It is possible for Vietnam to **reduce its annual CO_2 emissions by up to 39 percent in 2050** if the government choses to follow an ambitious green energy scenario. That is **10 times the annual Danish CO_2 emissions** in 2018.

LONG-TERM ENERGY PLANNING PAVES THE WAY FOR MASSIVE CO_2 REDUCTIONS IN VIETNAM

A Danish-Vietnamese energy partnership supports Vietnam in long-term energy planning. New calculations show that Vietnam can make their energy system both cheaper and more sustainable, so that by 2050 Vietnam may reduce up to 370 million tons of CO_2 annually compared to their existing projections. This corresponds to 10 times as much as Denmark's annual CO_2 emissions from the energy consumption in 2018.

Vietnam is the 14th most populated country in the world, and the country is undergoing a significant increase in energy consumption with annual growth rates around 6 percent. This has led to a massive expansion in the use of fossil fuels, especially coal. Energy consumption and CO_2 emissions are on the rise. From 1994 to 2004, the country's CO_2 emissions from energy have gone up nearly sevenfold. The Vietnamese energy consumption is likely to increase more than 3 times by 2050, and energy from coal will supply more than a third of this expansion.

> *The cooperation with the DEA on the development of the Vietnam Energy Outlook Report 2019 is creating great value for Vietnam within energy planning.* ***The way of close government-to-government cooperation ensures that the long standing strong experience of the Danish agency on green transition can be utilized directly*** *in building capacity in energy modeling supporting important planning processes such as the PDP8*
>
> Nguyen Tuan Anh, Director of Department of Planning, Electricity and Renewable Energy Authority of Vietnam

Hence, Vietnam is facing major investments in the energy sector within the near future that will be defining for the national carbon footprint many decades into the future. Meanwhile the government is committed to the Paris Agreement and aims to ensure a sustainable development in accordance with climate and environment.

Fortunately, the Vietnamese potential for both solar and wind energy – including offshore wind – is strong, but it requires long-term planning to accommodate such large amounts of renewable energy. One of the big challenges is to utilize the country's green energy resources in a cost-efficient manner. Denmark has a unique experience within this field, and can contribute with many years of experience in green transitioning and energy planning.

Government cooperation multiplies the effect of Danish green transition tools

Since the 70s, Denmark has undergone a remarkable transition from black to green. Danish Government institutions have many years of experience developing energy scenarios that support politicians in making the best socio-economic choices without compromising security of supply and national growth. This analysis work is an

important element in the Danish toolbox for green transition. It plays a key role in the green, cheap and stable Danish power supply. By 2020, half of the Danish power supply will come from wind energy.

The Vietnamese-Danish partnership started in 2013. The partnership contributes to the realization of Vietnam's ambition to reach its commitment to the Paris Agreement. An important activity is modelling the country's energy system and analyzing different energy development scenarios for the future. The Danish Energy Agency together with the Vietnamese Ministry of Energy identifies the technology investments that will be cheapest and greenest for Vietnam on the long run.

This work is presented in the publication Vietnam Energy Outlook Report 2019, which was launched in November 2019. The Vietnam Ministry of Industry and Trade together with Electricity and Renewable Energy Authority of Vietnam and the Vietnam Institute of Energy publishes the publication every two years in collaboration with the Danish Energy Agency. In 2017, the first Energy Outlook report ever for Vietnam was launched.

A cheaper and more sustainable alternative that surpasses decades of Danish CO_2 reductions

The new Vietnam Energy Outlook Report 2019 shows that in 2050, Vietnam can reduce its annual CO_2 emissions by up to 39 percent compared to their existing plans for energy expansion. It will not only be more sustainable, but also cheaper for the country's economy.

By 2050, a 39 percent reduction will mean that Vietnam will emit approximately 370 million tons less CO_2 annually than projected. This corresponds to more than 10 times the current annual CO_2 emissions from Danish energy consumption. In order to achieve such a large reduction, Vietnam will have to replace planned coal-fired investments with renewable energy investments while significantly improving energy efficiency.

The report is an important input into Vietnam's forthcoming national Power Development Plan VIII, which will determine Vietnam's development of the electricity sector by 2030. The plan is developed based on the energy models that have been introduced through the government cooperation with Denmark.

FACTS

- The Danish-Vietnamese Energy Partnership is operated by the Danish Energy Agency and financed by the Ministry of Foreign Affairs through the Climate Envelope.
- The government-to-government collaboration was established in 2013. The focus today is on supporting Vietnam in reaching the Paris Agreement and the UN's sustainable development goals no. 7 and 13.
- As part of the collaboration, the Vietnamese Department of Planning, Electricity and Renewable Energy Authority of Vietnam and the Danish Energy Agency are carrying out efforts on long-term energy planning.
- Denmark has 15 government-to-government collaborations on energy with countries that collectively emit more than 60 percent of the world's CO_2. By sharing and expanding knowledge and capacity in the partner countries' national authorities, policy makers are empowered to make sustainable and cost-effective energy policy decisions that support the global sustainable transition.