AMCHAM HUNGARY POSITION BRIEF No. VIII

ENERGY POLICY AS A PILLAR OF HUNGARIAN NATIONAL COMPETITIVENESS

March 2010

AmCham's Main Recommendations:

- Provide clear, consistent, transparent and independent regulation, separate from the execution of social policy and the political process
- Further unbundle energy markets to minimize cross-subsidization and increase market efficiency
- Promote energy efficiency in all sectors, including upgrading the public infrastructure to lower Hungary's energy footprint
- Financially support R&D and energy saving investments
- Further promote renewable and nuclear energy
- Encourage broad investment in the energy sector through private, not state – owned infrastructure
- Coordinate energy policy and key infrastructure and interconnectivity decisions with Hungary's regional neighbors

Executive Summary

It is AmCham's view that Hungary does not have a consistent energy policy evaluation framework that would enable policymakers and investors to correctly establish priorities and create a roadmap towards energy security. In the current situation, Hungarians on average, both consumer and industrial, pay relatively more for their energy while using it less efficiently than their Western European counterparts. This weakens Hungary's national competitiveness while simultaneously lowering consumer spending on non-energy categories. By reviewing leading manufacturing-oriented, energy-dependent countries, it shows that Hungary's problems are not a given. Germany uses less than half the amount of energy Hungary uses to create a single euro of GDP. Japan has an excellent evaluation, planning and policy mix that resulted in exemplary energy savings in the past three decades. The Hungarian government can take a number of actions in the domestic economy to improve this situation, as well as initiate better co-operation regionally.

First, there must be clear, consistent, transparent and independent regulation, fully separated from the execution of social policy and independent of the political process. Cross-subsidization should be minimized wherever possible, including subsidization of residential customers by industrial clients, district heating by electricity, and retail by grid tariffs. Specifically, the energy regulator – within a new, multi-sector public utility regulator or supported by a more independent Hungarian Energy Office – should operate independently from the political process of legislation, policy making, and must be neutral to ownership interests. This would attract investment in Hungary's energy value chain by leveling the playing field by ensuring fair competition.

Second, energy efficiency must be promoted at the industrial, consumer, and government levels. Subsidized and directed loans toward energy saving investments in critical areas should be provided and Hungary must lead by example, upgrading government-owned infrastructure to lower its energy footprint and generate savings. Private investments should be considered if the government lacks financial resources to pay for state-of-the-art, efficient and competitive infrastructure upgrades. This would benefit the energy sector as well as public and private energy consumers. Predictable and enforceable EU and post-Copenhagen climate policies should be applied, with a comprehensive quota allocation process that gives tangible incentives for energy efficiency.

Third, the government must enthusiastically embrace renewable and nuclear energy through bold, unchangeable and sustainable energy policy. Hungarian targets should be

AmCham Hungary's Energy and Environment Committee is a working group of AmCham companies and invited energy professionals in the fields of energy production, energy technology, industrial energy consumption, energy trade, mining and storage and related professional services. The Committee may be consulted through its chairperson, Dániel Antal via the amcham.hu website.

The AmCham Hungary Energy and Environment Committee wishes to express gratitude to the guest professionals of the committee, non-business organizations and AmCham companies who helped to form this Position Brief. The document was edited by Antal, Dániel (Visegrad Investments), Steve Corwell (AES Hungary) and Frank Klausz 3rd (A.T. Kearney) and adopted by the Board of AmCham Hungary.

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adjusted to meet or exceed those of Europe. Tax incentives should be increased to focus on R&D and investments, especially in potential Hungarian champions such as closed-loop biomass and geothermal. These, combined with incremental nuclear generation capacity and uranium mining, would improve Hungary's energy independence.

Bringing about these changes is not easy, but Hungary is not alone in its challenges, and must actively encourage its neighbors to promote consistent and effective regional energy solutions. AmCham Hungary and its members, in cooperation with other AmChams involved in the Regional Energy Forum, are prepared to support government to improve the competitiveness of Hungary, specifically in the area of energy policy reform.

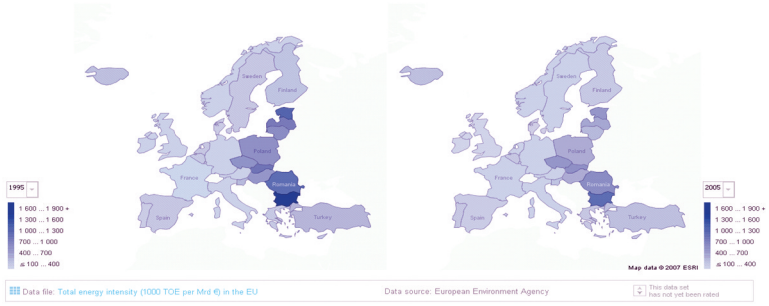
Current energy situation in Hungary

We are at a competitive disadvantage due to energy

In Hungary, we spend 16% more energy to produce a single euro of GDP than the European average, close to double the amount needed by European competitiveness champions such as Denmark and Ireland. This is consistent across the CEE region as a whole, which needs more energy to produce a single euro of domestic product than Northern, Western or Southern Europe. Since industrial production has a more significant role in the national economy in this region than in other parts of Europe, this results in a competitive disadvantage for Hungary businesses. While this regional disadvantage has moderated slightly between 1995 and 2005, these improvements have not significantly shielded Hungary and other CEE countries from rising energy costs and increasing competition on the world market. Moreover, due to cross-subsidization of residential energy consumers by business, households and the municipal sector have been partly cushioned from recent price increases, including a high VAT, inherently reducing overall motivation to save energy.

Depending upon business cycles and world market prices, Hungary spends up to 14% of its export income to pay for energy imports, while energy dependency has been rising since 2002.[1] The rise of energy prices accounted for a yearly € 4 billion loss in the current account deficit during the last period of growth which was not offset in efficiency gains in the economy.

Figure I. Total energy intensitites in the EU, 1995 and 2005 (European Enverionment Agency)

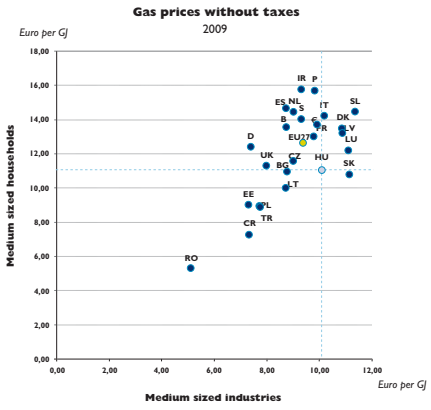


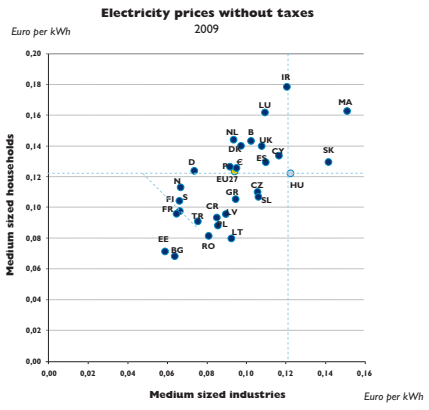
Many households suffer from "energy poverty"

Local weather conditions put further pressure on Hungary. The climate of Central- and Eastern Europe requires more heating in the winter and cooling in the summer than Western Europe. Heating is the most important driver of energy consumption in the household and public sectors. The cost of energy as a percentage of total income in Hungarian households leads to "energy poverty" in many cases, in other words, it is a risk factor that may lead to poverty. Families trapped in energy poverty cannot finance such installations that would decrease their energy consumption to an affordable level. Since residential energy saving pays off in a short period, low-income families should be targeted for assistance to finance the initial investments.

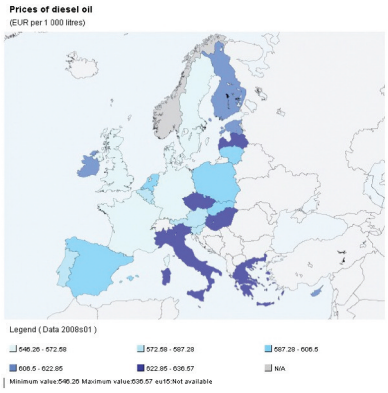
In Hungary, diesel prices are very high, industrial natural gas prices tend to be higher than our competitors', and while household electricity prices are generally on par with the whole EU, they are higher in industrial sectors than anywhere else with the exception of Slovakia and Malta. According to proprietary data of AmCham member companies, this data is consistent with the data shown on the official, public figures of Eurostat (shown below).

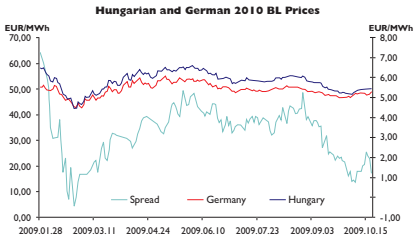
Figure 2. Prices of energy throughout Europe (EU Energy Monitor, Eurostat public data)





Energy prices are high





Key Recommendations

Independent and cost-based regulation

Hungarian energy regulation must have a definite and unwavering competitiveness mandate, with clear, consistent, transparent policies. The energy regulator needs to be fully separated from the execution of social policy and such consumer protection policies that are not directly connected with the setting and charging of energy prices or settling billing issues. Given that Hungary has yet to fully privatize its electricity production and delivery, and has a significant and direct influence on this through its ownership in the sector (a factor that limits Hungary's overall competitiveness), it is especially critical that the energy regulator be given complete freedom and the power to make fair and unbiased policy decisions. While Hungary, like most other nations, requires the strategic and surgical application of subsidies, government investments and social policies should be deployed independent of those who regulate the energy market.

Energy regulation should not be a tool for social policy

Hungary has not yet fully embraced the concept of the independent market regulator, a key institution of the market economies across the EU, the US and other developed OECD countries. In the past two decades no energy regulator has served out a full term in office. The independence of regulators, even though granted by EU law is not enforceable in any networked industries in the country. A constitutional guarantee for independent, fair, predictable regulation that serves the competitiveness of the national

The regulator must be independent

economy would send an immediate signal that new Hungarian government and its legislative majority embraces this independence in the spirit of competitiveness. Such measures should consider the modernization of the Act on Prices, further constitutional and governance changes to improve the independence of the energy regulator by the re-organization of the energy, railway, telecom, postal and water utility regulators into a Public Utilities Authority based on the best practice of the US, Germany, Slovakia, and Baltic States, possibly under the supervision of a non-political Public Utilities Commission.

Cross subsidization drives inefficient behavior

In addition to promoting regulatory independence, the temptation to cross-subsidize residential customers on the backs of business must be limited. Cross subsidization leads to a distortion in the market that drives inefficient behavior counter to Hungary's competitiveness. Consider the subsidization of consumer prices by industrial clients via inadequate universal service and natural gas price regulation. Artificially low energy prices leads to waste, inefficiency, and a relaxed approach to consumption, damaging the environment, while high energy prices reduces the competitiveness of industry, placing pressure on businesses to relocate to other CEE countries, displacing Hungarian employees.

Independent, cost-based regulation should permit subsidies only where absolutely necessary, for example, to encourage renewable energy investment. The current regulatory practice to promote the use of sustainable or green energy has however been diluted by subsidies given to gas-powered co-generation power plants in the current 'KÁT System'. This cross subsidizes district heating at the expense of greater renewable investment and causes higher electricity costs. By failing to make green investments more attractive, rather than stabilize the energy-related items of the current account balance, pressure is placed upon electricity prices, forcing them above those in Germany, a common benchmark for Hungarian industry.[ii] The 'KÁT' system is one example why subsidies must be re-written in order to solely promote truly sustainable energy targets. If district heating requires subsidization, it should be done directly and not at the expense of sustainable energy / electricity.

In addition to operating independent of politics and free from subsidies, regulation must be streamlined to reduce redundancy and conflicting rules. Price regulation must be based on providing investors an opportunity for a fair rate of return on prudently invested capital. Price caps should be limited to non-political, economics based adjustments, for instance, capping the grid tariff price so that it does not increase inflation in the energy sector and the national economy. Steps should be taken to make it easier to receive permits and speed the new connection process, where Hungary has the dubious distinction of being one of the slowest in the world.[iii] Moving to a more customer responsive approach by the government and greatly reducing bureaucracy would also be beneficial.

Stable legislation should address climate change

CO_2 quota as well as carbon offset regulations should be changed to be more market friendly and transparent. Hungary's energy policy needs to address the issues and challenges set forth by the EU Climate Change and Energy Package, including the implementation of the revised EU ETS regulation, mandatory CO_2 quota auctioning and the use of State revenues from the quota auctioning. A better quota regulation would lead to at least as good end results as discretionary quota allocations, with a lesser probability of selecting inefficient, high-cost producers, loss in competitiveness.

Given Hungary's increasingly spotty regulatory reputation , evidenced by its legal disputes with foreign investors, and its lack of separation form political interference, substantial changes are required to increase the level of confidence and credibility of the regulatory institutions above regional CEE competitors. Constant amendments to laws and regulations must be avoided in order to increase market players' trust in the regulatory environment. The role of ministerial regulations should be decreased in favor of higher level parliamentary energy legislation. Such changes will attract more FDI, and lead to better actions of its citizens. Moreover, consistent, predictable regulation, with enforcement, will increase the foresight in business and public budgetary planning, and also help energy companies to make favorable investment decisions with good financing, timing and planning opportunities.

Promoting Energy Investment

Investment in energy innovation is needed

Investment in the production, storage, transmission and transportation of energy and fuels, and also investments that reduce the demand for energy and promote renewable energy sources, should be broadly promoted. Such investments, from better insulation in a single window in a home to the replacement of an aging fossil power plant require reliable and affordable funding. Sustainable technologies deserve particular attention not only because of their higher technological, regulatory and financial risks, but also because the mandatory shift in the energy mix to meet the Europe 20-20-20 criteria. Meeting this criterion will likely create the biggest changes in the energy industry since the augmentation of coal with oil and natural gas. A transparent, reliable, long-term indicative plan for the replacement of aging generation with renewables while preserving the sanctity of long-term contracts is essential to managing risk. Wherever possible, energy investments should be encouraged by private investors and state owned infrastructure should only be encouraged where national security is paramount. In order to actively support the efficient deployment of investment, there are a number of areas deserving special attention:

A predictable government role would decrease risks and increase investment

- A clear, predictable and transparent energy policy and stable legal and regulatory environment will reduce risk premiums and reduce the price of debt for energy producers, traders and consumers.

- A national energy policy should clearly spell out the future role of the Hungarian state as an owner of essential energy facilities and other infrastructure. As a more transparent and predictable state owner of those investments that have national security interests, Hungary could become a less risky energy investment target and create a more friendly industrial business climate. The economic policy should explicitly allow for divestiture of public ownership when in the public interest; when lower prices, higher energy efficiency or less carbon emission would be better served by increased direct private investment.

More analysis and planning is required

- A transparent, market-driven government analysis and, based on this analysis, a indicative plan that drives policies to fairly encourage the replacement of existing power plants with new generation, especially in renewables, would be beneficial.

- Government initiated "mega-projects" that challenge the financial capacities of the Hungarian government, such as the newly planned Paks nuclear blocks, must be approached with caution, with full consideration given toward regional participation and a complete understanding of the ramifications to consumers and taxpayers.

- To reduce the overall risk profile of energy infrastructure, government energy installations must be appropriately insured so that consumers and taxpayers are not required to bail out uninsured and underinsured investments.

- Energy efficiency grants, subsidies and credit intended for the public must be affordable to all, especially those who are saddled with obsolete infrastructure and high energy prices. The existing schemes of EU granting scheme KEOP, the subsidized loan schemes MFFEE, EHA and the products of the Hungarian Development Banks should be more market-friendly and compatible with private borrowing from banks and savings cooperations.

The recent Hungarian business environment has resulted in postponed investments into the power generation and distribution infrastructure that may lead to a short-term energy shortage, while it is still possible that in the following decade the installation of unnecessary capacities might result in suboptimal value for money in both the public and private sector. The potential financial gains and losses are the greatest in the case of nuclear installations, where commitments are made for decades, and the unusually high level of initial investment only starts to pay off after approximately ten years. The above suggestions should help promote solutions to the possible short-term needs, as well as create a fertile yet balanced environment for long-term investments into the future.

Consumers are locked in a high price / high tax poverty trap

Energy efficiency

Wasted energy reduces the welfare and competitiveness of Hungary and its consumers. The current economic crisis has shown that many households are unable to meet Hungarian energy bills that can run as much as three times higher per square meter of residential space than in comparable Western European countries (and six times higher when adjusted for household income). The inability of many to pay their energy bills further increases the cost of serving Hungarian consumers.

Predictable regulation, especially in prices and profitability could help promote investments in energy efficiency by consumers, traders and producers, because the most important barrier is not the low return on such investment but the high level of uncertainty. Savings in energy consumption will also reduce overhead costs in most businesses which is an important source of improved competitiveness, particularly important during a global financial crisis.

Exceptionally high Hungarian VAT charged on energy and energy saving technology inhibits saving investments and locks in the Hungarian consumers to a high price/high tax poverty trap. In the short term, VAT may help balance the macro-finances of the government, but ultimately it places wages under inflationary pressure and leaves the utility industry with high, costly bad debts.

If VAT remains exceptionally high within the EU, a mechanism should be built that unlocks energy consumers from a high consumption-low energy efficiency poverty trap. Such measures may include favorable VAT treatment of energy saving investment in critical areas or subsidized loans that target low / middle income citizens.

Sustainable energy research can be a key innovation driver

Promoting Sustainable Energy

Sustainable energy is the provision of energy such that it meets the needs of the present without compromising the ability of future generations to meet their needs. This includes all renewable energy sources that can be feasibly deployed, and the use of nuclear energy. Sustainable energy is not only fundamental to meet the climate-change and environmental goals of the European Union, but it also can be an important driver of innovation in industry and agriculture. This is particularly important for landlocked Hungary where the population, infrastructure and agriculture industry suffers more from climate change than its European peers.[iv]

Green energy is in a heavy investment phase globally. While short term environmental benefits accrue immediately from green energy production, green energy investment can spawn far greater economic impacts for the longer term. These include intellectual properties connected to R&D as well as the production and installation of new production capacity that will be generating returns for decades. Hungary has notable energy producing potential that awaits further development, especially geothermic, biomass and biofuels, and to a lesser extent wind and solar. These sources cannot be exploited immediately. The hurdles of lower than desired temperature in the case of geothermic applications or the complex logistics of the biomass requires further business and technology innovation. Green energy is linked with the use and manufacturing of new carriers and applications, such as fuel cells, alternative car engines, and hydro turbines. Once new technologies are proven, the Hungarian manufacturing industry has all of the technological and human resources required to be a sizeable exporter of these technologies and participate in the green energy value chain in a meaningful way. Hungary only needs to lead by embracing EU renewable standards and providing consistent, incentive based policies that attracts and supports development of this intellectual capital.

Promoting locally produced green energy and related technologies can help relieve Hungary's current account imbalance by driving the export of green energy related industrial products and intellectual property. R&D in new technologies, like fuel-cell propulsion, would help to maintain the competitiveness of the Hungarian automotive industry, a main pillar of the economy. Promoting biomass-based energy and fuel production can increase the profitability of agricultural products and by-products, thus increasing the competitiveness of this sector in European and world markets.

Hungary must close the gap that divides the country from the rest of the EU in the elaboration and effective enforcement of 20-20-20 goals. This should include: 1. a better and more timely adoption of EU legislation, 2. setting credible targets and creating a method for enforcing them 3. developing more detailed timeframe for mandatory sustainable energy production and carbon dioxide emissions, and 4. ensuring a more transparent use of carbon offsets.

EU alignment, targets, and enforcement are key

R&D activity should be targeted immediately for technologies that need to be implemented by 2050, such as clean coal technologies and a wide diffusion of hydrogen. There is a clear need for more government support for energy R&D development, and CEE countries should try to pool resources in this respect.

Promoting sustainable energy should not compromise the competitiveness of existing power production units and should focus on meeting Hungary's sustainable energy targets. Safeguards and more transparency are needed to prevent government supports for seemingly green undertakings that do not generate sustainable energy.

Regional approach

Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia, and Ukraine have gone through profound and successful political, economic and institutional changes over the past two decades. The appropriate macro-economic conditions for regional cooperation in energy are in place and waiting to be unleashed. The Central and Eastern European (CEE) region has integrated into the world economy in a historically short time, and these countries have become very open and competitive industrial exporters.

Our neighbors have similar issues

The high proportion of manufacturing and chemical industries makes CEE economies more energy-intensive then their Western European peers. This energy intensity makes regional competitiveness very sensitive to energy and fuel prices and supply shocks. This effect is further magnified by one, the low energy efficiencies of the CEE countries and two, the fact that these countries are very much dependent on external sources.

Energy dependency shows the extent to which an economy relies upon imports in order to meet its energy needs. The depedence ration calculated by Eurostat puts Hungary's energy dependence at the 61.4 % value against the EU average value of 53.1%. In the short run, where natural gas use cannot be changed in the energy mix, all countries in the region show an even greater extent of dependency with respect to this fuel.[v]

The countries in the region should take a coordinated approach to a number of energy related issues, including but not limited to:

We should align policies and develop infrastructure

- Regional energy policy within the EU and beyond;
- Co-ordination of production capacity planning, building, permitting and price regulation;
- Initiatives that promote network interconnectivity in natural gas and electricity transmission in the CEE region;
- Initiatives aimed at harmonizing rules and regulations and creating a unified grid and tariff structure, a precondition to the creation of a free flow of energy and a common regional market;
- Further ownership unbundling of energy industry in order to stimulate greater market efficiency.

Energy regulatory frameworks and policies are key to promoting investments in the region and influencing corporate behavior. Further and continuous consultation among policy makers, regulators, and energy companies on a regional level is critical to ensuring regional and Hungarian competitiveness.

Footnotes

[i] Spending on energy and fuel import is 9.8% of the Hungarian export (163-month average), with yearly weighted average peaks of 13.7% (1996) and 12.8% (2008) and monthly peaks at 17.9% (1996) and 17.5% (2008), increasing the depth of the recessions in the business cycle. Data: MNB external trade statistics. Energy intensity calculated by Eurostat, Hungarian energy intensity is 7th highest in EU (400.76 kg oil equivalent per 1000 euro GDP, EU-27 average value is 168.39)

[ii] End-user electricity prices and charts are taken from Eurostat. Industrial prices for consumers with 500- 2000 MWh annual consumption: Hungarian prices are equal to EU-27 and higher than all CEE except for Romania and Slovakia. Residential prices are for households with 2500 -5000 kWh annual consumption:Hungary on par with the eurozone average and higher than all CEE except for Slovakia. Natural gas for industrial prices without taxes with annual consumption between 10 000-100 000 GJ: Hungarian prices are at EU-27 average and higher than all CEE except for Slovakia; for households with annual consumption between 20 and 200 GJ: Hungarian prices are lower than EU-27 and higher than V4 average. Wholesale electricity prices are higher than Leipzig exchange prices according to ELMÜ-ÉMÁSZ data.

[iii] According to World Bank's survey Getting Electricity, connecting a newly built warehouse with a 140 kVA connection, the Hungarian result, 252 days, is 12th worst among 140 economies worldwide.

[iv] According to the 100-year-data and research of OMSZ, the Hungarian official meteorology service, the average warming of the Hungarian climate is significant and higher than the world average, and the decline of rain- and snowfall is very significant. Abnormal temperatures are significantly more likely in last 30 years. Extreme heat and cold make heating and cooling consumption more likely, volatile and dry weather degrades land and threatens renewable biomass base.

[v] Energy dependency shows the extent to which an economy relies upon imports in order to meet its energy needs. The indicator is calculated as net imports divided by the sum of gross inland energy consumption plus bunkers by Eurostat. Hungary's energy dependence latest published value is 61.4 against the EU average value of 53.1.