

Open Electricity Market
VS
Security of Supply and Renewables
- Kosovo Case -

New Kosovo Electric Corporation

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Electricity Market in Kosovo

- **Virtual Market in regional aspect;**
- **Bilateral Market in national level, lack of competition;**
- **Small and illiquid Market;**
- **Lack of generation capacity and diversity;**
- **Existing generation capacities – old and inflexible;**
- **Lack of reserve capacities;**
- **Well developed and interconnected transmission system;**
- **Import dependency;**
- **Obstacles in regional integration.**

Restructuring of electricity sector

EU Directives (packages)

1997- First Package

- Unbundling of VIC

1999 - 2006 KEK comprised:

- Mines;
- Generation;
- Transmission;
- Distribution;
- Supply.

2003 – Second Package

- Access to the grid;
- New capacities;
- Continue unbundling;
- New trade mechanisms and rules.

- 2004 – Primary Energy Legislation adopted;
- 2010 – Leg. Review;
- 2004 – ERO establish.;
- 2004 - Establishment of Ministry for energy;
- 2006 – TSO establish.;
- 2013 – Privat. of Distrib.
- 2015 – Privat.of Supply.

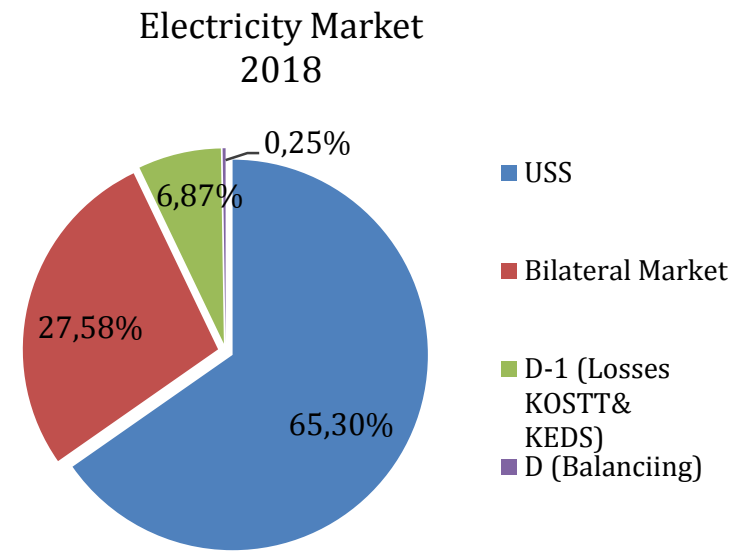
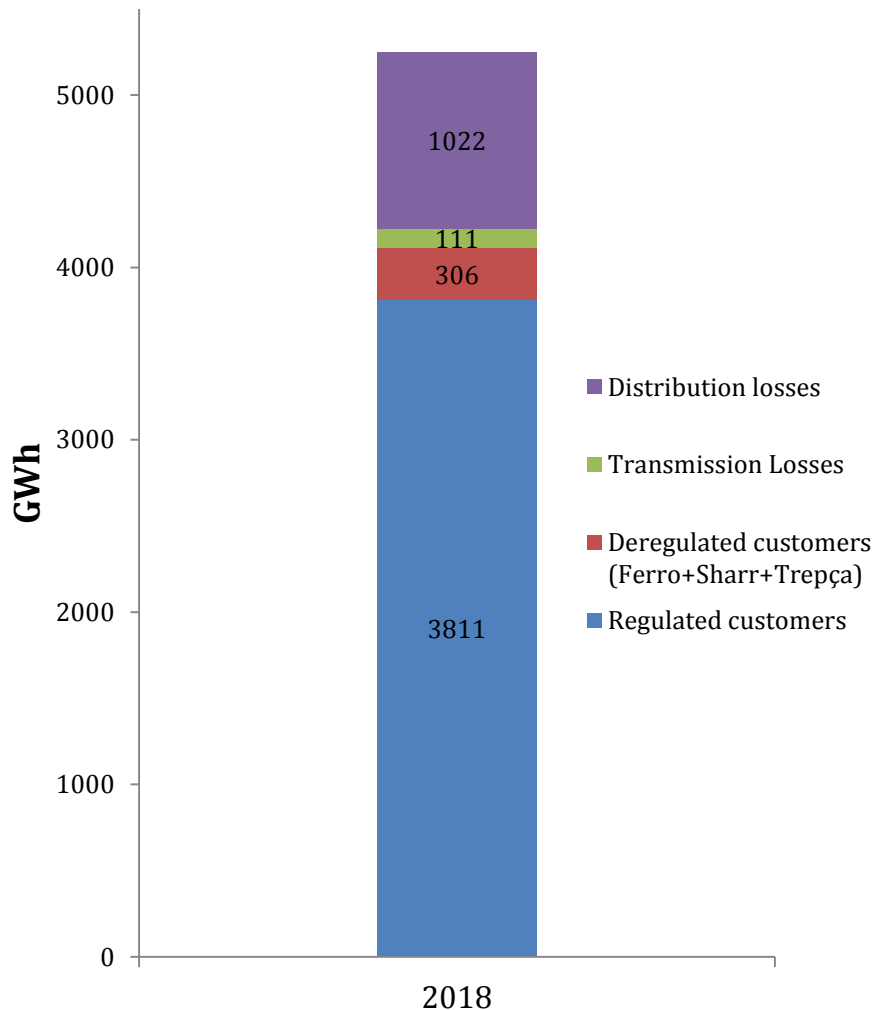
Unbundling completed!

2009 – Third Package:

- Ownership unbundling;
- Independent regulators;
- ACER establishment;
- Cross border coordination – grid code;
- Retail Market Opening.

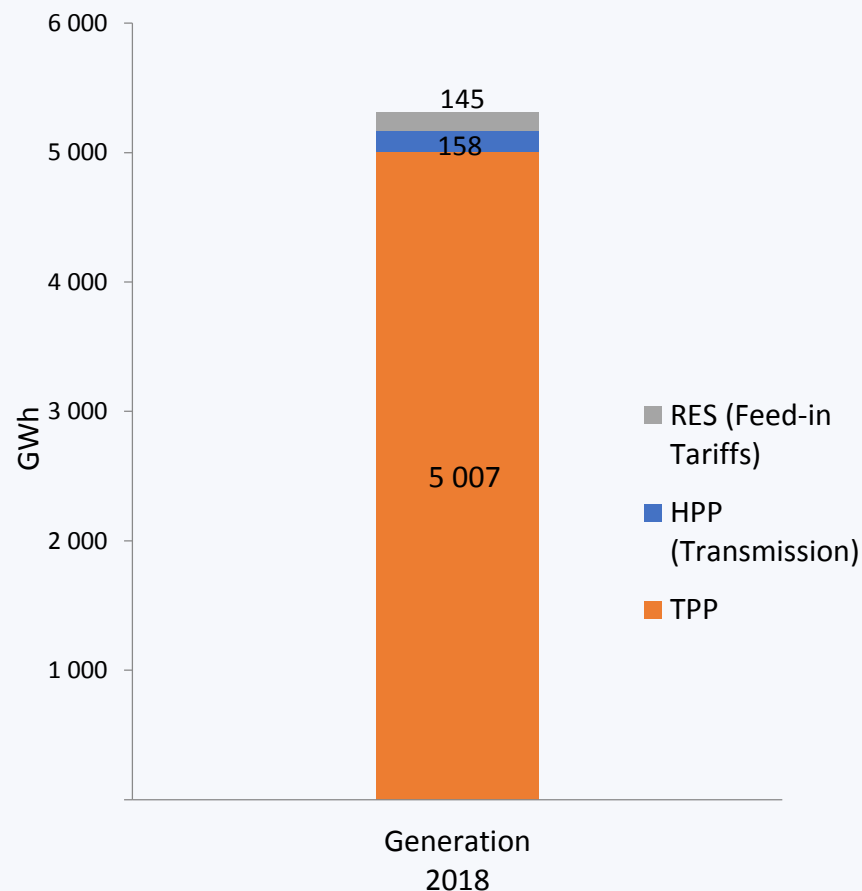
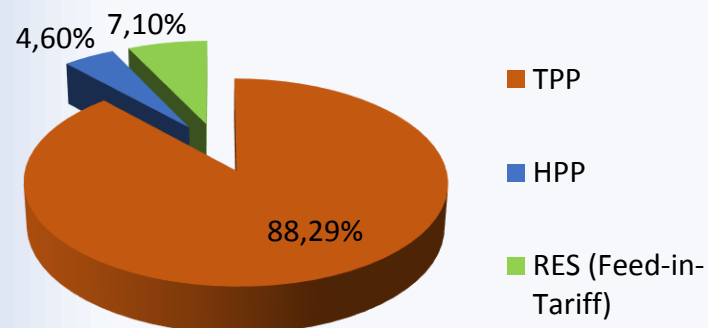
- 2016 - Primary Energy Legislation ;
- Ownership unbundling;
- Licensing of KOSTT;
- April 2017 – wholesale market deregulation;
- Retail market deregulation (customers connected HV);
- July 2017 - Balancing mechanism;
- RES Fund – Support schemes:
- 8 new suppliers licensed.
- Day-a-head market;
- REM market as per WB6-initiative.

Size of Electricity Market in 2018



Electricity generation profile in Kosovo

Net capacity generation profile (2019)
 [%]



RES Integration

RES on Supporting Scheme

RES under Regulatory Framework

Right to obtain certificate of origin issued by ERO;
Priority on examining the application for connection on a system;
Right on priority dispatch;
D-1 Nomination and the right of nomination every 3 hours before real time.

- Right on feed in tariffs and PPA with MO (10 to 12 years);
 - Responsible for 25% e total costs of imbalances (except RES < 0.5MW);
 - Any future change in feed in tariffs not to affect RES under supporting scheme
- Right on PPA with MO through the referent price set up every year by ERO;
 - Responsible for their costs of imbalances (except RES < 0.5MW);

Security of Supply Concerns

Kosovo has longstanding and serious security of supply concerns
Kosovo's main power generation comes from Kosovo A and Kosovo B with a combined operating capacity around 900 MW

- Kosovo B is in dire need of rehabilitation that cannot begin until new capacity is constructed,
- Kosovo A is in poor condition and is one of the most polluting plants in Europe and is intended to be closed once a new generation capacity is in place

ERO predicts that demand for electricity will continue to grow.
In 20 years from 2000 to 2020 the demand doubled from - 2,900GWh to 6000GWh.

There is no source of capacity that can meet Kosovo's energy security needs

Kosovo

Meeting energy demand

The first strategic objective of the Energy Strategy is:

1. Security of a sustainable, high-quality, safe and reliable electricity supply with adequate capacities for stable SO.

The measure to meet Objective 1 is:

Construct the new coal fired PP in accordance with environmental criteria set in the IED and co-generation use

Other measures to meet the overall Objectives are in direction of RES integration, loss reduction, further market oriented policy etc.

Basic technical data for Kosovo Power Plants

Power Plant	Installed Capacity (MW)			Commissioned
	Gross	Net	Operating (Min/Max)	
Kosovo A	To be decommissioned			
5 units	800	621	300/395	1962-1975
Kosovo B	Cogeneration from 2015 with 2x70 MWth			
2 Units	678	618	360/520	1983-1984
Kosova Re PP	Cogeneration ready / CC ready			
1 Unit	500	460		2023

Kosova A – to be decommissioned by 2023

Kosova B – to be rehabilitated life time ext. till 2040

Kosova Re – to replace Kosova A.

International Support (1)

“Based on specific market and financial conditions of Kosovo as well as the environmental and security of supply concerns present in the country, the long-term agreement remains the only financially affordable solution for the country to go ahead with the transactions and thus the least restrictive measure in terms of competition.”

Deputy Director General of the Directorate-General
for Energy of the European Commission, 2010

International Support (2)

Štefan Füle

Member of the European Commission
 Enlargement and European Neighbourhood Policy

Günther Oettinger

Member of the European Commission
 Energy

Laura Tuck

Vice President
 Europe and Central Asia Region
 The World Bank
 Washington, D.C. 20433
 USA

Brussels, 4 April 2014

Ares (2014)

Dear Ms Tuck, *respekti nga Viteprishdite!*

Thank you for your letter dated 5 March on your preparations for the New Kosovo Power Plant.

The Commission has always viewed World Bank involvement, including financing from the World Bank group, as the best guarantee that the project respects the highest possible standards for a lignite-burning thermal power station.

We also appreciate the efforts that you have made to apply this commitment in practice, bearing in mind the particularities of the New Kosovo (Kosovo e Re) project.

Based on the recent commitments established under the Energy Community, the new power plant will have to meet the emission limit values set out in the Industrial Emissions Directive (IED), in Part 2 of Annex V.

As regards the plant's efficiency levels, we concur with you that Best Available Technique (BAT) need to be applied, although it is less obvious from the available reference documents which levels would correspond to BAT for a lignite-burning plant with units of 300 MW_{el}. For this reason, we support the work that you have carried out in the Vatenfall Report entitled 'Evaluation of Technical Requirements for the Kosovo e Re Project' to determine the minimum level of net efficiency that the New Kosovo power plant will have to apply.

We can confirm the Commission's support for the recommendations of this report to require in the technical specifications that the abovementioned emission limit values from the IED are met and that a net plant efficiency of at least 37% is achieved. These recommendations are also confirmed in the second RWE study, commissioned by the Kosovo Government.

You should also take into account the ongoing revision of the Large Combustion Plant BAT Reference Document, keeping in mind that its conclusions are not yet finalised.

Finally we would recommend that, in line with the new WB and EBRD energy lending strategies to restrict lending to coal plants to exceptional cases, the new plant design be compliant with Art. 33 of the Carbon Capture and Storage Directive and that a decision on its financing be based on a robust financial and economic assessment and full Environmental and Social appraisal, including the integration of carbon emission externalities.

We hope that this letter can help to launch the Request for Proposals with a minimum net plant efficiency level of 37% as soon as possible.

Yours sincerely,




We hope that this letter can help to launch the RFP with a minimum net plant efficiency level at 37% as soon as possible



Kosova e Re PP - Milestones

2006 – Call for expression of interest

2014 – Request for proposal

2015 – Preferred Bidder selected

2017 – Commercial Close

2018 – Procurement of EPC/LTM contractor

2020 – Financial Close / Site Transfer Date

2020 – Construction Start Date

2023 – Commercial Operation Date

2043 – Transfer of PP ownership to GoK



Kosova e Re PP – Technical Parameters

Installed Capacity:	500MW _(gross) /450 MW _(net)
Net Plant efficiency:	=>42%
Availability factor:	=> 90%
Co-generation ready:	10% of el. capacity, >200MW _(th)
Designed life time:	40 years
Environment protection:	IED BAT / BREF
Carbon Capture Ready:	dedicated space on site
Grid connection:	KOSTT (Kosova B)
Main fuel:	Lignite (Sibovci mine)

GoK recognized the need for additional generation to meet long-term SoS concerns

Public Service Obligation (PSO)

- **ERO will impose a PSO on Kosovo suppliers to collect an Energy Security Charge from end-use customers**
- **Energy Security Charge will be set at an amount sufficient to cover the costs payable to GenCo for providing the energy to meet the SoS requirements**
- **The Energy Security Charge is modeled on the same structure for which KOSTT currently collects the costs of renewables**
- **The mechanism ensures that the capacity charge paid to GenCo is socialized among all wholesale buyers**



General information on KRPP Transaction

- **Launched by GoK as a part of Public-Private Partnership with international support**
- **KRPP is 450MW lignite-fired PP to be built by US private entity (GenCo)**
- **KRPP to be commissioned approximately by 2023**
- **Commercial Agreements signed by field entities like lignite, water, transmission**
- **Implementation Agreement signed by GoK**
- **20 year PPA signed between GoK Publicly-Owned Entity (NKEC) formed for this purpose and GenCo**
- **NKEC as per PPA act as off-taker of 100% of capacity and energy on an exclusive bases**

b

Commercial Aspects

Availability payment represents a fixed cost (including GenCo RoR and cost of capital)

Energy Payment represents fuel and variable costs (GenCo makes no profit on this), as such it is expected to be very competitive in the region and certainly domestically as it will consume far less lignite than other PP

Availability payment due to GenCo will vary significantly month-to-month

Availability payment will be high in the beginning and decline in latter years (mostly due to debt payoff)

All amounts are payable monthly in arrears (30 days after end of each month)

Key Principles

- 1. Availability payment secured through LT PPA – enables the financing of the project**
- 2. Availability payment risk and responsibility imposed to all customers through a SoS Charge imposed by ERO**
- 3. End-use-customers who pay for capacity should be able to benefit from it by having the right to use that capacity**
- 4. Full transparency toward all suppliers – capacity available for all up to their market shares**
- 5. Suppliers takes only the risk they can manage and should not be exposed if their market shares decline**
- 6. Eventual benefits from excess energy sold in the market should go to (i) customers by reducing their availability payment next tariff period and, (ii) NKEC to maintain negative cash flow if any**

NKEC – Regulated Wholesale Customer/Trader

Government of Republic of Kosovo

TSO (KOSTT)

Confidentiality Agreement

Coordination
Forecast info.
Settlement Info.
Confidentiality

- POE not-for-profit entity
- Independent from KOSTT (avoid conflict of interest in dispatch)
- Carry financial risk
- Regulated SoS Charge - ERO
- Need for seed funding
- Need for working capital
- Need License – right to trade/sell, including export of excesses
- Accede to market rules - serve as the 'generator' for purposes of the market rules

Pricing

The Government is entitled to exit the project without prejudice should the expected Availability Payment and Energy Payment exceed €80/MWh over the first 20 years of the Project

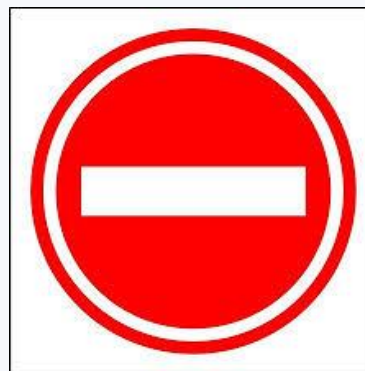
- The average 40-year price is expected to be approx. €55/MWh, which is less than the Secretariat has projected for comparable supplies in this period
- Ratepayers get the vast majority of all rate reductions and benefit from all market upside

State Aid

The Kosova e Re Project is not subject to state aid laws in Kosovo, and even if it were there is no incompatible or prohibited state aid

GOK has not provided and does not intend to provide in the future any state aid for KRPP that is incompatible with the proper functioning of the common market or otherwise in violation of Kosovo's obligations under the Energy Community Treaty

Questions?



Thank You !

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