon-intensity makeup of energy systems directly affects our global commons (not unlike other systems, but especially for its high carbon footprint). Thus, any analytical exercise on any energy system must include the international dimension; in our case, it is the international impact of the EU decarbonisation effort. The use of global commons as a polycentric super-structure in its own right needs to be assessed separately, subject to the same principles; suffice to say here that the inability to arrive at a decisive coordinated action on climate change mitigation on a global level, signals that the global commons' system governance is undeniably malfunctioning – a reason not least, why global leadership in such efforts shall be progressive and systemic.

This paper assesses the pathway of the EU energy market reform in the context of global sustainability transition tasks and challenges, globalised emissions production and consumption, and historic responsibilities.

2. Energy, markets and Elinor Ostrom

A sustainable and decarbonised world economy must be achieved in less than a decade, and that means an urgent move away from fossil fuel dependency (Pirani 2018) while energy intensity of human economic systems is determined by "five main energy-related anthropogenic legacies [that shaped our energy dependency and related challenges]: growth in fossil fuel consumption, 'atom for peace', RE development surfing on non-energy science and technology, the move to sustainable development, and climate change" (Verbruggen and Yurchenko 201: 2-3). It thus becomes crucial to review the architecture put in place to achieve sustainability and decarbonisation. New energy spaces are emerging outside energy policy domain (strictly speaking) i.e. "novel combinations of energy systems and social relations across space – that is, a process of uneven development – rather than an interest in only certain energy technologies (e.g. those associated with decarbonization)" (Bridge and Gailing 2020: 1038), where decarbonisation can and should occur, e.g. low energy-intensity production lines of various goods and services, lower carbon supply chains, etc. Acceptance of the need for "'economy-wide' perspectives calls for deep decarbonization beyond the energy sector, and typically align decarbonization with broader social goals such as improving societal welfare and reducing socio-spatial inequalities" (Ibid.).

The EU is seen as a global leader in climate politics (Wurzel and Connely 2012; 2016), and its energy market is being deepened with a declared aim to decarbonise via an integrated and more efficient market that empowers consumers and attracts green investment (EC 2019b inter alia). Despite there being, 15 years later, little evidence of the effectiveness of the liberalised market approach (Thomas 2013), the EC rolled out its Fourth Energy Package, or the Clean Energy Package, built in the likeness of the first three. The EU institutional framework has marketisation and economic growth dogmas hardwired into its neoliberalised policy infrastructure, and that translates into multi-level policy-making and performance targets. As a result, some contradict one another and thus create mutual implementation obstacles – thus, state aid is at odds with the competition law, anti-monopoly legislation contradicts the logic of natural monopolies and has not prevented the formation of oligopolies, while private ownership and

financing initiatives are structurally favoured over public ones (Yurchenko and Thomas 2015), despite the EU law clearly stating that its institutions must remain neutral on the question of state vs private ownership (Hall 2016). The European Green Deal (EGD) unveiled in December 2019 resonates with the Four energy packages in its approach. However, together with the current revision of the State Aid rules to spearhead green investment, and governments stepping in on a global level with (post)COVID-19 economic recovery packages, a historic possibility is opening up for a more democratic, sustainable transformation of the sector; but only if the lessons of past failures are not repeated once more and a neoliberal, financialised marketisation approach to implementing change is revised or, indeed, abandoned. A new, meaningfully sustainable system shall be delivered on principles of (1) "energy democracy" – a "socially just energy system, with universal access, fair prices and secure, unionised and well-paid jobs" (ED 2016) – through a process of (2) "just transition", a term developed by trade unions and activist movements and now adopted by the United Nations Framework Convention on Climate Change (UNFCCC), which denotes a transition that is delivered in a "socially balanced way whereby the inevitable burdens and costs are fairly shared by all major actors" (ILO 2014: 218).

How does one remedy the EU energy market problems in the context of decarbonisation. The EU energy market is a large, coordinated, interconnected and centralised system of systems involving actors, entities and infrastructure of varying size and capacity, from high voltage network operators to medium/small systems and actors – e.g. low voltage decentralised networks and generators; put differently, it is a polycentric system (Ostrom 1990). The evolution of the EU decarbonisation framework is a clear record of the growing acknowledgment and acceptance of, and attempts at, grasping, (on the level of policy of complex systems within which energy systems are embedded, in the words of Elinor Ostrom we are talking of "social-ecological systems" (SES), i.e. systems in which all resources used by humans are embedded). Tackling climate change requires diagnoses by "cumulative capacities" of the problems and potentialities of the complex SESs (Berkes and Folke 1998, Liu et al. 2007) and the necessity of development of such capacities substantiated by Ostrom (2007; 2009). Energy union, market and systems are polycentric sub-systems of the global SES,

and, according to Yurchenko (2020) must be understood as an integral part of such, as part of the dialectical circulation of matter and energy. With that in mind, one must accept that energy market systems must be decarbonised as part of the responsible, sustainable use of the global commons. Energy market transformation in the context of a transition towards sustainable energy production, and the utilisation and consumption of energy resources shall then be treated as a social-ecological system which is best governed by the principles of Polycentricity, as laid out in Ostrom's Nobel prize winning framework (1990). The latter calls for abandoning the state-market dualism, instead open the space for (self-)management via the relative autonomy of agents of various ranks in a system of negotiations, balancing, and monitoring of collective governance (Ostrom 1994; 2010). Such systems prove to be the most resilient, robust, adaptable and sustainable. It is not through the excesses of top-down monitoring and exogenous prescription but through informed, careful and negotiated application and combination of scientific and local knowledge that systems are best managed by their long-term users (Ostrom emphasized the efficiency of systems run by long-term users in one of her last public appearances, Hayek Lecture in June 2012).

Ostrom('s)[1] framework is a testimony to the necessity of the energy democracy and just transition if sustainability is to be achieved and maintained. It proposes experiential solutions, and examples of what makes multi-stakeholder and polycentric models successful in governing common pool resources (CPRs) or commons, summarised in eight mutually reinforcing principles. These are: (1) commons need to have clearly defined boundaries; (2) rules should fit local circumstances; (3) participatory decision-making is vital; (4) commons must be monitored; (5) sanctions for those who abuse the commons should be graduated; (6) conflict resolution should be easily accessible; (7) commons need require the right to organise; and (8) commons work best when nested within larger networks (Wall 2017; Williams 2018; Trebeck and Williams 2018).

Few publications – let alone policies – treat energy systems as CPRs/commons (Laerhoven, Schoon and Villamayor-Tomas 2020), and that needs to change. The collective forms of financing, ownership and management that follow such approach are precisely what is needed for a full and rapid transformation of the sector and the EGD delivery, as is advocated by the Just Transition.

Let's now examine the evolution of the (neo)liberalising energy market architecture, identifying its successes and pitfalls through the contextualising lens of Polycentricity and the criteria for successful governing of the CPRs.

3. From liberalisation of energy market to the European Green Deal – what could go wrong?

In the 1990s, the EU decided to get rid of state monopolies in energy and start to gradually open markets to competition, and has since produced four energy policy packages. The First Package (1998) required member states to introduce wholesale markets for electricity and gas and to give consumers the choice of supplier with the objective of creating 'Single Markets' across the EU for electricity and gas. The Second Package (2003) allowed industrial and domestic consumers to freely "choose their own gas and electricity suppliers from a wider range of competitors" (Europarl 2009). The Third Package was the first to go beyond the extended energy market liberalisation and included climate action goals – it set the 20-20-20 targets, which identified the three main climate objectives for 2020, namely: (1) "a 20 per cent reduction in EU greenhouse gas emissions from 1990 level; (2) raising the share of EU energy consumption produced from renewable resources (RES) to 20 per cent; and (3) a 20 per cent improvement in the EU's energy efficiency" (EC 2007/9). Yet, by 2016 the EU's view/conclusion on electricity market was that it had to "be remodelled (after three iterations already) in such a way that would ensure support for the EU's policy objectives by encouraging investments in flexible low-carbon electricity generation and in a stable and adaptable grid that is fit for a growing share of RE in the supply and for new uses of electricity. This was done by incentivising the use of energy-efficient equipment and consumer goods, and by providing affordable energy for industry and households" (EC 2007/9). The result was the Fourth and latest package, also known as the Clean Energy Directive, presented on 30 November 2016. It was "intended to help the EU energy sector become more stable, more competitive, and more sustainable, and fit for the 21st century" (EC 2016) and help deliver the EU's Paris Agreement commitments. The three main goals of the package are: (1) "putting energy effi-

ciency first, (2) achieving global leadership in RE, and (3) providing a fair deal for consumers" (Ibid). The goals are to be achieved via "five mutually reinforcing and closely interrelated dimensions" laid out in the Energy Union strategy (COM/2015/080) towards "secure, sustainable, competitive and affordable energy published on 25 February 2015: solidarity and trust; a fully integrated European energy market; energy efficiency contributing to moderation of demand; decarbonising the economy; and research, innovation and competitiveness (EC 2016).

The two main themes of the fourth package are decarbonisation and Europeanisation. The first one focuses on "adapting market and regulatory structures to make them fit for the decarbonised energy system of the future (with more decentralised sources, more intermittent power, more active consumers and so on)" (Buchan and Keay 2016: 2). The second signifies a move away "from national approaches to energy towards regional and EU-wide frameworks (e.g. regional operations centres; cross-border capacity and RE payments; strengthening of regulatory coordination)" (Ibid.). And, underneath it all, implied in the delivery mechanisms, is further marketisation.

The EU Green Deal (EGD), rolled out at the end of 2019, reinforces goals set out in the Fourth Package and contains a number of promising objectives: (a) "Climate 'neutral' Europe, Circular economy, Building renovation, Zero-pollution, Ecosystems and biodiversity, Farm to fork strategy, Transport, Money, R&D and innovation and External relations" (EC 2019). The EGD is supported by the Sustainable Europe Investment Plan, which aims "to mobilise public investment and help to unlock private funds through the EU budget and associated instruments", with the overall objective of mobilising "at least €1 trillion of sustainability-related investments over the next decade" (EC 2020: 4). The Plan is part of the Renewed Sustainable Finance Strategy that built on the "10 actions of the EC's '2018 Action Plan on Financing Sustainable Growth', which laid down the foundations for channelling private capital towards sustainable investments" (Ibid.). A source of concern is the existence of the Energy Charter Treaty (FOEE 2019), which secures rights of corporations over rights of citizens and contradicts the EU law aimed at "protecting public interests and EU citizens who are expected to bear the cost of the long-term carbon neutrality target" (Saheb 2019: 2 *et passim*).

EGD estimates assume that the goal of reducing Green House Gas (GHG) emissions by 40 per cent by 2030 will require additional annual investments of €260 billion, while Wildauer, Leitch and Kapeller (2020) estimate that some €855 billion will be required (excluding transport) for the goals to be met. In the context of COVID-19 disruption, ongoing State Aid rules (consultation) large-scale investment by the states to aid economic recovery, it becomes clear that the largest investment and/or subsidies/incentives will be funded by the taxpayer, (who shall be included as decision-makers and shareholders in return for their "investment"). Otherwise, the market failures, to which I turn next, will continue.

4. Have energy packages delivered promised results?

(De)monopolisation: Demonopolisation has failed, and instead of state-run monopolies, privately run monopolies and oligopolies have emerged. While there is a growing number of prosumers, i.e. consumers who also produce and feed energy back to the grid, such as cooperative-producers, and SME energy companies, they are crowded out by the big energy companies (Prospex 2016; EC 2019) and they do not guarantee good quality jobs, protection of workers' rights or security of supply – all of which are crucial conditions of a just transition. The biggest industry players are in the fossil fuel business and have little to negligible RE in their energy mix, especially when nuclear and gas are discounted as low-carbon options – which they are not (Verbruggen and Yurchenko 2017). Moreover, despite the EU decarbonisation agenda, it is the fossil energy 'experts' who form the bulk of advisory committees on the future energy – a fact partly responsible for over-investment in gas pipelines (CEO 2016; 2019). The elephant in the room is the (il)liberalised market, i.e. a market with the illusion of providing free access to new entrants and working on a principle of fair competition.

Market mechanisms and their effectiveness: The aims of liberalisation were ambitious – "unbundled and liberalised electricity systems were expected to be more efficient because of the competition resulting from the creation of wholesale and retail markets" – yet there is little evidence that the private sector yields higher efficiency (Hall 2016: 5; Thomas 2013,

2015). A number of instruments were suggested while just a few tried across the EU to 'aid' the achievement of the RE capacity and decarbonisation targets. These were: Feed-in-Tariffs (FiTs), emissions trading, capacity auctions, RE obligations, and a carbon floor price (see Yurchenko and Thomas (2015) for their analysis).

Historical evidence shows that state aid and subsidies are crucial in the deployment of RE capacity (Yurchenko and Thomas 2015). However, when austerity and competition law combine, a double squeeze is applied whereby the states have little budgetary capacity or policy choice options, as austerity spells means 'thou shalt not spend', while competition law is at odds with state aid mechanisms (Ibid.). Anti-monopoly legislation in natural monopoly industries, combined with market competition legislation, leads to states losing ownership, control and thus ability to direct RE transition of the split energy enterprises (Thomas 2013).

Efficiency: EU energy market optimisation was aimed at cost efficiency and efficiency of consumption; while at the same time the investment into the energy efficiency of the households, for example, stands at €134bn out of needed €214bn (Holmes, Jess, and Genard 2017). Ultimately, the EU Efficiency Directive and its proposed policies "are likely to be insufficient" to meet their own targets (E3G 2017: 17). The efficient use of energy and of public money are very important, but efficiency and efficacy of service are important too. Free market efficiency – a foundation of EU economic models – "is completely unconcerned with distribution of utilities (or of incomes or anything else), and is quite uninterested in equity", according to Sen (1993: 521). Moreover, the liberalised energy market is really illiberal in such modelling, as it prohibits the possibility "to rearrange the resource distributions freely" (Sen 1993: 522). The reverse also applies – it is impossible to achieve even limited "market efficiency" when "any given initial distribution of resources" takes place (Ibid.). So, freedom of the market comes at the expense of freedom of distribution, which makes that market inefficient.

Cost reduction: The electricity price landscape in EU is uneven, with prices being higher in the states with more liberalised markets. This creates affordability problems when the Purchasing Power Parity principle is applied, and leads to higher levels of energy poverty in some states, e.g. Greece, than in others, e.g. France. On the whole, energy prices are

rising for both industrial and household consumers, with the latter paying more (EC 2019), while fossil and nuclear energy companies are subsidised (Verbruggen 2014). Affordability and carbon efficiency are key for sustainable transition, while the dominance of private suppliers means payment of dividends and interest, that effectively add to the final cost of electricity (Hall 2016: 4). According to a report by Corporate Watch in 2015, "the annual savings from bringing the energy, water and rail sectors into public ownership could be £6.5 billion [or £248 per household] in the UK" alone (Corporate Watch 2014).

Security of supply: The liberalisation of markets failed to guarantee security of supply on the basis of affordability and of access to supply, as fuel import dependency is growing, not falling (EC 2019a). In 2018, "almost three quarters of the EU's imports of natural gas came from Russia (40 per cent), Norway (18 per cent) and Algeria (11 per cent), while almost three quarters of solid fuel (mostly coal) imports originated from Russia (42 per cent), the United States (18 per cent) and Colombia (13 per cent)" (Eurostat 2020). This creates not only interdependence but also potential geopolitical tensions between the states who import/export/consume various types of fuel and those that produce nuclear fuel and store nuclear waste.

5. The international dimension: the long shadow of market-based growth

There is a direct relationship between growth, trade, globalisation and environmental damage from fossil fuels, a relationship which threatens a green future. The infamous 1991 World Bank internal memo signed by Chief Economist Lawrence Summers (Johnson, Pecquet, and Taylor 2007), where he urged other World Bank members to "*encourage* pollution intensive industry [to] migrate to developing countries", is a reminder that is increasingly relevant (McAusland 2008). A cross-section study of 63 countries and instruments for trade intensity and income by Managi (2004) calculated "the scale, technique and composition effects of trade and concludes that the combined effect of a 1 per cent increase in trade leads to a 0.58 per cent increase in CO_2 emissions for the average country in [the] sample" (in McAusland 2008). Findings by Frankel and Rose (2002,

2005), Neumayer (2004), Holtz-Eakin and Selden (1995), and Schmalensee et al. (1998) confirm a direct correlation between trade, income and carbon emissions (Ibid.).

Overall, EU CO_2 emissions are declineing but the global emissions are growing, reaching 32.8 billion tons of CO_2 by 2017, even if that dynamic has temporarily been stalled by the COVID-19 lockdowns. The biggest emitters in 2017 (and 2018 based on preliminary data; IEA 2019) were: China (the People's Republic of China and Hong Kong, China; (28 per cent), the United States (14 per cent), the European Union as a whole (10 per cent), India (7 per cent), the Russian Federation (5 per cent), Japan (3 per cent), Korea (2 per cent), Canada (2 per cent), Indonesia (2 per cent), and Iran (2 per cent). The substantial presence of US and China in the global historic emissions record (Figure 1) reminds is a reminder of their role in producing and in the necessary halting of the global heating.

The EU decarbonisation effort delivers promising results in decreasing the production and export of emissions, while this appears to be partly achieved by "outsourcing" those as in 2015 "the ratio between import- and export-embodied emissions was 3:1 for the EU-28" (Fezzigna et al 2019: 10).

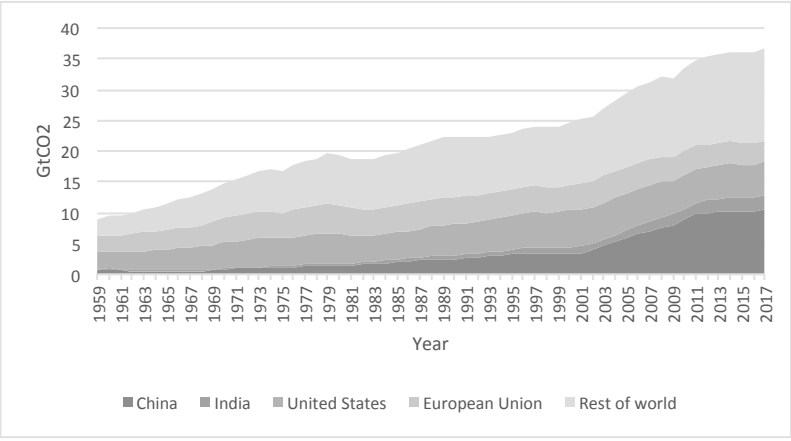

Figure 1. Annual CO2 emissions from fossil fuels by country, 1959–2017
Source: Annual CO2 emissions from fossil fuels by major country and rest of world from 1959-2017, in gigatons of CO2 per year (GtCO2). Note that 2017 numbers are preliminary estimates. Data from the Global Carbon Project.

Richer countries and consumers drive global overconsumption (Wiedmann et al 2020). Workers' movement is regulated by visa regimes, economic, military, and social conditions while customers can be reached anywhere. The "sites of production can be dissociated from sites of consumption, and capital can choose between national economies for establishing export platforms" Malm (2012: 154), leaving workers in poorer production sites with CO_2 and other forms of pollution to metabolise. Economic growth requires "mass production of commodities by means of machines and transportation of commodities by means of various vehicles", even trade in non-material goods still involves physical spaces and machinery is required to facilitate services and transfers, and high carbon footprint technology (Ibid. *et passim*). Decisions about sustainable consumption corridors (Di Giulio and Fuchs 2014), de-growth (Gough 2017; 2020), and the politics of consumption must be made, and need to be supported by a policy-enabled transformation of consumption praxis to become sustainable as well as accessible and affordable levelling along the axis of needs (Isenhour et al. 2019: 1-18 et passim). According to Malm, production, is not "a neutral element [that responds] passively to consumer demand, owners and managers of production" must be made visible (Malm 2012: 151), and supply chains decarbonised without blaming low-income households for their carbon-intensive non-choices when just 10 per cent of the world's richest produce some 50 per cent of the world's emissions (Oxfam 2015). Historic and current responsibilities for the environmental destruction need to be acknowledged in an ecosocialist transformation, and (needlessly) consumed emissions drastically reduced.

The rights of workers and citizens, not merely corporate profitability and market efficiency, are to be accounted for when green transformation is designed; to which I turn next.

6. Policy options for ecosocialism, energy democracy and just transition

The polycentric approach advocates the combination of large scale centralised elements of energy systems and natural monopolies with decentralised, local generators and consumers and for a devolution of decision-making power and authority. Ostrom's framework on CPR governance

showed that the most effective are the systems that combine multiple levels of authority distribution, and she documents examples from across Europe to prove the effectiveness of such an approach.

Looking at the above dimensions of the energy market as a cluster of SESs within the planetary SES and energy as a CPR, there are problems and hope alike. So, (1) the energy market does have clearly defined boundaries, yet rules about who produces and sells what at what price and when are much less clear; the market – not people – decide; (2) rules fit local circumstances in some cases, while in others they create problems, e.g. electricity price-setting hurts poorer households; (3) participatory decision-making is malfunctioning, not least due to the inadequacy of power dynamics in the Social Dialogue framework (EPSU 2019); (4) commons are being monitored, yet both monitoring and targets are riddled with problems, not least due to the complex internationalised character of emission-making; (5) sanctions for those who abuse the commons exist, yet fossil industries are still subsidised; (6) conflict resolution can be costly and time/expertise consuming (EPSU 2019); (7) the right – and the socio-economic ability – of commons to organise varies from country to country, and that needs to be more coordinated and supported; yet, (8) energy commons work best when nested within larger networks and in the EU Energy community they are – a lot of necessary institutional, policy, and infrastructural architecture is in place; next, what is needed is democratisation of the functions. In the Ruhr region in Germany, for example, "a cooperative industrial structure with active roles for the government, the municipalities, the employers and the trade unions [evidently served as] a prerequisite for a successful and just transformation" (ILO 2014: 237) – for a just transition and energy democracy.

The EU energy market is run by the member states, which "operate within a hybrid institutional framework combining supranational and intergovernmental elements, in which formal and informal authority distribution is unstable and contested"; a system Bocquillon and Maltby (2020) describe as "embedded intergovernmentalism", which is also a form of SES. With increasing participation from smaller actors, prosumers, and the diversification of generation and type of energy in the interconnected grids, the mode of governance of the system needs to be transformed. Blomkvist and Larsson showed that it is important to include "the [common

pool resources] (CPR) in legislation and that government agencies support the CPR in alignment with the large technical systems (LTSs)" (2013: 114). The CPR institution and the LTSs are practically connected and mutually interdependent, and the currently transforming EU energy market architecture is attempting to enhance that connection, yet much more has to be done. A multilevel system of policy-shaping and implementation agents of various sizes is necessary, with "citizens assemblies and forums" (e.g. the Convention Citoyenne pour le Climat in France (Mellier-Wilson 2020) and similar in Ireland, UK and Canada) and their growing experience of bringing experts and citizens together (Gough 2020), especially relating to matters where local knowledge and understanding are key, those related to the needs of communities they represent (as Ostrom's work has extensively shown).

There are several issues that need to be addressed if economic, social and environmental gains are to be achieved. Universal access, stability and security of supply must be guaranteed, while RE capacity must be deployed rapidly and on the basis of just transition and energy democracy. This can be achieved via public ownership of energy systems, as, despite the liberalisation mantras, "there are often significant improvements in productivity when separate parts of a system are merged under public ownership, because transaction costs are reduced" (Hall 2016: 3). There are several alternative approaches already in existence, including public financing for sustainability enhancing projects, that would enable cost saving in the long run (Marois 2017; TUED 2017).

Ecosocialism, just transition, and energy democracy can be achieved if the EU 'multi- stakeholder' model is made meaningfully functional and includes a deep and constructive dialogue between local communities, workers, trade unions, civil society organisations, municipalities, etc.: if energy is treated as a CPR/commons and the energy market as an SES. It cannot operate in a system where 'independent' consultation committees are made up of big shots from the gas industry, for example (CEO 2019). Indeed, the close relationship between energy and growth means that energy politics always embody high politics, affording large providers of energy a degree of structural power in state decision-making, which they have exercised repeatedly in the area of climate change politics (Newell/Paterson, 1998). The EU trade unions, and some political parties, have on

multiple occasions voiced their concerns about fossil energy, supported decarbonisation, and come up with thorough, economically viable policy plans – EPSU/EU, ETUC, UNISON and TUC from the UK, FNME-CGT/France, the International Transport Workers' Federation, etc. for example; however, their concerns are often trumped by the interests of fossil industries and the EC and EU's growth obsession, both of which shall be abandoned for sustainable future to have a chance. The transition must occur under public and democratic control of energy generating and distributing enterprises, in a polycentric system of governance of energy systems as a commons.

1 Elinor Ostrom worked alongside her husband, Vincent, and famously commented on the Nobel prize being an achievement for their and their team of researchers' collective work over the years.

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Abstract *Die globale Klimapolitik entwickelt sich weiter, doch die Umsetzung der politischen Maßnahmen hinkt hinterher. Der überwiegend kapitalogene Klimawandel (Moore 2015; Street 2016) macht eine globale ökosozialistische Transformation notwendig (Yurchenko 2020). Die EU ist in vielerlei Hinsicht ein Vorreiter grüner Politik, auch wenn ihr Rahmenwerk zur Dekarbonisierung als schlecht durchdacht und unzureichend kritisiert wurde, insbesondere im Kontext der internationalisierten Produktion und*

des Verbrauches von Treibhausgasemissionen (THG). Eine radikale sozial-ökologische Transformation des "globalen" Europas und die Dekarbonisierung des EU-Energiesektors als komplexes sozio-ökologisches System sind notwendig (SES; Ostrom 2012). Am Beispiel von rund 20 Jahren EU-Energiemarktreformen argumentiere ich, dass die Dekarbonisierungsziele ohne (1) öffentliche nationale, lokale und kollektive Formen des Eigentums und der Finanzierung von Energie (Erzeugung und Versorgung) als Common Pool Ressource (CPR)/ Gemeingut und (2) einen polyzentrischen Modus von Governance (Ostrom 2010) gefährdet sind.

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Jess Auerbach: From Water to Wine: Becoming Middle Class in Angola. Toronto, Buffalo, London: University of Toronto Press 2020, 256 Pages, 18 Euros.

Academic writing can be as delightful as wine around a campfire alongside a sincere, open-minded friend and her travel stories. This is one of the main takeaways from reading *From Water to Wine*, Jess Auerbach's highly self-reflexive ode to the Angolan middle class, centring on the coastal city of Lobito. Structured around the five senses and illustrative of Pierre Bourdieu's theories of capital and social distinction, the book posits that, at least in times of economic boom, more Angolans are taking on the mannerisms and reaching the accumulation levels of the transnational bourgeoisie. The basic tenets of 'life, liberty and the pursuit of happiness' are gradually being met and progressing into a *glocalised* pursuit of the Honda Civic, the iPhone, sushi, and imported perfumes to match every occasion. Auerbach generally sees that as a good thing – one that "is working" (p. 5). Despite experiences with violence and trauma (pp. 169-173), she reflects fondly on her times as a participant observer working as a music teacher in Angola and hanging out with Angolans studying and working in Brazil, with which the West African country shares a colonial past and official language: Portuguese.

A self-described "almost-digital native" (p. 151) writing her didactic book with younger "digital natives" in mind (p. 163), Auerbach uses comics, her own poignant poetry, screenshots, traditional recipes, and references to Angolan popular culture to captivate them. An eclectic researcher, she also makes sure to refer to plenty of literature on various subjects that could entice students and researchers into further reading around the book's main topics and beyond. (Hopefully, they will want to visit Lobito, too.) The anthropologist does not claim to present a complete picture of the Angolan middle class, of its prejudices and codes of behaviour, and acknowledges that the narrative is based upon her own subjective experience. She enters some new territory by drawing readers' attention to senses other than sight and invites others to add to the threads she has begun to pull.

Moreover, she reveals early on that a major goal of her book is to help dispel mediatised stereotypes surrounding Africans, by deliberately using a "cheerful" approach in showcasing ways in which they "are doing just fine" (p. 11): namely the Angolan Scouts, disposable income, gastronomy, and higher education and career endeavours.

Along the way, Auerbach reflects on her own positionality, encapsulated by the image of her as a White South African woman riding a motorbike in Angolan streets while wearing an "astronaut helmet" and speaking, "with a Brazilian accent," a Portuguese that is still a work in progress (pp. 13, 36). Besides the author's transparency with readers, her care for her subjects shines through, as she lets their quotes largely speak for themselves and protects their identities from possible repercussions in their authoritarian, volatile, oil-rich *República*. She shows optimism (vaguely expressed) for Angola's democratic future and refrains from judgement when a government official describes censorship as "a necessary step in the 'maturation' process of a very young nation" (p. 133). But by leaving it up to readers to extract from between the lines or from her choice of interview quotes many of the unsavoury aspects of a system she defines as capitalismo selvagem (p. 19), Auerbach misses the chance to hammer home the deeper meaning of ordinary Angolans' gaining access to luxuries the established transnational bourgeoisie takes for granted.

Among such luxuries is the ability to invest considerable time and money into boosting one's cultural capital, which more Angolans are apparently crossing the Atlantic to do in Brazil (where Auerbach went to learn Portuguese). Black Angolans' arrival and status in Brazil had been quite different during "the Age of Empire," when they were trafficked there as slaves, but Angolans' origin and skin colour are likely still very much a factor in their level of social mobility in the South American country. Perhaps again in the name of caution, perhaps not to veer too far from her focus on Angola, Auerbach oversimplifies historic and cultural links between Angola and Brazil. She opts for subtlety rather than openly discussing differences between, how Black Angolans, Afro-Brazil-

ians and those considered White, are treated in Brazil, or the two countries' similar but distinct journeys with the intertwined scourges of racism, inequality and exploitation (pp. 9–10, 40–41).

The main strength in *From Water to Wine* lies in Auerbach's brilliantly articulate and accessible writing style, amid her keen powers of observation, her compassion and curiosity. It is probably appealing enough to make even readers who may have heard only the "ugly" news about Angola want to open their hearts, sharpen their senses, and go experience the country. There is no telling the greatness she can reach as a scholar when she decides to dig deeper and commit to clearer, more specific thesis statements, even when insisting on academic unorthodoxy.

Ana Beatriz Ribeiro

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