

As the country bids farewell to nuclear energy, renewable energy such as wind, solar and biomass are to become mainstream energy sources for Germans.

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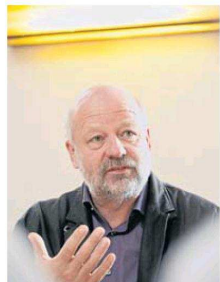
EARTH ALERT ■ ANCHALEE KONGRUT

# Germany leads way for RENEWABLE energy

Law boosts development in the use of safer energy

Known as a nation of stern discipline, Germany never ceases to amaze. Apart from quick recovery from two world wars (albeit as instigator), the country recently played a key role in preventing financial crisis in the European Union by trying to bail out debt-laden Greece. As other neighbours like France, Italy or even Britain feel the severe pinch of economic meltdown, Germany's economy is relatively robust.

The real surprise is in the country's energy policy. After the world was distressed by the nuclear accident in Japan last year, Chancellor Angela Merkel publicly announced a plan to end nuclear energy consumption in Germany, once famous as one of the major nuclear technology exporters. By 2025, the country's last nuclear reactor will be closed.



Hans-Josef Fell, Green Party member of the German Bundestag, helped draft the Renewable Energy Sources Act (EEG), known as the world's most successful legislation advocating renewable energy business.

Meanwhile, the country — with full support from all political parties — announced a bold goal that by 2050, 100% of energy consumed in the country will come from renewable energy. Such a bold task seems lofty.

More than 15 years ago, the rate of renewable energy production and consumption was less than 10% before climbing up to almost 20% in the past few years.

The rational explanation is that the country has invested money in research on renewable energy since the 1980s. Now, academic institutes in Germany have numbers of studies developing the quality of photovoltaic cells and the material of wind turbines with the aim to improve quality and reduce production costs.

As a result, the country now dominates renewable energy technology. The only worthy competitor is China, the source of more affordable photovoltaic cells and wind turbine parts.

But for Hans-Josef Fell — a Green Party member of the German Bundestag, or German parliament, the secret of Germany's success with renewable energy is not only technology.

"It is a successful story in the last 10 years. We have universities and institutes which do research on renewable energy. But not only technology is important. We must look how we can organise the new economy."

Fell helped draft the Renewable Energy Sources Act (EEG), known as the world's most successful law advocating renewable energy.

As part of this law is a concept called the "Feed-in Tariff", a financial subsidy

law that helps producers of solar energy, biomass and wind energy to create a market.

The draft was floated in 2000, a time when renewable energy was not popular and faced strong opposition from the conventional energy sector.

Fell admitted being a Green Party member he was viewed as a protester. "The Green Party is a party of protesters against nuclear, GMO, coal. But every time, we combine protesting with solutions. Only protesting does not help."

After being convinced that renewable energy development will boost jobs, save the environment and hedge the country from rising oil and other energy prices, the parliament adopted and enacted the law in February 2000.

The Feed-in Tariff in Germany is unique in the way that it does not place a burden on tax payers or public expenditure. Germany's Feed-in Tariff is a big departure from conventional subsidy. Many countries including Thailand took subsidy for renewable energy and other projects from tax payers' money or public borrowing.

The Feed-in Tariff in Germany is also unique for its requiring consumers to pay a levy and setting the target so that the subsidy will drop constantly.

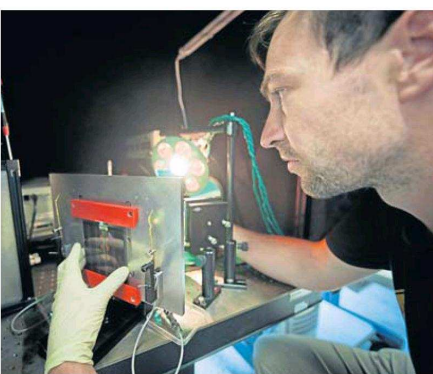
Fell said the Feed-in Tariff leads to the reduction of price because the production cost has been lowered, thanks to research and development in this technology.

"The law has active measures to introduce renewable into the market and help to boost research. If firms begin to make profit with innovations, they will then invest some of these profits in research as they seek to establish a lead in the competition to supply the best products. For instance, German companies are now putting twice as much money into photovoltaic research as the public sector is making."

The law has been successful for promoting research and development in renewable energy within the market process, not state subsidy, he said.

By the end of 2010, more than 340,000 jobs were created in the renewable energy industry, helping strengthen the country's economy amid the backdrop of world economic recession.

Fell said dependence on fossil fuel oil can place the national economy at risk. Meanwhile, big energy businesses such



Almost two decades of research have successfully improved German renewable energy technology in terms of quality with lower production costs. The country now is a leading exporter of photovoltaic cells for solar energy.

as oil exploration in Sudan, Venezuela or Middle East were affected by political crisis, not to mention traditional fossil fuels are a major cause of carbon emissions.

But convincing the world to embrace only clean and renewable energy is a daunting task. "Even in Germany, a lot of companies oppose renewable energy. You will find these companies working in nuclear and they speak against renewable energy. It is hard struggling."

Fell — also spokesperson on energy policy for the Alliance '90/The Greens parliamentary group in the German Bundestag — travels to many countries to promote his Feed-in Tariff idea and zero-carbon emission concept.

He said one of the biggest obstacles he has found is the lack of correct and balanced information.

"The big companies that are earning money from selling high-carbon emission energy avoid telling the truth," he said. One example is the myth of nuclear



energy as an affordable energy.

Countries in Southeast Asia — such as Myanmar, Vietnam and Thailand — have planned to have nuclear energy plants. Fell believes these nuclear projects will never be built in these countries.

"The first point is all these nations have no chance to finance. Look at the EU, the last nuclear power plant which was located in Finland is facing financial disaster."

"But my point is how to highlight to politicians that nuclear will be a financial disaster. We must help throwing in new ideas."



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## THAILAND'S TAKE ON THE ISSUE

Thailand needs a shot in the arm — similar to the German Renewable Energy Sources Act — if it wants to keep up with a global trend that moves to cleaner and more sustainable renewable energy, according to Suphakit Nuntavorakarn, researcher at the Healthy Public Policy Foundation.

An expert on renewable energy, Suphakit received a master's degree in environmental management at the University of Aalborg in Denmark. His master's degree thesis focused on the Feed-in Tariff system in Germany and Denmark.

"The special character of Germany's policy is it will tailor-make subsidy for each type and region to encourage feasible investment and market mechanism. For example, a region with low wind capacity would get more subsidy to promote investment than a region with stronger wind. That will spur market and investment."

"In Denmark, however, the subsidy will be equal despite different capacity. So we will see that wind energy producers in some regions become rich, while other investors in low-capacity areas fail to create a market," he said.

So the wonder of Germany's law is that it succeeds in using market mechanism to drive research and development, Suphakit noted.

The case in Thailand is different. The country has had a subsidy law for more than a decade. However, the amount cannot build a market as much as it could as the subsidy is subjected to revision by a new government. For example, the authority once gave eight baht per unit for subsidy of solar.

However, a new government a few years ago reduced the subsidy to seven baht per unit.

"One baht less subsidy is a big issue for investors applying for loans," said Suphakit.

Another crucial aspect is that the German authorities force the operator of the national grid to buy renewable energy to sell to consumers. In Thailand, the Electricity Generating Authority of Thailand (Egat) — the state agency operating the national grid — insists against buying renewable energy from small and medium producers.

The Egat has contracts to purchase from large-size power producers, most of them producing energy from coal and natural gas.

Local renewable power producers also need support from the government. This includes help for investors to use vacant land in national parks, forest reserves and other public spaces for renewable energy projects.

So far, the Ministry of Energy has only signed a memorandum of understanding which allows the development of renewable energy projects in land with *Sor Por Kor* title deeds — special land given to farmers for farming purposes.

The Ministry of Energy has a policy to boost the capacity of renewable energy to 15% by 2022. So far, there is only 3.5% of renewable energy consumption in Thailand.

"I think our country has a realistic goal. Private sectors and the market in renewable energy in Thailand will be developing and growing. We just need political will and policy support from the state."

"Look at Germany, the country indeed does not have resources. It has a low sunlight rate. There is wind capacity only inland. There are not many plants for generating bio energy. On the contrary, Thailand has almost everything, much and plenty resources."



Suphakit Nuntavorakarn