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Green transformations in Vietnam's energy sector

Frauke Urban / Dang Nguyen Anh

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Technische Universität Darmstadt
c/o Linda Wallbott
Dolivostraße 15
64293 Darmstadt, Germany

www.greets-project.org

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Policy brief: Green transformations in Vietnam's energy sector

Frauke Urban (SOAS, University of London) and Dang Nguyen Anh (Vietnam Academy of Social Sciences, Hanoi)

1. Introduction

Vietnam has experienced rapid economic growth over the past two decades, making it one of the most interesting economies in Southeast Asia. At the same time the country has witnessed increasing levels of urbanisation and industrialisation as well as demographic change. The poverty headcount declined from nearly 60% to just under 10% in the past 25 years in Vietnam (World Bank, 2017). While millions of people have been lifted out of poverty, the recent development trajectory has also resulted in increasing environmental pressures. Over the last two decades, Vietnam has also seen a steep increase in CO_2 emissions that contribute to climate change, a steadily growing energy demand and an increase in other environmental pressures such as air pollution, water pollution, soil pollution, deforestation, natural habitat destruction, biodiversity loss etc. However, rapid economic growth is not always a barrier to environmental quality (Scoones et al., 2015). There are options to restructure economies and societies in ways that enable environmental sustainability while promoting economic and social development. This is what we call "green transformations". This policy brief addresses the opportunities and barriers for green transformations in Vietnam, by drawing on examples from the energy sector.

2. Green transformations

Human development tends to create various environmental pressures. Hence there is a need for multiple green transformations to ensure humanity lives sustainably on planet Earth. Green transformations are defined as the required processes of restructuring which bring economies and societies within the planetary boundaries (Scoones et al., 2015). Green transformations are different from the related concept of transition as it requires much broader, society-wide and economy-wide changes. The green transformation essentially requires several inter-related transitions, such as the transition from high carbon to low carbon development, the transition from excessive natural resource depletion (such as fossil fuels) to natural resource conservation, the transition from deforestation to afforestation etc. It is therefore a holistic and wide-ranging set of processes that requires large-scale changes of economic, social, political and environmental nature at global, regional, national and local levels (Lederer et al., 2018). To achieve green transformations in the real world, four different schools of thinking need to be combined addressing (1) technocentric transformations, (2) marketised transformations, (3) state-led transformations, (4) citizen-led transformations (Scoones et al., 2015). This will involve up-scaling the development and deployment of key technologies, for example to mitigate greenhouse gas (GHG) emissions and to clean up soil and water pollution; green transformations will also require a combination of market-led and state-led initiatives with business and government authorities working together to solve the environmental challenges the world faces; and it will further involve the individual citizen whose behaviour and actions has an influence on environmental challenges and their solutions, particularly

viewed from a cumulative perspective. Green transformations are unlikely to happen in one major strike. Rather, they may be incremental, building on each other, happening at different scales, for different reasons than just environmental reasons and driven forward by various actors.

3. Green transformations in Vietnam

The Green Growth Strategy (2012), the Green Growth Action Plan (2014) and the National Strategy on Climate Change (2011) are key national policies that aim to enable green transformations in Vietnam. Vietnam is actively driving forward policies and actions to adapt to climate change, it is also developing strategies to move towards more low carbon, climate friendly energy sources such as wind, solar, hydropower and modern biomass. Yet, over 70% of Vietnam's primary energy supply still comes from fossil fuels, mainly coal and oil (especially for transport), but increasingly also natural gas (IEA, 2017). Realising the potential for green transformations in Vietnam therefore requires a move away from a heavy reliance on fossil fuels to renewable energy, as well as focussing on energy efficiency (Urban et al., 2018). Hence, in the last few years, Vietnam has been very active in developing green energy policies and energy projects. These combined with more far-reaching changes across policy sectors may potentially contribute to green transformations.

3.1 Energy issues

Energy issues are on top of the national and international agenda due to the need for energy supplies, large pockets of energy poverty and the dependence on fossil fuels, particularly coal. The Intergovernmental Panel on Climate Change (IPCC) estimates that about 70% of all GHG emissions world-wide come from energy-related activities, mainly from fossil fuel combustion for heat supply and electricity generation across all sectors, as well as for transport (IPCC, 2007). The energy supply sector alone contributes to about 35% of global anthropogenic GHG emissions, thereby contributing to climate change (IPCC, 2014). Hence, without a change towards a more sustainable energy supply and demand, no substantial green transformation seems possible. Yet, the expansion of renewable energy has ecological and social implications (e.g. related to land use practices and access to modern energy services for the poor).

3.2 Policies and plans for green transformations

Specifically, regarding the energy sector, the Vietnamese government issued several policies to reduce GHG emissions and increase energy efficiency, including the National Target Programme on Energy Efficiency (2006), the Law on the Economical and Efficient use of Energy (2010) and policies on carbon trading (2012) (UNFCCC, 2015). As a mandate, each of the provinces and ministries have developed their own strategy for green growth and climate change adaptation. Renewable energy is actively being promoted by the National Energy Development Strategy (2007) that includes targets for renewable energy for 2020 and a vision for 2050. The Vietnamese government aims to increase the share of renewable energy among electricity generation, excluding hydropower, to 5-8% by 2020, compared to 3.5% in 2010. By 2025, the installed capacity of renewable energy should be

4,050 MW. At the same time, licences for new coal-fired power plants have been granted, some of which rely on foreign investment from China and Korea. The Ministry of Planning and Investment reports the country will need a combined coal-fired capacity of more than 56,000 MW by 2030 (Dang, 2016). Prior to the Paris Agreement (UNFCCC, 2015a), Vietnam submitted its Intended National Determined Contribution (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC). The INDC states that Vietnam intends to reduce its total GHG emissions by 8% by 2030 compared to business as usual, while emission intensity reduction will be 20% by 2030 compared to 2010 levels. If bilateral and multilateral financial and technical support from developed countries will be made available to Vietnam under the Paris Climate Agreement of the UNFCCC, the target can be increased to 25% GHG emission reductions and 30% emission intensity reduction by 2030 compared to 2010 levels. Energy plays a crucial role in the achievement of these targets (UNFCCC, 2015b), still there is some ambiguity in the government's approach to energy policy.

3.3 Achievements so far

Vietnam has been one of the major beneficiaries of the Clean Development Mechanism (CDM), achieving total GHG emission reduction credits of about 137.4 million CO_2 emissions equivalents by 2015 (NAMA database, 2017). Nearly 90% of the over 250 registered CDM projects were in the energy sector. Energy plays also a key role in implementing Vietnam's Nationally Appropriate Mitigation Actions (NAMAs), such as developing wind energy and biogas for power generation and increasing fuel efficiency (NAMA database, 2017). Vietnam increased its share of hydropower, as well as wind and solar energy generation in recent years. Old coal-fired power stations are being replaced by more modern and less polluting gas turbines and renewable energy. Government officials suggest that Vietnam could replace as much as 8 GW of the coal-based electricity plants with renewable energy plants by 2030 (Dang, 2016). Wind energy has a high potential in Vietnam and the first wind farm was completed in Binh Thuan province in 2009. The government estimates that over 500 MW wind energy could be generated in Vietnam (Dang, 2016). The country also has a high potential for hydropower, both small-scale and large-scale due to an abundance of rivers and suitable topography. Already today over 160 MW of small-scale hydropower capacity is installed. Hydropower accounts for nearly 7% of the total current energy supply of Vietnam (IEA, 2017). However, hydropower, particularly large dams, can result in a range of social and environmental implications, including the displacement and resettlement of local people (Tilt et al., 2009), the flooding of ecosystems to create the reservoir, impacts on fish stock and other aquatic species, the release of GHG emissions from decaying organic material in the reservoir etc. Hydropower is also sensitive to climatic impacts such as droughts and floods (Urban et al., 2013).

3.4 The role of the state

The state and its agencies are important drivers for promoting and implementing green transformations, including in the Global South (Lederer et al., 2018). This is particularly the case for Vietnam, which has a pro-active government that aims to drive green transformations in the energy sector as well as in the agriculture and forestry sector. The Vietnamese government plays a key role for shifting its strategic approach from climate change adaptation to mitigation as a way to achieve

economic restructuring, enable energy security and leverage new finance and access to technology in a time when traditional development aid comes to an end. Renewable energy is therefore seen as a national priority by policy-makers. The government provides import tax exemptions and land fee exemptions for those investing in renewable energy. Relevant ministries for a green transformation in Vietnam include particularly the Ministry of Natural Resources and Environment (MONRE), the Ministry of Agriculture and Rural Development (MARD), the Ministry of Science and Technology (MOST), the Ministry of Industry and Trade (MOIT), the Ministry of Planning and Investment (MPI) and the Ministry of Finance (MOF).

4. Conclusion

Green transformations are particularly relevant for countries in the Global South as they are in the process of development, but faced with environmental challenges such as climate change and resource scarcity. These environmental limitations did not exist when today's industrialised countries developed. While there are challenges, there are also opportunities: countries like Vietnam may have the opportunity to learn from the mistakes of industrialised countries and follow a less polluting development path that is more in line with the planetary boundaries, while at the same time enabling economic and inclusive social development. For Vietnam, this presents an opportunity in which a strong state can help pave the way for sustainable development that relies on domestic energy resources, energy efficiency and modern energy technologies such as wind, solar and hydropower, thereby increasing energy security, driving sustainable economic growth and reducing environmental pollution. Vietnam has already benefited from an abundance of energy-related CDM projects, and has thereby reduced GHG emissions significantly. It also invests heavily in renewable energy, most importantly wind power and hydropower, which already accounts for nearly 7% of the total primary energy supply. Still, renewables have to compete with fossil fuels, and some new coal-fired power plants have recently been licenced. Green transformations are therefore well under way in Vietnam's energy sector, but some major barriers remain.

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