

The Big Picture: Report on Renewable Energy Possibilities in Hungary

– White paper prepared by the Hungarian Young Professionals in Energy –

“We can’t make the necessary hard choices if we don’t have the dialogue. We need to make decisions together”

World Energy Trilemma Report 2013

Sustainable development and the strongly related secure supply is one of the most important questions arise among energy engineering issues. One of the first answers for the above complex problem is renewable energy sources. To achieve success, that is to integrate renewable systems, it is essential to design, control and support engineering and financial background of electrical engineering structures. (The question is even more important for Hungary, where neither energy nor financial resources are abundant at all.)

Design

Energy engineering is one of the most capital intensive industries around the world, therefore investors must be convinced with highly efficient planning. A significant sum of investment capital arrives from the private sector which requires a stable economic environment and long term energy politics. However it is just as crucial to constantly reconsider long term guidelines in order not to let market players get into disadvantageous positions. Along the above thoughts, below are some critical consequences:

- ▶ It is crucial to find possibilities to motivate potential investors as willingness for investment is a key issue in energetics.
- ▶ It is necessary to define the role of the state as one of the primary steps of designing energy politics while avoiding both excessive state position and total liberalization.
- ▶ It is essential to maintain strong communication flow with society by means of education and public information which creates supportive environment.

To design new, potentially successful energy politics, it is important to lean on industry professionals (as WEC Hungarian Committee) and use top of the class best practices locally.

“Apply lessons and periodic policy revisions. Ineffective policies, or those with unintended consequences, must be adjusted without creating disincentives to long-term investment.”

Integration

Compatibility of different renewable sources with the electric power system of a country depends on the state supply-demand and system characteristics.

Demand for electricity is strongly related to economic performance. Although the transmission system operator in Hungary (MAVIR Co.) expects to see demand growth, facts show that so far it is not the case because of long experienced economic hurdles and goals to cut energy demand.

Despite all, generation portfolio in Hungary is about to change significantly. A compelling part of the inbuilt capacity is about to be out-aged in the coming decades. There is no ideal power plant type to satisfy demands with decreasing supply – all power generators are described with one or more unfavourable or debatable parameters. Balance and optimal solutions in terms of technology thus becomes highly important to establish a sustainable electricity generation portfolio.

Considering modern electric power systems, the most important specifics are volume and controllability.

Marginal cost of production among renewable energy sources such as wind, water and solar is incremental. Also in most of the cases for system regulators, supply of the above producers is bought on a fixed price which all in all creates competitive advantage for investors of renewable energy sources.

The remarkable growth in renewable energy source supply may negatively affect the efficiency and competitiveness of the power generation portfolio as a whole besides can prevent further investments. Therefore, the excessive use of meteorology dependent renewable energy sources in the power generation portfolio can endanger the efficiency and security of electric power supply.

“Successful policies will build on an open dialogue regarding potential trade-offs among multiple goals, multiple time periods and multiple participants, involving representatives of the energy industry.”

Support

Renewable energy source investments are not yet competitive – except for a few examples; ergo constructions are to be supported. However, to choose the most effective supporting system, the goals are to be determined first. Members of the European Union (EU) have introduced different supporting schemes to reach the aimed percentage of renewable energy production.

Experiences show that during the initial phase of investments into renewable energy sources, the most effective supporting systems are the price-support based schemes, as feed-in-tariff. Such methods provide stability and well-overviewed market to investors on the long run. However, during later phases of renewable investments, quantity-restrictive supporting schemes show better impact, such as the green certificate scheme.

The most important parameter considering an investment decision is to have a transparent, long term regulatory environment. The scale of support and penetration of renewable energy sources are not correlated, even so, excessive support can be a hold back for investors. Frequent changes in regulations also decrease investor-trust which is a critical obstacle for successful construction projects. Further important point of view is the

simplicity and transparency of licensing which can highly affect willingness to invest.

“Transparency, consistency, clarity, and stability in regulatory regimes and policy creation, to enable companies to plan long-term, stable cash-flows.”

Development

The long term energy politics of the European Union aims to provide well-being for its citizens. It can be derived to several sub-notions which the EU would also like to support therefore, such as the appropriate operation of the economy, access to electric energy for both households and corporate consumers on reasonable prices and attention to environmental protection and sustainable growth in the meanwhile.

As of the above mentioned goals, the EU is committed to maintain the Europe 2020 strategy (20-20-20 initiative) which aims to reduce greenhouse gas emission by 20%, increase renewable energy sources to 20% (from 8.5%) and increase energy efficiency by 20% until 2020.

The EU has launched several actions to achieve the 20-plans. Integration of electricity markets, development of networks and establishing investment capital is in progress.

In harmony with the EU plans, the Hungarian energy policy is committed towards the significant use of renewable energy sources. Hungary aims to increase the share of renewables in the primary energy usage from the current 8% to 14.65% until 2020. Goals for Hungary are further described in the National Action Plan for Renewable Energy.

The study of WEC Hungarian Young Professionals in Energy brings opinion on the National Action Plan as well which is especially recommended to our readers.

WEC Hungarian Young Professionals in Energy

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