Levegő Munkacsoport

Hungarian Energy Policy

(An assessment[1])

Budapest, 3 November 2015

1. The energy situation in Hungary

Hungary's domestic primary energy consumption is around 1000 PJ/a, and it has been decreasing for the past decade. The drop between 2005 and 2014 amounts to 17%, explained by the restructuring of the economy, the worldwide economic crisis, and also the efforts to improve energy efficiency.

The dominant source of supply is natural gas with ca. 40% in the primary energy mix, followed by oil, nuclear, coal and others. The share of renewable energy is around 10%, while the target figure for 2020 is 14.65%.

Hungary is heavily dependent on energy imports. The gas dependency is close to 80%, and is increasing, because the domestic production decreases more rapidly than the demand. Similarly, the oil dependency is also high, 82-84%, and the domestic production is falling.

It is not only the import dependency, which causes vulnerability for Hungary, but also the unilateral character of it. The major part of the imports, and **practically all the gas originates from Russia**, even if a part of it is transported to Hungary through the European network. The safety of gas import is jeopardized by the political stresses between the main transit country Ukraine, and Russia. Hungary makes efforts to diversify the gas import, however, the geographical location of the country makes any efforts very expensive. The situation could be eased by European cooperation only. Unfortunately, the EU withdrew from the Nabucco gas pipeline project, and exposed political pressure on the participating Central and Eastern European (CEE) states to give up the competing South Stream Project, too. The EU referred to non-compliance with European competition and energy legislation. The relevant CEE member states find the EU's move unfair, because the same principles were not applied for the Nord Stream Project. Abandoning the construction of a gas pipeline, avoiding Ukraine on the South, maintains the exposure of the CEE countries to Ukraine, and to the geopolitical fights, which influence the situation in the Ukraine.

Regarding gas supply, there is no easy solution for Hungary. A deeper integration into the European gas network, and to LNG ports can help, but giving up the direct import from the East would cost much. Replacing gas with other energy carriers seems to be hopeless, at least in the medium term, as the penetration of gas is very high on the market. Gas is the only energy source for the vast majority of residential consumers, commercial and industrial facilities. Even the most of the district heating plants produce heat on the basis of gas.

[1] This assessment was commissioned by Stowarzyszenie Ekologiczne EKO-UNIA (www.eko-unia.org.pl)

The electrical capacity demand of Hungary is 5000-5500 MW. The summer demand is increasing due to the growing use of air-conditioning. Although domestic power generation capacity exist to cover this demand, the share of import is increasing because of the cheap power on the regional market. Within the domestic production mix, the Paks Nuclear Power Plant has a decisive role, giving 1800-2000 MW capacity, and ca. 40% of the consumed, and 60% of the produced energy. The second largest power plant is the Dunamenti Power Plant with ca. 1070 MW installed capacity. The utilization of this hydrocarbon fueled plant is, however, rather low, because its obsolete technology does not make competitive production possible. At the same time, the 800 MW lignite fired Mátra Power Plant operates close to its available capacity. The rest of production comes mostly from hydrocarbon fueled cogeneration plants, which supply heat for district heating schemes. Renewable power generators give 4-5% of total consumption. Within the ca. 800 MW renewable power capacity there is 320 MW wind, 360 MW biomass (including co-firing), 57 MW hydro, and 52 MW biogas. There is one waste fired plant with ca. 8 MW electric capacity.

2. The role of lignite

Within the Hungarian primary energy supply mix coal and lignite together represent around 13%, and within the domestic electricity supply it is nearly 20%. The share of coal within the category of "coal and lignite" is less than 10%, and with the ongoing retirement of the coal fired power plants, this share is decreasing further. Lignite fuels the Mátra Power Plant, which, with its 800 MW capacity and high utilization, is the second largest producer of electricity in Hungary. Mátra uses the vast majority of the 8 million ton/a lignite production. Lignite is present in the residential sector, too, because its price is lower than the price of the competing wood. Burning lignite in small non-professional combustion equipment causes extremely high local air pollution in many places. In 2013, Mátra used 8 million tons of lignite, and it sold 325.000 tons for residential heating (at the latter has been ever growing in the last two years). At the same time, due to the burning of lignite, in 2013, Mátra emitted 4087 tons of sulfur dioxide (thanks to the efficient filters), but the households emitted 9100 tons; Mátra emitted 154 tons of particulate matter, while it is estimated that households emitted between 975 and 1556 tons.

Most of the lignite is mined near the Mátra Power Plant in North-Eastern Hungary. Out of the ca. 4300 million ton lignite reserve of Hungary, 500 million ton is available in the Western part of the country, at Torony village. Initiatives to open a mine here and construct a power plant were stopped for environmental reasons. **Lignite shows up in the national energy strategy document as a strategic reserve** and continuation of lignite based power production is said to be important for maintaining the culture of mining and using coal.

3. How is the energy policy made in Hungary?

Hungary is a parliamentary republic, member of the European Union. The legislative power is exercised by the unicameral National Assembly, and the executive power by the Government. Hungary is, at least theoretically, a democratic state with competing political parties. However, **since the 2010 parliamentary elections, the Hungarian political arena is dominated by one conservative-rightist party called** Fidesz Hungarian Civic Alliance (), who gained two-thirds in the National Assembly, and then another two-thirds at the 2014 elections. During the past five years Fidesz occupied most of the political and administrative positions, including the presidency, the state organizations, the independent authorities, the constitutional court, and most of the municipalities. Within the course of elite change, Fidesz

is capturing the business positions, too. Hungary has become a centrally controlled state, where the political decisions are made by a small elite.

This is true for the making of energy policy, too. Theoretically, the nation's energy policy ought to be developed by the active participation of several stakeholders, including opposition parties, NGO's, trade unions, and the representatives of the energy industry. However, according to the present Hungarian practice, **the decisions are made by a small group of Fidesz persons**, who push them through the Government and the Parliament. The major decisions are made by Mr. Orbán, the prime minister and president of Fidesz.

4. Energy policy in the strategic documents

The Government regularly issues energy strategy documents. Most of them are made according to the expectations of the EU. Some of the documents:

- National Energy Strategy up to year 2030;
- National Renewable Energy Action Plan up to 2020;
- Hungary's National Energy Efficiency Plan;
- National Strategy for Building Energy;
- Energy Improvement Plan for the Transportation Sector;
- National Climate Change Strategy;
- District Heating Action Plan.

The main purpose of the Hungarian energy policy, according to the above documents, is **decreasing the energy dependence**. The following tools are foreseen to achieve this goal:

⇒ energy efficiency all along the whole energy chain;
⇒ increasing the share of low-carbon power production, based on renewables, and safe nuclear generation;
⇒ promoting renewable and alternative heat production;
⇒ increasing the share of low carbon transportation technologies, including electrification;
⇒ development of two-poled agriculture, which can switch flexibly between food and energy purpose biomass production;
⇒ integration into the European energy infrastructure.

The strategy documents do not find phasing out of fossil energies feasible in the foreseeable future.

Out of several potential scenarios the energy strategy opts for the Nuclear-Coal-Renewable one. It includes the development of nuclear generation capacity, the construction of a new coal power plant, and renewable energies according to the expectations of the EU. The most ambitious scenario identifies the achievable share of renewables in the electricity mix as 35% by 2050.

5. Energy policy in practice

In the practice, the most important characteristics of the Hungarian energy policy are

- the reduction of energy prices of household consumers at the expense of industrial consumers and energy companies;
- commitment for the development of nuclear capacity; and
- attack against energy companies owned by foreigners.

Reduction of household energy prices is used by the ruling party to gain votes. The reduction is achieved by administrative and regulatory measures. The reduction decreases the profitability of the energy companies. Some companies in the district heating sector can only continue operation with compensation from tax money. The reduction of end-use energy prices discourages the consumers to invest in energy efficiency and/or renewables.

In the field of nuclear power generation, the Hungarian Government signed a contract with Russia for the financing of a **2x1200 MW extension of the Paks Nuclear Power Plant**, which has now a 4x500 MW existing capacity. If the planned schedule is implemented, between 2025 and 2036 there will be an overlap between the old and new units, resulting in an overall nuclear capacity of 3000 to 4000 MW.

There is a huge debate about the necessity and timing of nuclear development, and about its financing. While studies are available for a nuclear-free future of Hungary, there are arguments according to which in a country, which is poor in practically all kinds of energy sources, replacement of the nuclear capacity would be very difficult. Regarding the timing of the project, the critics find it hasty. The extension decision was made, according to them, too early. Finally, the selection of Rosatom as supplier, and Russia as financier, adds to the dependence of Hungary on Russia in the field of energy supply.

The Hungarian Government applies a strategy **to worsen the environment of foreign energy companies**. Various new taxes and levies have been applied, while the incomes of the companies have been decreased in the course of household energy price reduction. The foreign energy companies are facing losses. Their reaction is cost saving; they stopped for example investments into new generation projects. More and more companies are withdrawing from the residential energy supply sector, letting it for the state. This is in line with the aspiration of the ruling political actor to nationalize the energy infrastructure. With the takeover of the loss-making residential market, the state will have to provide compensation for the sector from state budget.

6. Climate policy and energy transformation

Hungary develops its climate strategy according to the relevant EU expectations. The National Climate Change Strategy was published in 2008, and renewed in 2015. Some of the accompanying documents are the Domestic Decarbonization Road Map, the National Adaptation Strategy, the public awareness development plan “Partnership for the Climate”, the National Environment Protection Plan, and the National Sustainable Development Framework Plan. All these documents include positive statements and plans, such as improving energy efficiency, greening the economy, promoting renewables, and developing the awareness of the people. However, the strategy documents do not impose obligatory tasks on the executive bodies, unless action plans are worked out and implemented. The critics raise that the climate policies are not always harmonized horizontally with other policies, such as with the energy, environment, agricultural, economic, and financial ones.

I can summarize the climate policy and energy transformation issue in such a way, that Hungary develops and implements its policies according to its international obligations, without overdoing anything. The key measure for the decarbonization of the energy sector is the development of nuclear capacity. Renewable energies are present in the public political speaking, however, when it comes to realization, they are considered to be a burden, which Hungary cannot afford.

7. Allies and opponents of the country's energy transformation

The present Hungarian Government, which has an overwhelming role in forming the energy policy, does not find the energy transition a high priority. They argue that Hungary is a small country with negligible contribution to the global climate change, and that there are more burning challenges, such as the treatment of debts, the development of the economy, or the protection of the country from illegal migration. For the ruling political party, Fidesz, the number one priority is the maximization of votes, and maintaing their power on the long run. Spending money for the energy transition would take away resources from popular moves, and from satisfying the demands of the party elite.

The opposition parties call for the development of renewable energies, and for allocating more funds for energy efficiency. Some of them are fighting fiercely against the nuclear program, and try to convince the people that renewables and energy efficiency could replace nuclear capacities. Other parties criticize the government only for the way how the nuclear program is organized, and refer to corruption risk. They raise that there were no public discussions prior to the decision to select the Russians. The opposition parties are careful, at the same time, with the criticism of the household energy price reduction program, because of its strong popular character. As it is usual within the EU, the opposition parties act both in the Hungarian, and the European Parliament.

It is some NGO's, who work intensively for the energy transition. We can mention the Energy Club (www.energiaklub.hu), the Clean Air Action Group (www.levego.hu), the National Society of Conservationists (www.mtvsz.hu), Greenpeace Hungary, and the Hungarian Energy Efficiency Institute (www.mehi.hu). The life of citizen movements, especially environmental and human rights NGOs is rather difficult today in Hungary, as the ruling political force tends to identify them as enemies (they were declared by the prime minister as foreign agents). They do not accept alternative political or civil forces, and claim that there is no need for such alternative forces, once Fidesz has a strong representation in the parliament.

There are industry organizations, too, such as for wind energy (www.mszit.hu), solar energy (www.maszolar.hu; http://fft.szie.hu/mnt/frameset.htm; www.mnnsz.hu), biomass energy, or geothermal energy (www.mgte.hu). These organizations perform lobby efforts, but with hardly any success.

8. How do we see the future of the country's energy transformation

Hungary will not proceed rapidly with the energy transformation for the following reasons:

1. The country is not rich in renewable energy resources.
2. The Government has recently decided for the extension of the Paks Nuclear Power Plant. Renewable power generation capacities would create unwished competition for the nuclear power.
3. Heat is produced by the vast majority of end-users on the basis of natural gas. There is no affordable renewable alternative to replace gas. Solid fuel burning could replace gas in rural and suburban regions, however, it would cause a worsening of local air quality and contribute even more to climate change.
4. The present Government does not give high preference to climate mitigation. It complies with the EU expectations, but is careful not to overdo the tasks.

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