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CONSULTATION ON "TOWARDS A COMPREHENSIVE AND AMBITIOUS POST -2012 CLIMATE CHANGE AGREEMENT"

TVO CONTRIBUTION

Teollisuuden Voima Oyj (TVO), as a private electricity generator and an active investor in the energy market, would like to express some points it feels important to be taken into account during the preparation of future climate negotiations.

Energy for life, well-being for people

Electricity keeps the wheels of the society turning, which means work and well-being for people. The future challenge is to cope with the increasing electricity demand with as low CO₂ emissions as possible, and to secure low carbon energy for life. Efficient demand side management and even greater use of renewable energy sources cannot alone meet this challenge. An estimated 750 GW of new capacity is needed in the EU by 2030 to meet the growing demand and replace existing power plants. At the moment the nuclear power plants in Europe avoid together around 700 million tonnes of CO₂ emissions. TVO, as a private electricity generator, takes its own responsibility in Finland seriously by producing electricity for its owners safely, reliably and competitively without adding the any CO₂ emissions.

TVO has been operating two nuclear power plant units already for 30 years. These nuclear power plants have together been reducing the CO₂ emissions around 10 million tonnes annually already decades. TVO is now building a third unit at Olkiluoto in Finland and it should be in operation by summer 2011. This new nuclear power plant will reduce CO₂ emissions also around 10 million tonnes annually. In addition a new step was taken in April 2008, when TVO handed over the application for a decision in principle for a fourth unit to the authorities. If the decision in principle is taken and ratified by the Finnish parliament and TVO will take the investment decision for the fourth unit, the new power plant should be in operation by the end of next decade. This fourth unit will reduce CO₂ emissions also around 10 million tonnes annually. As a reference, the Finnish CO₂ emissions are around 80 million tonnes annually.

Finland will need at least 4000 MW new capacity by the year 2020. With the obligation of meeting the CO₂ reductions in Finland, for TVO nuclear power is the best available alternative to base load electricity to cover Finland's growing electricity demand and to replace old fossil fired power plants. There are no real alternatives for nuclear power, as the potential for additional hydro capacity is limited, coal fired power plants have CO₂ constraints, and gas price is unpredictable. Nuclear power has a role to play in reducing CO₂ emissions. Production cost of nuclear power is



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stable and predictable for decades to come, and predictability is important for the future of Finnish energy intensive industry. Nuclear energy reduces dependence on electricity imports and hence increases security of electricity supply.

All energy options should be kept open in order to guarantee sufficient generation capacity. To disregard any energy source in the energy mix would diminish diversity and, as a result, hinder security of supply. Nuclear energy has an important role to play in enhancing competitiveness, promoting sustainable development, fighting climate change and reducing external energy dependency. It is important that nuclear energy is regarded as an option, also at the European level. And the public should also be aware that nuclear energy is one of the options in power production, not the only one, but it has to be part of the solution in future energy supply.

On fighting against climate change

Nuclear energy is currently the largest low-CO₂ energy source in the EU, which makes it an important contributor to the mitigation of climate change.

Nuclear power has a role to play in reducing national CO₂ emissions and therefore in meeting the Kyoto commitments. The present operational nuclear power plants of TVO have had a significant impact on limiting the CO₂ emission already for around 30 years. The new nuclear power plant unit OL3 reduces, when in operation, avoids around 10 million tonnes of CO₂ emissions annually compared with equivalent production with coal power. Finland's present greenhouse gas emissions are around 80 million tonnes of CO₂ equivalent per year.

Conclusions

As huge investments are needed in the EU energy sector by 2020 and acknowledging the role nuclear energy has to play in fighting against climate change - being the biggest low-carbon energy source in the EU - nuclear energy should be regarded as a tool for fighting against climate change - in the EU and also globally.