

CONCEPT NOTE
for the Working Visit to Austria

20 – 24 January 2020

1. Background

The terms of reference for the implementation of the EU project for improving the functioning of electricity and gas markets in line with the EU requirements (hereinafter referred to as the Project) provides for improving the capacity of the Energy Market Regulation Authority (EMRA) by the development of new performance-based tariff calculation mechanisms, including a social tariff, based on European experience.

As part of this task, it is planned to conduct a study visit to one of the European countries, the purpose of which is to familiarize with European practice to learn from EU best practices that can be adapted to support improvement of performance-based tariff setting for transmission and distribution system operations at Turkish electricity and natural gas markets.

2. Objectives

Considering that the Project implements seven tasks, we suggest that the following topics be included in the program of the study trip:

- Analysis of tariff structure and performance-based tariff structure
- Tariff setting for transmission and distribution system operations

The 5-day study visit (excluding travel) will have its focus on regulators and other institutions working in relation to tariff setting and monitoring in the EU.

Austria is selected as a host country due to its relevance for Turkey, as follows:

Austria is an energy import dependent country, similar to Turkey. Moreover, both countries have the same performance indicators, namely SAIDI and SAIFI, even though Austria also monitors performance by looking into number of customers affected by interruptions longer than 8 hours. The incentive-based mechanism in Austria is price cap (both for electricity and natural gas), whereas it is revenue-based in Turkey. It is of interest to compare these two systems and to discuss the differences and communalities and exchange experiences on this. Moreover, Austria is in the process to start regulating from a TOTEX perspective for their tariff methodology. Turkey, has currently a CAPEX-OPEX approach and again it is of interest to compare and discuss these different approaches.

3. Implementation and Logistical arrangements

In accordance with the ToR for the Project the study visit should be 5-day long, excluding travel for 7 electricity and natural gas staff.

4. Expected Accomplishment

The working visit is intended to increase the capacity of a representative group composed of experts from EMRA. The study visit activities will be facilitated by the Team leader and the Project director.

The working visit will contribute to the implementation of the following project results:

Result 1: A methodology for performance-based tariff calculation is developed

Result 2: Energy market monitoring system of EMRA is improved

Result 3: EMRA's capacity to regulate the market through the use of performance-based tariff is enhanced

A result of the working visit, it is expected that the Turkish experts will be able to discuss, get direct hands-on experience, and learn important lessons from observing EU best practices for performance-based tariff structure for both gas and electricity.

Logistics of the whole working visit including transportation, international and in the hosting country, and hotel arrangements, assistance with visa procedure is undertaken by Human Dynamics managing office in Ankara.

Participants will be briefed by the Team Leader before the visit on issues related to the objective of the visit, expected results, agenda, suggested approach to the meetings, logistical arrangements, report and follow up.

The Working visit participants will be responsible for the preparation of a brief summary report on working visit results, lessons learnt and possibility for further follow-up activities. The report will be presented to their respective institutions and in the course of the post-working visit workshop which will be organised by the project for that purpose after the finalisation of working visit.

Preliminary Programme of the Working Visit

Day	Entity	Activity
Day 1. 19 th January	N/A	Travel from Ankara to Vienna
Day 2. Monday 20 th January	AFRY Vienna Technical Museum	- Visit AFRY office - Experts: Mr. Wolfgang - Natural Gas and Electricity exhibitions
Day 3. Tuesday 21 st January	HD Office Wien Energie	- Academic Expert: Dr. Garrett Davies - Visit to Wien Energie

Day 4. Wednesday 22 nd January	e-Control	- Visit to e-Control
Day 5. Thursday 23 rd January	e-Control	- Visit to e-Control
Day 6. Friday 24 th January	Austrian power grid	- Austrian power grid TSO
Day 7. Saturday 25 th January	N/A	Travel from Vienna to Ankara

5. Institutions

The follow institutions were identified to be the most important for the Project objective and results:

- **E-Control --> confirmed for two days**
- **Gas TSO --> declined due to lack of capacity**
- **Electricity TSO --> confirmed for one day**
- **Energy Ministry --> declined**
- **Academic on smart grids**
- **Kommunalkredit Public Consulting**
- **DAI HD in Austria --> confirmed**
- **Etc.**

5) Key issues to be discussed

T1.1 Delivering Tariff Structure Assessment and Recommendations Report for both electricity and natural gas sectors

(the draft information we have collected for electricity distribution is shown in tables)

- What is the current tariff methodology used in Austria?

	Tariff Methodology	Period	Main elements for Determining the Revenue Cap
Power, distribution	Price Cap	2014-2018 (5 years)	Efficiency scores and general productivity offset, network price index and expansion factors
Power, transmission	Cost+ regulation	Yearly	Costs of t-2, ex ante costs according to network development plan
Gas, distribution	Hybrid	2018-2022	Efficiency scores and general productivity offset, network price index and expansion factors, efficiency dependent WACC
Gas, transmission	Incentive regulation – price cap	4 years	Efficiency scores increase in WACC for taking full volume risk

- What are the key characteristics of the Regulatory Asset Base in Austria?

	Components of RAB	Regulatory asset value	RAB adjustments
Power, distribution	Intangible and fixed assets, book values	Historic cost approach	Expansion factor for investments during a regulatory period leads to changes of the regulatory cost base
Power, transmission	Intangible and fixed assets, book values and ex-ante determination of investments according to the network development plan	Historic cost approach	Non
Gas, distribution	Intangible and fixed assets, book values	Historic cost approach	RAB developments during a regulatory period are taken into account and lead to changes of the regulated cost base

- What is the rate of return used in Austria?

	Type of WACC	Determination of the rate of return on equity	Rate of return on equity before taxes	Use of rate of return
Power, distribution	Nominal WACC pre-taxes	$rE = (\text{nominal risk-free rate} + \text{levered Beta} \times \text{MRP}) / (1 - \text{tax rate})$	8.97% (nominal pre-tax, set in 2013)	WACC nominal pre-taxes * RAB (book values)
Power, transmission	Nominal WACC pre-taxes	$rE = (\text{nominal risk-free rate} + \text{levered Beta} \times \text{MRP}) / (1 - \text{tax rate})$	8,16% (nominal pre tax, set in 2017) $= (1,87\% + 0,85 \times 5\%) / (1 - 0,25)$	WACC nominal pre-taxes * RAB (book values)
Gas, distribution	Nominal WACC pre-taxes (equity share 40%, debt share 60%, beta transformation: Modigliani-Miller)	$rE = (\text{nominal risk-free rate} + \text{levered Beta} \times \text{MRP}) / (1 - \text{tax rate})$	8,16% (nominal pre tax, set in 2017, granted for the average efficient DSO) $= (1,87\% + 0,85 \times 5\%) / (1 - 0,25)$	WACC nominal pre-taxes * RAB (book values)

- What depreciation method is used in Austria?

	Depreciation Method	Depreciation Ratio	Consideration
Power, distribution	Straight line	Depending on asset type: lines 2-3%, transformers 4-5%, substations 4%	Depreciation of new investments during the regulatory period is a pass through. Depreciation of the base year is adjusted with an individual productivity offset
Power, transmission	Straight line	Depending on asset type: lines 2-3%, transformers 4-5%, substations 4%	Pass through
Gas, distribution	Straight line	Depending on asset type: lines 2-3%, transformers 4-5%, substations 4%	Pass through

- Which indicators are used for long and short interruptions?

	Long Interruption-Index	Long Interruption-Weighting	Short Interruption-Index
Power, distribution	SAIDI, SAIFI, ASIDI, ASIFI, CAIDI, (CML, ENS).	Weighted by both the transformer stations affected and by the number of customers.	MAIFI
Power, transmission	SAIDI, SAIFI, ASIDI, ASIFI, CAIDI, (CML, ENS).	Weighted by both the transformer stations affected and by the number of customers.	No specific indicator.

- What are the losses in the Austrian distribution and transmission network?
- How are the distribution tariffs determined for consumers?
- Can the performance-based tariff structure of Austria be used as a benchmark for Turkey?
- How is demand side flexibility managed in Austria?
- Which methodology is used for the design of electricity and gas tariffs?
- Which regulatory tools are used for managing costs and revenues?
- What are the roles and activities of the regulator?
- What is the structure and design of the LNG terminal tariffs?
- What is the structure and design of the electricity and gas transmission tariffs?
- What is the structure of the tariff of last resort?

T1.2 Delivering Data Requirements and Harmonization and Standardization of Data Report

- Identification of data requirements necessary for the proposed performance-based tariff structure.
- Guidelines for harmonization and standardization of the data coming from different sources to make them possible to be used in the tariff calculations.

T2.1 Market Monitoring Assessment and Recommendations Report

- Benchmarking market monitoring regulation
- Identify data requirements for monitoring
- Prepare guidelines for harmonization and standardization of data from different sources to monitor

T2.2 Delivering analysis of existing data management systems at e-Control

- Analyses and assessment of the scope and possibilities within the existing database systems that can be used for monitoring
- List the steps needed to improve usage of the existing data management system
- Recommendations for optimal use of the existing system in line with tariff methodology

T3: Incorporating incentive mechanism into tariff structure to enhance innovation capabilities of regulated entities

T4: Preparation of Smart Grid Road Map and Required Methodological Tariff Approaches

T5: Preparation of Vulnerable Consumers Action Plan and Social Tariff Methodology

T6: Preparation of Regulatory Measures and Tariff Structure for supplier of last resort (SoLR)

T7: Institutional capacity of e-Control for handling customer complaints and using the data on customer complaints in tariff calculations