Executive Summary

COBENEFITS

Making the Paris Agreement a success for the planet and the people of Vietnam

Unlocking the co-benefits of decarbonising India's power sector

With several inter-ministerial policies and initiatives initiating the decarbonisation of its energy sector and unbundling green growth, Vietnam set the framework to implement a climate-friendly transition of its economy. In its updated NDC (MONRE, 2020) the government of Vietnam suggests multiple co-benefits of decarbonising the energy sector, entailing important synergies with its socio-economic development goals (Nguyen & Helgenberger 2020). Present decisions – on the extent to which Vietnam's energy pathway will express concepts of green recovery and growth – will define the basis for the country's future development, including economic prosperity, business and employment opportunities, as well as health impacts (GreenID, 2020). At the same time, current investment decisions in Vietnam's energy sector will have a substantial impact on combatting global warming and securing the livelihoods of people in Vietnam and elsewhere.

The COBENEFITS Policy Report for Vietnam compiles key findings from the COBENEFITS Vietnam Assessment series, quantifying the co-benefits of decarbonising Vietnam's power sector in view of future-oriented employment and skills development and energy access, unlocking development in rural areas related to a less carbon-intensive power sector. The COBENEFITS Vietnam Assessment series can be accessed through www.cobenefits.info. Building on the opportunities presented, the report formulates a set of policy actions to allow government institutions to create an enabling political environment to unlock the social and economic co-benefits of the new energy world of renewables for the people of Vietnam. The policy options were generated through a series of roundtable dialogues and government consultations with government institutions, industry associations, and expert and civil society organisations during 2019 and 2020.

In light of the current crisis, the results indicate that recovering from the economic shocks of the COVID-19 pandemic and avoiding running into severe future shocks triggered through the climate crisis do not represent conflicting interests but instead a mutually reinforcing coping strategy. Vietnam's government has already proven its ability to protect its population by effectively confronting the challenges caused by COVID-19. With the ratification of the Paris Agreement, Vietnam has joined efforts with 189 other countries to combat climate change as another global challenge, especially in relation to the target of safeguarding opportunities for current and future generations to flourish.

With its recent NDC update, the Vietnamese government has made the social and economic opportunities of climate action central to the country's endeavours — an aspiration that is not yet reflected by the new NDC's limited level of ambition. This COBENEFITS policy reports seeks to activate these untapped potentials for both the climate and the people of Vietnam through the political implementation of Vietnam's updated NDC.

UNLOCKING THE CO-BENEFITS OF RENEWABLE ENERGY FOR THE PEOPLE OF VIETNAM — 10 OPPORTUNITIES FOR POLICY MAKERS

Taking energy access to next level

1. **Integrate renewable energy off-grid solutions – as priority measures for promoting electricity access – into national legislation, plans, and programmes:** Renewable energy solutions are appropriate, sustainable, and cost-effective alternatives to grid connections for electrifying remote rural areas and communities. Linking rural electrification through RE-enabled off-grid solutions with the explicit socio-economic indicators is essential to drive energy access plans within political discourse and legislation.

2. **Create dedicated funds for mini-grid and stand-alone solar adoption:** Quick measures such as the creation of dedicated funds for mini-grid and stand-alone solar adoption (in collaboration with developmental partners) are favourable to drive the adoption of off-grid renewable energy technologies in rural areas of Vietnam.

Developing future skills and boosting job creation

3 **Develop local skills to ensure societal welfare:** To ensure the long-term operability of renewable energy solutions in Vietnam's remote areas it is essential to implement skill-development programmes and to mandate project developers to ensure skills transfer to local people. This will ensure that a qualified workforce is always available on-site to repair defects and to keep systems running.

4 **Mainstreaming employment opportunities into energy policies with a view to sustainable development:** Future energy policy measures in the country should focus on the question of how to best unleash the job creation potential of renewables and thereby lay the groundwork for substituting as much coal power generation as possible while boosting the job market.

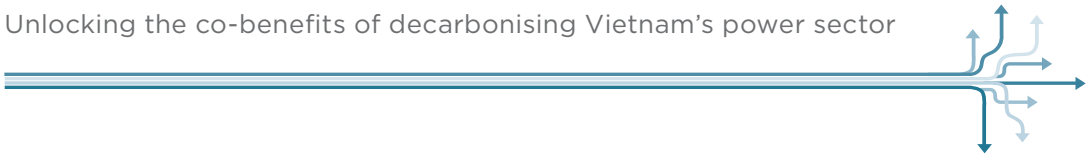
5 **Develop a joint strategy for vocational training and university programmes for the renewable energy sector:** Education and skill development are key to opening up new employment opportunities for a large proportion of the population and to meeting the needs of the renewables industry. A strategy and implementation plan to reshape vocational training curricula and university programmes, with a focus on renewable energy technologies, jointly developed by various government ministries, such those responsible for Education and Training (MOET), Labour, Invalids, and Social Affairs (MOLISA), Industry and Trade (MOIT), and Science and Technology (MOST), is a promising method to address current and potential skill gaps in the power sector.

6 **Support domestic manufacture of renewable energy equipment:** As a rapidly developing market, the renewable energy sector offers new possibilities to develop future technologies and innovations that are 'made in Vietnam'. The domestic design and manufacture of renewable electricity generation equipment offers multiple benefits to Vietnam's industrial sector; however, in order to realise these opportunities, a tailored strategy for manufacturing renewable energy equipment, developed by MOIT with technical support from MOST and the Ministry of Agriculture, is essential.

Improving air quality and people's health with renewables

7 **Implement health-smart approaches to energy planning that consider co-benefits for air quality and health:** The use of health-smart energy planning tools within the Eight Power Development Plan (PDP8) is a key opportunity to achieve health benefits through power planning. Health-smart energy planning includes measures to support renewable energies in the power sector, to carry out energy efficiency measures and a constant review of planned power plants, by already taking into account during the decision-making phase the future impacts on air quality. A first step towards achieving health-smart energy planning is to follow a planning scenario for PDP8 that includes a high share of renewable energies among power sources.

8 **Strengthen MONRE's competences in emission management:** To improve air quality and the health of the Vietnamese people, competences for emission management should ideally be clearly defined and bundled. A detailed, stand-alone Air Quality Law is a promising tool for such goals: It can further define the competences and responsibilities of the Ministry of Natural Resources and Environment (MONRE) and can staff it with more competences to set up, manage, and monitor emission standards in contributing sectors such as the electricity generation sector. This legal basis should go along with providing MONRE with the necessary budget and trained staff to ensure compliance with the emission standards across the electricity sector.



9 **Improve research and data collection and exchange on the impacts of energy production on air quality and health:** Gaining further insights into the connections between energy planning, air quality, and related health impacts is crucial to ensure health-friendly energy planning in Vietnam. Collection of continuous ambient air quality and emission data is a prerequisite for further research. The ongoing installation of automatic air-quality monitoring stations should be expanded to other locations with power production and heavy industry complexes, while making information on Vietnam's National GHG inventory system accessible to researchers and the public would contribute to further research towards health-smart energy planning.

Consider co-benefits of power sector decarbonisation to improve Vietnam's NDCs and SDGs

10 **Vietnam's Power Development Plan (PDP8) and Long-Term Strategy (LTS) as keys to maximising the social and economic opportunities of implementing Vietnam's updated NDC:** In order to seize the full range of socio-economic co-benefits described in this report, in the political implementation of its updated NDC the Vietnamese government is advised to transition to a courageous renewable energy pathway, reflecting the full economic potential of renewable energy sources. More specifically, this can be put into practice through the country's upcoming Power Development Plan (PDP8) issued by MOIT; and by developing a long-term strategy (LTS), and long-term goals for the power-sector, as suggested by the Paris Agreement.

Consider co-benefits of power sector decarbonisation to improve Vietnam's NDCs and SDGs

The presented policy actions assemble measures to seize the socio-economic co-benefits in the area of Electricity Access as well as Employment and Skill Development identified in the COBENEFITS Vietnam Assessment Series.

The COBENEFITS study on Electricity Access and Local Value Creation indicated that small-scale wind turbines are a cost-competitive alternative to grid extension in rural areas with challenging terrain. The investment in off-grid renewable energy, e.g., by developing suitable financing mechanisms for households or businesses located more than 10 km from the nearest medium-voltage line, can stimulate value chains and the localisation of skills for off-grid solar PV and small wind turbines, thereby helping to overcome the techno-economic moot point of providing electricity access to populations living in areas that are rarely accessible at present.

With Vietnam being in the kick-off phase for the broader uptake of renewable energies, the COBENEFITS study on Employment and Skill Development found that a transition towards low-carbon planning pathways in the power sector showed substantial promise for job opportunities: In Vietnam, renewables can create twice as many jobs as the fossil-fuel sector per average installed MW. Around 25% of the jobs created require high-skilled workers. This makes it very promising to reconcile training capacities at universities and technical schools, while supporting affected workers and communities domiciled in the coal-power-generating regions of the country.

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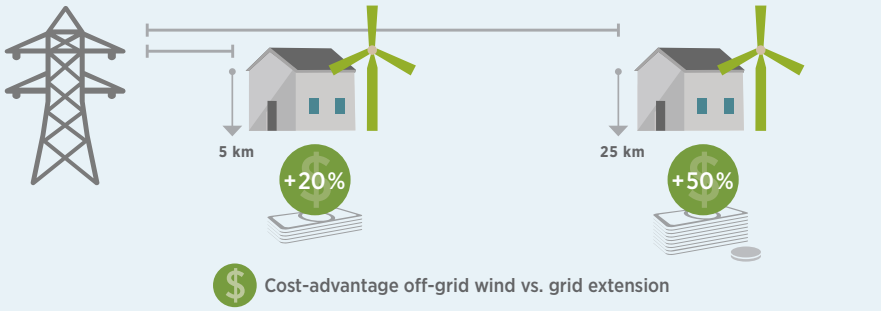
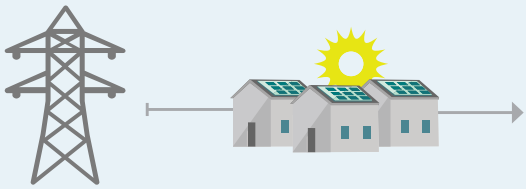
Electrifying rural areas in Vietnam with renewables is at least **20 %** cheaper than extending the grid

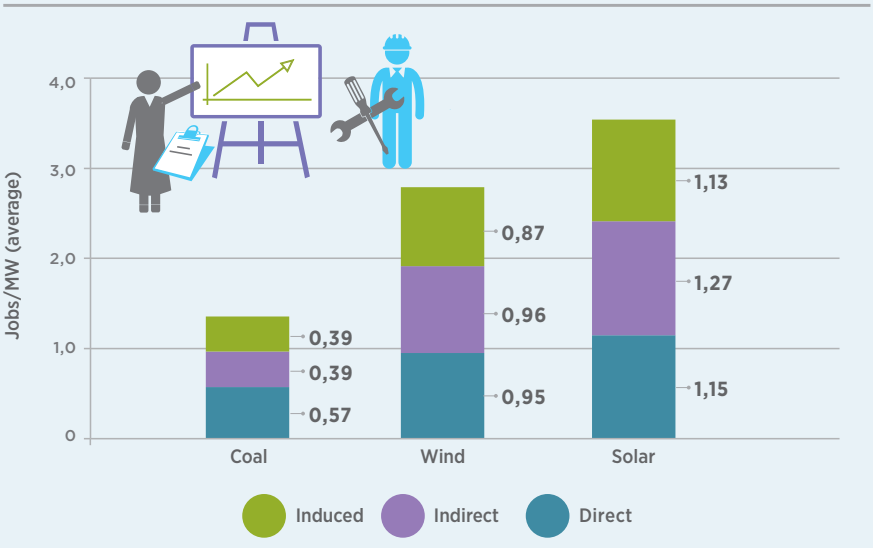


Cost-advantage off-grid wind vs. grid extension



Settlements of <15 houses: cost-effective with grid extension

Replacing coal power plants in Vietnam with solar or wind will more than double the number of jobs per average MW capacity



*Results are based on Vietnam-specific assessments.