

FINAL REPORT

Ad Hoc Twinning Project between the Estonian Competition Authority and the Commission for Regulation of Utilities of Ireland supported by ERRA

Study visit to Ireland

Background information

The Estonian Competition Authority (ECA) exercises supervision in the fields of competition, electricity, natural gas, district heating, postal services, public water supply and sewerage and railways. The Commission for Regulation of Utilities (CRU) is Ireland's independent energy and water regulator. Both authorities have a wide range of economic and consumer protection responsibilities in energy and water sectors and are active in regulating water and energy sectors in public interest.

The ECA as well as CRU consider international cooperation highly important and find bilateral cooperation an effective form of sharing knowhow. ECA and CRU are facing similar challenges and going through similar tendencies in regulated sectors and are therefore very motivated to engage in bilateral cooperation. Because of previous professional discussions and exploration of each other's practices, the two authorities have concluded that there is a lot to learn from each other. Therefore, the Estonian Competition Authority proposed the Irish Commission for the Regulation of Utilities to enhance bilateral cooperation by a study visit of the Estonian delegation to Dublin and the CRU kindly accepted the proposal.

Topics discussed

The project was designed to cover following topics:

- Price regulation of electricity and gas
- Price regulation in the water sector
- Integration and support scheme of renewables
- Market models in electricity and gas
- Digitalization of energy– including smart meters and smart services
- Cooperation between energy regulators and competition agencies.

The project partners were able to address all of the abovementioned topics including learning from each other regarding day-to-day activities. However, the partners mainly focused on finding solutions in the currently ongoing developments and aiming at the best practice in broader perspective. The Estonian Competition Authority has a significant experience in the development of smart grids and the vision of future of power Distribution System Operator's (DSO's). The ECA also shared experience about the Baltic electricity and gas market model. In the energy sector it is also vital to cooperate in the framework of energy regulators' associations CEER and ERRA. As the CRU is currently not a member of the ERRA, the ECA presented the advantages and the nature of the ERRA.

In addition to visiting the Irish Commission for the Regulation, the study visit included discussions and meetings with the Irish utility companies (electricity and gas Transmission System Operators, etc), Electricity Association of Ireland)

and the Irish Competition and Consumer Protection Commission.

Lessons learned

As ERRA's main objective is to increase exchange of information and experience among its members and to expand access to energy regulatory experience around the world, the project aimed at broadening the perspective and also gaining knowledge from outside the ERRA network for the purpose of sharing it within the network afterwards.

The concrete result of the project is improved knowledge in:

- a) Price regulation of electricity, gas and water networks
- b) Renewables integration
- c) Electricity and Gas Market design
- d) Cooperation between regulators, competition agencies, consumer protection agencies
- e) Ways to improve cooperation between ERRA and CEER

➤ **Price regulation**

The model used by the CRU is the incentive type of price regulation, including the efficiency factor K. The tariffs are set for the 5-years regulatory period. CRU as a regulator carries out an annual revenue review and adjustment. The current regulatory period started in 2015 and the final year of the regulatory period is 2019. CRU is already preparing for the next five years regulatory period. The number of regulated companies in the electricity and gas sector is rather limited, there are 4 companies under tariff regulation of CRU: electricity and gas TSO's and DSO's. What makes Ireland unique is that the whole territory is covered by a single gas and electricity DSO. Such an approach is challenging for countries with a high number of regulated utilities, like Estonia for example. The consolidation of small utilities could improve the overall efficiency of the regulated sectors.

In the water sector the development of price regulation is in the initial phase. Traditionally the water service was considered to be universal service provided by local authorities, where the costs were covered by the budgets of local communities. Currently, all assets are transferred from different municipalities to the centralised nation-wide water company and the cost based service has been initiated step by step. Still the water and sewage services are provided as non-profit services in Ireland.

During the meeting a special topic concerning the valuation of assets, especially in the water sector, where the assets are with extremely long technical lifetime, was discussed and analysed. According to CRU in this case the revaluation of the value of old (existing assets) is not reasonable, due to the fact that the revaluation could cause rapid increase of tariffs. Therefore, CRU uses the book value.

The regulators role in company's investment decisions was discussed in detail with CRU and the regulated utilities during the visit. CRU's approach is to approve the general investment programme for the 5-years regulatory period and to avoid the detailed regulation of specific investments. The decisions on specific technological solutions are made on company's level.

The specific topics discussed and lessons learned during the study visit, worth to study for all ERRA member states:

- Implementation of incentive type of price regulation, calculation of efficiency factor K in situation of a limited number of regulated companies. The detailed analysis of cost elements is the main tool used by the regulator. The benchmarking with UK companies was also used.
- Calculation of WACC for regulated companies and fixation for the whole regulatory period. The regulator does not adjust WACC on annual base.
- Annual review by the regulatory authority during the 5-years regulatory period and adjustments made by the regulator.
- Valuation of assets included in the regulatory asset base. The approach used by CRU especially for assets with extremely long life cycle could be used in other ERRA members as well.
- Regulation of investments. The method of CRU is to fix the investment program for the 5-years regulatory period and to avoid the detailed technical regulation of specific investments.
- Consolidation of small size utilities in order to improve the efficiency.

➤ **Electricity Networks and Power Market**

Ireland: synchronous system with Ireland and Northern Ireland. HVDC connection with Great Britain. Fuel sources: natural gas, wind, coal, peat. Rapid demand growth and large development and integration of renewable energy sources (RES). Ireland is the smallest synchronous system in EU, covering the power supply for 2 335 861 customers (2017) and total consumption was 25 993,4 GWh. The operation of a small synchronous system in conditions of growing generation from renewables is a big challenge for the system operator. Therefore, there are specialities on the Irish power market as well. The Irish electricity market is fully liberalised since 2011. There is a number of independent generators competing on the market. The specific in Ireland is the capacity bidding system, where the system operator is organising bidding for capacity. The capacity mechanism is with crucial importance taking into the account the fact of small synchronised system with increasing share of renewables. There is a lot of debate on European level on subjects of capacity auctions, but in small synchronised Iris system this approach is necessary to cover the security of the system.

The day-ahead bidding system is used for electricity. CRU and Irish Competition and Customer Protection Board have put specific emphasis on functioning of the retail market in electricity. There are 12 electricity suppliers, which is a very big number for a relatively small market. The market share of the incumbent supplier is close to 50%, which is a very good number, indicating the market developments. The customer's swishing rate is rather high 10% per annum. As mentioned before the encouraging of customers to be active in switching is in the focus of both regulatory and customer protection authorities.

The specific topics discussed and lessons learned during the study visit, worth to study for all ERRA member states:

- Organising functioning electricity market in a small synchronised system is a very important topic which could be a good example for ERRA members outside of EU. One of the main objectives of EU energy policy is the market integration and electricity markets coupling. The situation in a number of ERRA members is completely different, where the functioning electricity market should be organised in a specific country. Therefore the Irish model, including capacity market, day-ahead of energy market and strong competition on retail level, seems to be one of the best examples from EU.

➤ **Gas Networks**

Ireland: Gas Networks Ireland is the Transmission System Operator and Distribution System Operator in Ireland. It builds, operates, maintains and owns the gas network in Ireland. Gas Network extends to almost 680 000 customers and total consumption was 20,311 GWh (2017). Historically well connected to the UK gas market, prices depending on UK. The gas used in Ireland's power sector accounts for 52% of Ireland's electricity generation. Industrial/Commercial demand largely affected by the economy (data centre potential). Residential demand expected to remain stable. Ireland has been very successful in organising a well-functioning natural gas market. The number of retail companies is 9, which is a big number for a relatively small market. The highest market share of the supplier is 47%, which is a good indicator, taking into account that the liberalisation of the gas market started in 2014. Similar to the electricity the switching rate is 10% and both the energy and consumer protection regulator are prioritising the importance of switching. The future prognosis of natural gas demand are rather stable. Gas is important fuel for covering of electrical capacity. Since a number of houses are still using oil and peat for heating, the natural gas has an important role by replacing of those fossil fuels.

The specific topics discussed and lessons learned during the study visit, worth to study for all ERRA member states:

- Organising a well-functioning natural gas market in a relatively small country is a good example, which could be used in all ERRA members.

➤ **Public Water and Wastewater system**

The structure and the regulation of the water system is very different in Ireland and Estonia. For historical reasons, the current situation as well as challenges differ to great extent.

Ireland: water sector regulated since 2014. Irish Water is a monopoly. Domestic water charges through general taxation. Main concerns: impact of political decisions; funding; water quality; leakage; implementing excessive use charging etc.

Estonia: The water sector regulation is based on Rate of Return model, where the adjusted costs shall be covered and reasonable return on capital invested is included in the tariffs. There are different ownership models in Estonia, where companies are both in private and municipal ownership. All companies, regardless of their ownership are regulated in a similar manner. The big difference between Estonia and Ireland is the number of regulated companies. In Ireland all assets are concentrated to one single national company, in Estonia there are more than 70 different utilities.

The specific lessons learned during the study visit, worth to study for all ERRA member states.

- Valuation of asset and setting the RAB for water utilities. Since the assets of water utilities are with extremely long life time the asset valuation is a big challenge by starting the tariff regulation for water utilities. Using replacement cost method could cause significant increase in water tariffs. The historical book value was used by the definition of the value of RAB in Ireland, where the book value of existing assets plus new investments made are included in the RAB.

- Establishment of one national water company instead of a number of small municipal owned companies was used in Ireland. This enables to use the synergies of the integrated utility by reaching of higher efficiency.
- The non-profit service model could be an example for ERRA countries, where the water service is considered as a communal service and the privatisation of utilities is not in perspective.

➤ **Integration of Renewables**

Ireland: target is 16% total renewable energy by 2020. Majority of RES will be wind and solar. Level of renewables increasing, especially wind. Large capacity of installed RES, but current system limitations means their potential cannot be fully realised. The biggest challenge in Ireland is the balancing and operation, incl. frequency control in a small synchronised system with increasing amount of generation from renewables. The capacity mechanism is one of the key elements of operation of the Irish system.

The specific lessons learned during the study visit, worth to study for all ERRA member states.

- Since there are separate systems within ERRA countries, in both trading and synchronisation perspective, than the Iris model could be a good example for implementation of capacity mechanism and integration of renewables.

➤ **Smart metering**

In Ireland the Smart Meter Upgrade Project was first introduced in 2009, the first phase of the project was divided in three stages (2009-2016): trials and cost benefit analysis; high-level design and CBA Re-run: detailed design and final CBA.

The Phased Delivery of the Smart Meter Upgrade foresees three phases:

-Phase one (2019-2020)

DSO will start the rollout of smart meters (250 0000 meters) to customers upon request

-Phase two (2021-2022)

Rollout of additional 1M meters. Consumers will be provided with new products and empowered with new tools to make informed choices about their energy needs.

-Phase three (2023-2024)

Completion of rollout, more functionality added.

In Ireland a lot of emphasis is put on raising the awareness of the consumers addressing the issues of data privacy, health and costs.

In Estonia smart metering is relevant in the number of sectors – electricity, natural gas, district heating and water. Real progress has been made in the electricity sector. The deadline for each consumer to be equipped with a smart meter was 31.12.2016. For the gas sector, the legislation foresees the deadline to be 01.01.2020 for each consumer with annual consumption at least 750 m³ (8 MWh) to be equipped with a smart meter. There are no legislative requirements for district heating nor water sector, but decided by the undertaking. The main reasons for installing smart meters are: commercial

losses; comfort for consumers; demand side management; reliability and quality improvements; introduction of two component tariff system.

The smart metering project was initiated by the largest DSO in Estonia – Elektrilevi with a market share of 90%. All investment costs were included in the network tariff and all savings were taken into account by the regulator when fixing network tariffs. The project was actively started in 2011 and finished by 2016. The project resulted in 200 GWh (30%) of saved electricity losses and 3 million euros of saved operational costs per year.

Smart metering implementation was a political decision supported by the utilities and regulator. Project result depends on cost of capital and electricity price. Additional benefits of the project include smart demand side management, impact on network quality indicators and comfort for consumers.

It is the mutual understanding of CRU and ECA that the consumer concerns need to be addressed and benefits need to be explained to the customers.

The specific topics discussed and lessons learned during the study visit, worth to study for all ERRA member states;

Since smart metering is an important topic among the ERRA member states, both Irish and Estonian examples could be used. For countries with more step ways approach the Irish model is a good example, for countries seeking for rapid change and accelerated implementation of smart metering, the Estonian case could be used as an example.

Different ownership models

The state ownership is prevailing in electricity, gas and water sector in Ireland. The pros and cons of both state owned and privatised utilities models were addressed. The lesson learned from Irish model is, that the state owned companies, especially in electricity and gas can be efficiently managed. The companies are regulated similarly to private owned utilities. The Estonian model is very similar to Irish one, where a number of energy companies are state controlled, but regulated similarly with private owned companies. For those ERRA countries considering keeping the companies in state or municipal ownership, but implementing the regulation equally for private and public companies, both Estonian and Irish model could be good examples.

Possible impacts and other conclusions

The joint project was a unique example of cooperation between two Member States of the European Union. The Estonian Competition Authority and the Irish Commission for the Regulation of Utilities are members in different associations and EU institutions – CEER, ACER, and ERRA. It is important to highlight that this project incorporated all three types of the authorities, meaning this would create synergies between energy regulators, competition authorities and consumer protection agencies. Price regulation of different sectors: electricity, gas and water is one of the key subjects of the ERRA. Price regulation is valid despite the level of market opening or market integration. The Irish Commission for the Regulation of Utilities is one of the strongest in the European Union in implementing incentive type of price regulation. The knowhow acquired by the Estonian Competition Authority during the study visit may be well shared within the ERRA, including at the tariff working group.

Recommendations

It is important to carry out follow-up activities (sharing the knowledge in-house and within the ERRA Network; discussing further co-operation, etc. Dissemination of Irish and Estonian experience among ERRA members. As described above, a number of elements of Irish regulation could very well suit in ERRA countries.

For Reference, useful documents are available at:

Water Sector: https://www.cru.ie/document_group/economic-regulatory-framework-for-the-public-irish-water-services-sector/

Other: <https://www.cru.ie/professional/publications/>