

## COBENEFITS of the new energy world of renewables for the people in Vietnam

Vietnam is in the midst of an energy transition, with important social and economic implications depending on the pathways that are chosen. Vietnam's chosen energy pathway will define the basis for its future development, including economic prosperity, business and employment opportunities as well as people's health. At the same time, current policy and 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.

In view of the social and economic implications of the course set by the Government of Vietnam, political decisions on Vietnam's energy future link the missions and mandates of many government departments and agencies beyond energy and power, such as environment, health, labour as well as green industrial development and investments. Hence, the timely debate on Vietnam's energy future boils down to a single question:

### How can renewables improve the lives of the people of Vietnam?

Employing scientifically rigorous methodologies and the most recent technical data, the study at hand contributes to answering this question. It also provides guidance to government departments and agencies on further shaping the enabling political environment to unlock the social and economic co-benefits of the new energy world of renewables for the people of Vietnam. Under their shared responsibility, the Green Innovation and Development Centre (GreenID), as the COBENEFITS Vietnam Focal Point, together with the

Institute for Advanced Sustainability Studies (IASS) invited ministries and government agencies such as MONRE, MOIT, MPI, MOLISA, MoH and VUSTA to join the COBENEFITS Council Vietnam to provide guidance to the COBENEFITS Assessment studies along with the COBENEFITS Training Programme and Enabling Policies Roundtables. Since its constitution in August 2017, the COBENEFITS Council Vietnam has guided the programme in framing the topics of the COBENEFITS Assessment for Vietnam and in ensuring their direct connection to the current political deliberations and policy frameworks of their respective ministries.

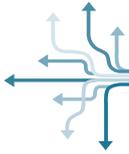
We are also indebted to our highly valued research and knowledge partners, for their unwavering commitment and dedicated work on the technical implementation of this study. This COBENEFITS study was facilitated through financial support from the International Climate Initiative (IKI) of Germany.

Vietnam, among 185 parties to date, has ratified the Paris Agreement to combat climate change and provide current and future generations with opportunities to flourish. With this study, we seek to contribute to the success of this international endeavour by offering a scientific basis for harnessing the social and economic co-benefits of building a low-carbon, renewable energy system while facilitating a just transition, thereby *making the Paris Agreement a success for the planet and the people of Vietnam.*

We wish the reader inspiration for the important debate on a just and sustainable energy future for Vietnam!

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# Executive Summary



## Future employment in Vietnam's power sector

Assessing the co-benefits of decarbonising the power sector

Vietnam has the opportunity to transition towards low-carbon planning pathways within the power sector that emphasise the uptake of renewable energy technologies – especially solar and wind, which are experiencing rapid cost declines in Vietnam and globally. However, the impact on employment, both in the power sector and more widely, needs to be effectively understood and prepared for by various actors and decision makers in the country.

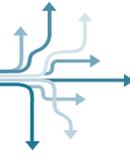
This study analyses the employment impacts of various scenarios for expanding electricity generation in Vietnam's power sector; this was carried out in the context of the COBENEFITS project with the aim of assessing the co-benefits<sup>1</sup> of a low-carbon energy transition in the country. Four scenarios are analysed for the future development of the power sector in Vietnam: Ministry of Industry and Trade (MOIT) revised seventh

Power Development Plan (PDP 7 (rev)); Danish Energy Agency Stated Policy (DEA Stated Policies); Asian Development Bank “Pathways to low-carbon development for Vietnam” low-carbon scenario (ADB Low-Carbon); and the Green Innovation and Development Centre (GreenID) Base and Renewable Energy (Base & Renew En) scenario.

This report presents the resulting employment effects, presuming that the electricity sector focuses on all power generation technologies outlined in the government's official power sector plan. It also provides an initial assessment of the skill requirements, attainment levels and technical training required for Vietnam's present power sector plans and future low-carbon power sector ambitions. The four scenarios consider timelines consistent with MOIT's reporting of the PDP 7 (rev) scenario, which is between the years 2015 and 2030.

- **Key policy message 1:** With the decision by the Vietnamese Government to increase the share of renewables from 6% to 10.7% in the current power sector plan (PDP 7 rev), the government paved the way to creating 315,000 job-years through the power sector by the year 2030. With renewables creating twice as many jobs as the fossil-fuel sector per average installed MW, the government can further boost employment by adopting a more ambitious low-carbon power sector plan.
- **Key policy message 2:** For wind and solar, around 25% of jobs created are for high-skilled workers. The tendency for high-skilled workers in the power sector is expected to further increase over the next decade in Vietnam. Therefore, the training capacities at universities and technical schools need to be reconciled with this development, in order to create employment in Vietnam and to meet the expected demand in the country.
- **Key policy message 3:** The government can actively manage a just transition to low-carbon energy sources by redeveloping vocational training curricula and university programmes towards the new energy world of renewables while supporting affected workers and communities domiciled in the coal-power-generating regions of the country, such as the Mekong Delta.

<sup>1</sup> The term “co-benefits” refers to simultaneously meeting several interests or objectives resulting from a political intervention, private sector investment or a mix thereof (Helgenberger et al., 2019). It is thus essential that the co-benefits of climate change mitigation are mobilised strategically to accelerate the low-carbon energy transition (IASS 2017b).



#### KEY FIGURES:

- Replacing coal power plants with solar or wind will more than double the number of jobs per average MW capacity. Replacing coal with gas alone will lead to job losses of around 0.5 job losses per average installed MW.
- Up to 1.94 million job-years can be created in the country through the power sector transformation between 2015 and 2030.
- Over that 15-year period, solar and wind will create 3.5 jobs and 2.8 jobs respectively per average installed MW capacity, whereas coal creates only 1.4 jobs.
- Across all scenarios, around 80% of the jobs created in the power sector by the year 2030 are in construction and installation.

**COBENEFITS**  
Future skills and job creation through renewable energy in Vietnam.  
Assessing the co-benefits of decarbonising the power sector

available on  
[www.cobenefits.info](http://www.cobenefits.info)

#### KEY FINDINGS:

- **For each direct job created in the power sector in Vietnam, two additional jobs (indirect & induced) are created in the country irrespective of the scenario assessed.** More than 60% of jobs created through changes in the power sector are positive-increase employment opportunities in the broader Vietnamese economy.
- **In the ambitious renewable energy (RE) scenario by GreenID, solar and wind power contribute over 20% of the jobs created in the power sector by 2030;** coal and hydro-power are established technologies in Vietnam and are projected to constitute about 60% of gross employment in the power sector.
- **A shift to Green ID's ambitious RE scenario (Base & Renew En) will increase gross employment in the RE sector to approximately 434,000 job-years,** a 38% increase from the PDP 7 (rev) scenario of 315,000 job-years. These jobs are created in the solar, wind and biomass sectors.
- **By the year 2030, the demand for higher-skilled workers in the power sector is expected to grow by 31% for jobs during the construction and installation phase, and 25% for jobs in operation and maintenance.** This change is partially associated with the growth in demand for RE sources, especially solar and wind, which have lower demand for unskilled or low-skilled labour during the construction and installation phases.
- **There is still limited availability of local technical expertise in the solar and wind power sector.** To meet the present demand, project developers in the power sector currently recruit engineers who are not specifically trained for the renewable energy sector, or else rely on foreign-trained experts. However, RE companies are willing to recruit skilled local workers if training at Vietnamese universities and technical schools is aligned with the technical skills demanded in the RE sector.