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Short Version Presentation

Europe's Energy Situation – Life in and with Dependency
Progress Foundation, September 17th, 2014, Zürich

SWP

Deutsches Institut für Internationale Politik und Sicherheit **Stiftung Wissenschaft und Politik**

Switzerland has an energy mix of almost 44 percent of oil and oil products, 23 percent of nuclear, 12.5 percent hydro, almost 11 percent natural gas and 10 percent others. The EU-28 has an energy mix of 35% oil, 24% gas, 17% solid fuels such as coal, 14% nuclear power, 10% renewable sources such as hydropower or wind energy. This mix varies widely across countries. [Slide 1]

The energy mix has evolved over time as a result of the countries' geographical conditions, such as the availability and access to natural resources, national policy choices, such as the decision to make use or not of nuclear power, changing financial incentives, progress in technologies, decarbonization requirements and the development of the internal market. The energy mix is closely related to the strategic triangle of energy policy with the three objectives of supply security, economic efficiency and sustainability. The balancing of the three angles is related to conflicting of objectives and trade-offs. The prioritization of a respective objective is subjected to actual developments and a broader agenda-setting. [Slide 2]

As outlined in the EU`s energy security study of July 2014, EU's import dependency is almost 90% for oil, 66% for gas, and 62% for hard coal. The trends display an ever increasing dependence for fossil fuels, but also for uranium for 95%. The lowest import dependency of 4% occurs for renewable energy (chiefly biomass). [Slide 3]

As outlined in the EU energy security study, UK's and Denmark's oil production is decreasing. The UK became a net importer in 2005, Denmark's oil production has peaked in 2004. In 2012, a third of extra-EU imports of crude oil and NGL came from Russia, followed by Norway (11%) and Saudi Arabia (9%). [Slide 4]

In 2012 natural gas imports from Russia accounted for 32% of total extra-EU imports to the EU in energy terms, followed by imports from Norway (31%) and Algeria (14%). A majority of natural gas in the EU is being consumed in households and in electricity production of which more than half is used as input in Central Heating Plants. To cut a long story short: thus, it is directed to vulnerable consumers. [Slide 5]

In sum, for natural gas Russia is still the major supplier and some member states are heavily dependent on Russian gas deliveries (up to 100 %). This is due to the existing (historically developed) gas infrastructure and regional

proximity. Liquefied natural gas (LNG) imports are only a limited option to replace pipeline gas from Russia. In short to mid-term there are very few options to substitute deliveries from the East, in mid- to long-term the possibilities increase. However, diversification takes time and is costly. [Slide 6]

The Russian-Ukrainian crisis may function as a "Game Changer". Interdependence has always been a guiding paradigm for energy relations. Yet, it is increasingly seen (through a political lens in the EU) as part of the problem, not a solution. It is evident, that at least the dependency of those member states has to be decreased, that are highly vulnerable to political and economic pressure. Russia in turn is focusing to Asian-Pacific markets and might embark on a more isolationist course toward "the West".

However, diversification is a question of alternatives. Geopolitical risks in the "strategic ellipsis" are high, and there is a danger to simply shift from one risk to another by turning to the Middle East or Africa. [Slide 7]

The shale revolution of the U.S. has broadened the non-conventional resource base. Resources are more evenly distributed worldwide, offering diversified supplies from democratic countries. There are still significant question though to what extent the non-conventional revolution is replicable elsewhere. Asia, which is promising demand growth markets and highest prices is the most attractive destination for LNG export from the U.S. and also a region where non-conventional production will take off. [Slide 8 and 9]

Most attention is currently devoted to natural gas supply security in Europe, but oil deserves a closer look as well. The "new oil" will differ widely in terms of geology as well as "quality" and chemical characteristics. Significant changes take place along the whole value chain. Refineries follow the markets and are opened in Asia and the Middle East. European refineries are coming under pressure in general but also in particular from the U.S. refineries which have access to cheap crude oil. [Slide 10 and 11]

To conclude, there are difficult times ahead in oil and gas markets. The energy landscape is rapidly changing, the gravity of energy trade is shifting to the Pacific. Europe has to secure its supplies from a position of decreasing

relative global market share without promising demand growth. Instead, demand is flattening at best. This presents a challenge to supply security.

Price differentials between world regions are a challenge to the industry. Geopolitical risks are high in the strategic ellipsis. A more sustainable energy system is also a way to deal with energy security challenges. The transport sector deserves primary attention. Price trends run against an energy transformation. An “Energiewende” needs security of supply legitimization and environmental legitimization. It will not happen automatically incentivized by higher prices. [Slide 12]