



# Modernisation and Reconstruction of Termoelektrarna Šoštanj Power Plant



## Non Technical Summary

October 2009

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## 1 Introduction

Termoelektrarna Šoštanj d.o.o. (TEŠ), a thermal generation Company owned by Holding Slovenske Elektrarne d.o.o. (HSE), the largest Slovenian organisation in the area of power generation, is undertaking a modernisation program aimed at meeting Slovenia's future energy demands in compliance with European Union environmental standards.

The modernisation process is focused on the replacement of existing low efficiency units with a new state-of-the art Unit 6, constructed within the boundaries of the existing power plant.

TES is currently comprised of four generation units and two gas turbines:

Unit	Power (MW)	Start date
Unit 1	30	1956
Unit 3	75	1960
Unit 4	275	1972
Unit 5	345	1977
Gas Turbine 1	42	2008
Gas Turbine 2	42	2008

Note: Unit 2, operating since 1956, was closed at the end of 2008.

The planned modernisation and replacement of the existing units with a new state-of-the-art unit will enable the power plant to achieve and sustain compliance with requirements for EU Best Available Techniques (BAT) while increasing efficiency in electricity generation, allowing for improved environmental conditions for Šaleska Valley.

Furthermore, the proposed investment will enable TEŠ Power plant to meet future environmental requirements as set out in the draft EU Industrial Emissions Directive (IED), which is expected to be implemented in the EU by 2012, replacing the existing Large Combustion Plan Directive and the Integrated Pollution and Prevention Directive.

This Non Technical Summary (NTS) presents key elements of the project in order to allow all stakeholders involved to understand the planned investments and their impacts on both the Company's operations and the neighbouring community.

## 2 TEŠ (Termoelektrarna Šoštanj d.o.o.)

Termoelektrarna Šoštanj d.o.o. (TEŠ) is a limited company entirely owned by Holding Slovenske Elektrarne d.o.o. (HSE). TEŠ is located in the municipality of Soštanj, in the Šaleška Valley, approximately 80km north-west of Ljubljana.



Figure 1: TEŠ location

TEŠ began its operations in 1956. Today, with a total installed capacity of 809 MW and a yearly average production of 3,680 GWh, TEŠ produces approximately one third of the electricity demands of Slovenia, providing energy to a large part of the Šaleška Valley.

TEŠ's aim is to *maintain the position of the biggest power supplier in Slovenia, delivering customers reliable, safe, competitive and environmentally friendly power and heat.*

TEŠ Power Plant runs an Environmental Management System certified in accordance with ISO 14001:2004 requirements, integrated with a Quality Management System certified under ISO 9001:2008 and a Health and Safety Management System certified by OHSAS 18001:2007.

## 3 The Modernisation Project

TEŠ Thermal Power Plant represents a significant pillar of electricity production in Slovenia: this important role should be maintained and strengthened, which can currently be achieved only with a comprehensive modernisation program and a timely realisation of the planned investments.

The strategic plan for development of TEŠ comprises the replacement of units 1-3 and part of unit 4 (which will remain as cold reserve) with a new 600 MWe unit: Unit 6. The project will substantially decrease environmental pollution levels, improve quality output and energy efficiency and allow the plant to achieve compliance with international standards of Best Available Techniques (BAT).

### 3.1 Why is TEŠ replacing units 1-3 and constructing a new unit?

The Republic of Slovenia is required to reduce carbon emissions under the Kyoto Protocol as well as to fully transpose and implement European Union requirements. Consequently, a 9% reduction of

carbon emissions target has been set for thermal energy production, notably stricter than the average national reduction requirement of 8%. In view of increasing electricity demands, fulfilment of this requirement will represent a significant challenge, with considerable improvements in energy efficiency to be made in existing energy generation assets.

In line with international obligations TEŠ intends to replace existing units with Unit 6 in order to increase electricity generation using domestic coal through the use of state-of-the-art technologies, ensuring reduced air and carbon emissions per MWhe.

The existing units 1-2-3 at TEŠ are reaching their operational life, with current low efficiency levels. Due to the technology employed, the upgrade of such units is not cost effective, hence the decision to upgrade and modernise Unit 5 and add Unit 6 to replace units 1-4. The investment will allow for the reduction of CO<sub>2</sub> specific emissions per unit of generated electricity.

### The Goals of Unit 6

-  to enhance power generation while maintaining the planned consumption of coal
-  to achieve compliance with the Kyoto protocol commitments
-  to reduce specific CO<sub>2</sub> emissions
-  to reduce electric power generation costs, and thereby, secure the future economic viability for the power sector in the Šaleška dolina valley

The modernisation of TEŠ and the construction of a larger more efficient Unit 6 will also allow HSE to meet future higher electricity demands in Slovenia. Without such unit or other significant investments and renovation works, TEŠ would be forced to close its operations after 2025, with a significant reduction of power generation by 2017. TEŠ closure would also result in the closure of Velenje coal mine with important social and economic impacts for the area.

### 3.2 What is Unit 6?

Unit 6 will be a new thermal power unit with a capacity of 600 MWe built within the existing TEŠ power plant. Pictures below show how TEŠ will look in 2014, after the construction of Unit 6 is completed. Unit 6 will be built inside the current boundaries of the Power Plant, occupying the area where the cooling towers of Units 1-2-3 currently stand.

2009



2014



2009



2014



Unit 6 will be fed with lignite coal supplied by the nearby Premogovnik Velenje (PV) coal mine – Premogovnik Velenje (PV): lignite coal will be brought to unit 6 through the existing conveyor systems of Units 1-4, which will be rearranged and its capacity increased. Premogovnik Velenje coal mine shares ownership with HSE group.

Premogovnik Velenje coal mine has been operating for 130 years and its coal basin covers an area of about 21 km<sup>2</sup>. According to the contract in force between the two companies, Premogovnik Velenje coal mine is committed to supply lignite to TEŠ Power Plant.



Figure 2: Premogovnik Velenje coal mine overview

Unit 6 will be connected to Slovenian national grid through a 400 kV power line. The transmission system operator Elektro Slovenije I.t.d. (ELES) provides transmission capacity between TEŠ and the Šoštanj transformer station in 400/220/110 kV, where the production is included into the electric power transmission grid.



Figure 3: Electric power transmission grid in Slovenia

The existing transfer capacity allows the evacuation of all electricity produced by TEŠ. However, a reconstruction of the existing DV 220 kV Šoštanj - Podlog transmission line, and its replacement with a 400 kV line is planned, as the existing 220 kV transmission grid in Slovenia will be abandoned in the future. The planned intervention is a rational technical solution to meet requirements set by Slovenian Government for electricity transmission networks. The planned modernisation will also have energy efficiency gains.

### 3.3 How will Unit 6 work and what technology will be employed?

Unit 6 will be endowed with **Pulverized Coal Combustion (PCC)** technology, utilizing steam at ultra-supercritical parameters. A scheme of PCC technology is shown in Figure no. 1.

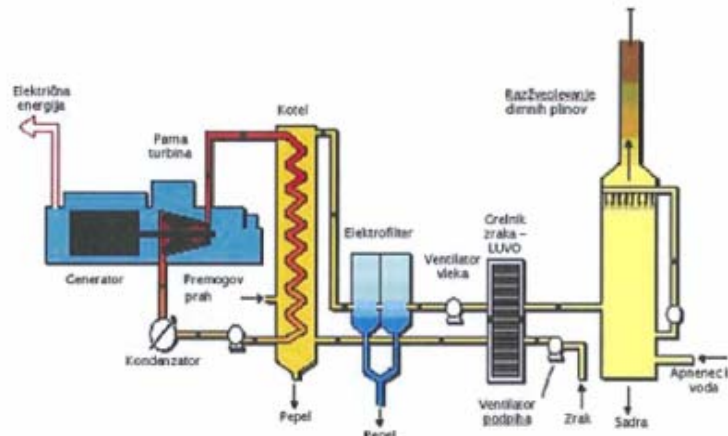


Figure 4: The principal scheme of PCC technology

PCC was selected after an evaluation of different technological alternatives such as fluidised bed combustion (FBC) and integrated gasification combined cycle (IGCC). A PCC plant, in particular with the ultra supercritical fresh steam parameters such as TEŠ Unit 6, offers high efficiency and low air emissions.

The efficiency of the plant can be described as the ratio of electrical energy output over the fuel energy input; therefore high efficiency means higher electric energy produced by the same coal quantity consumption, with less air emissions per unit (KWh) of produced electricity.

Unit 6 will have an efficiency of 43%. Most of the large conventional power plants have efficiency rates unlikely to exceed 32%, especially in older plants. Air emissions from Unit 6 will be in compliance with EU directive 2001/80/EC Directive of the European parliament and the Council of the limitation of emission of certain pollutants into air from large combustion plants. The Unit will also comply with the limits set by the new European Directive on Industrial Emissions (IED).

Design and equipment for Unit 6 will be supplied by Alstom, a leading international power plant supplier. The construction of Unit 6 will be undertaken on the basis of an Engineering, Procurement and Construction contract. The main goal of a thermal power plant is to convert the energy present in raw fuel into useful electric energy made available for industrial, business and energy uses. Thermal power plant operation can be briefly summarized in two steps:

**1) Conversion of fuel energy into heat** - The lignite coal is pulverised into a fine powder that is blown into the furnace of the steam generator (steam boiler) through a series of burner nozzles, together with part of the combustion air; secondary air for combustion is additionally blown in, and the so-called "staged combustion", with combustion air injection in several stages, is increasingly being used with the purpose of reducing NO<sub>x</sub> emissions. The fuel is burnt in order to generate heat. The heat is initially transferred to water in order to produce steam; the higher the furnace temperature, the faster the steam production is. The saturated steam is superheated to higher temperatures to achieve higher efficiency of process.

**2) Conversion of heat into electricity** - Superheated steam is led into the steam turbine, where it expands. The steam turbine is a rotating piece of machinery which converts heat energy of stem into mechanical work. Mechanical work exploits an electric generator to produce electricity.



Partly expanded steam is led into the steam generator to be superheated again to increase the efficiency of the process. After that the steam expands through the steam turbine, increasing the power on the generator shaft and hence resulting in an electrical output. Inside a condensing steam turbine, the steam expands below the atmospheric pressure and then condenses, while heating the cooling water in a condenser. Cooling water is used to take the heat out of the steam after expansion in the steam turbine and condense it back into water before sending it back to the steam boiler. To remove heat from the cooling water, a cooling tower is used. Cooling water continually passes through the steam turbine condenser and returns to the cooling towers by a closed circuit.

The cooling tower of Unit 6 will also be used to discharge treated flue gases, instead of a traditional stack, as shown in the picture below.

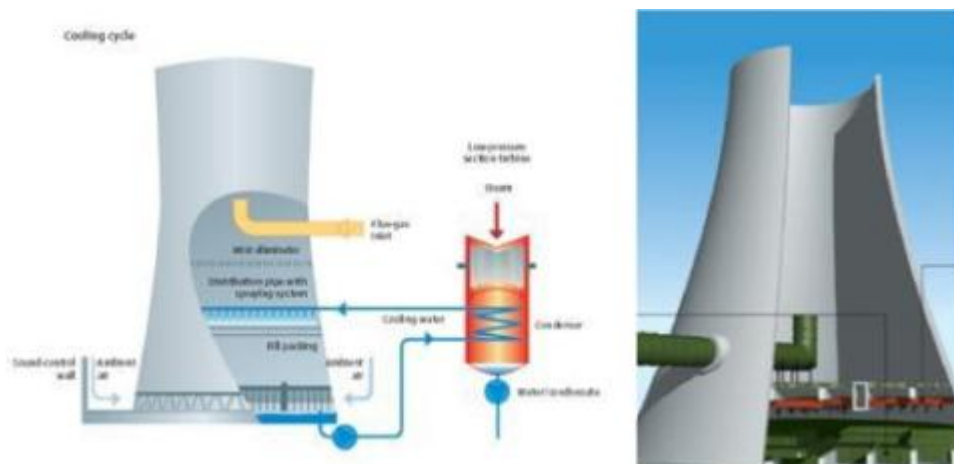


Figure 5: The concept of flue gas discharge through the cooling tower

Unit 6 will also be used to provide district heating to the Šaleška Valley: a new heating station (HS 3) will be built as part of the project to substitute the existing heat station HS 1.

### 3.4 What standards will be used for Unit 6?

Unit 6 is designed to meet international standards and to comply with requirements provided by Slovenian Regulation and EU Directives.

The Main EU Directive regarding environmental control is the Integrated Pollution Prevention and Control (IPPC) Directive: the Directive's goal is to provide an integrated approach to environment protection by improvement of management and control systems; this means that emissions into air, water and land, together with a range of other environmental impacts must be considered. Such approach is supported by the adoption of appropriate preventive measures to protect the environment, in particular through the application of Best Available Techniques (BAT).

BAT comprise the most effective and advanced techniques (including technologies, conditions for maintaining operation and decommissioning) in a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions able to be the most effective in achieving a high general level of protection of the environment as a whole. BAT Reference Notes (BREF notes or guides) for specific industrial sectors disciplined by IPPC directive have been developed by the EU; BREFs not only contain information about the basic design of the facility but

also how it should be operated, suggested emission limit values and how the facility should be monitored.

Unit 6 design has been developed using the BREF documents “*IPPC – Reference Document on Best Available Techniques for Large Combustion Plants (BREF-LCP)*”, “*IPPC – Reference Document on Best Available Techniques for Industrial Cooling Systems (BREF-CS)*” and “*IPPC – Reference Document on Best Available Techniques on Emissions from Storage (BREF-ESB)*” as reference guidelines.

The Unit is endowed with treatment plants for cleaning flue gases; in particular, the Pulverised Coal Combustion (PCC) technology with the ultra supercritical parameters of fresh steam (a BAT technology) provides high efficiency and reduction of specific CO<sub>2</sub> emissions (CO<sub>2</sub> emissions per unit of produced electricity). All emissions of pollutants and concentrations of pollutants in ambient air will be within the prescribed limits. With state-of-the-art technologies applied to Unit 6, Šoštanj Power Plant will produce low values of pollutants air emissions, as follows:

Unit 6 air emissions [mg/Nm <sup>3</sup> ]			
Pollutant	Unit 6 emissions	Slovenian Legislation limits	BAT standards
SO <sub>x</sub>	100 mg/Nm <sup>3</sup> (1)	200 mg/Nm <sup>3</sup>	200 mg/Nm <sup>3</sup>
NO <sub>x</sub>	150 mg/Nm <sup>3</sup> (1)	200 mg/Nm <sup>3</sup>	200 mg/Nm <sup>3</sup>
Dust	20 mg/Nm <sup>3</sup> (1)	30 mg/Nm <sup>3</sup>	30 mg/Nm <sup>3</sup>
CO	100 mg/Nm <sup>3</sup> (2)	250 mg/Nm <sup>3</sup>	200 mg/Nm <sup>3</sup>
HCl	3 mg/Nm <sup>3</sup> (2)	30 mg/Nm <sup>3</sup> (3)	10 mg/Nm <sup>3</sup>
HF	3 mg/Nm <sup>3</sup> (2)	3 mg/Nm <sup>3</sup> (3)	1-5 mg/Nm <sup>3</sup>
NH <sub>3</sub>	3 mg/Nm <sup>3</sup> (2)	30 mg/Nm <sup>3</sup> (3)	5 mg/Nm <sup>3</sup>

Note:

(1) fixed emissions values

(2) estimated emissions values

(3) With the amending of Anex 10 of the Decree on the emission of substances into the atmosphere from stationary sources of pollution (Official gazette of RS, no.31/2007, 70/2008, 61/2009), the limit values for concentrations of chlorine and its inorganic compounds and concentrations of fluorine and its inorganic compounds for combustion plant with a rated thermal input greater then or equal to 50 MW do not apply.

Moreover, Unit 6 will greatly contribute to reducing total air emissions from TEŠ power plant. As illustrated by the figures below, future estimated air emissions of sulphur dioxide, nitrogen oxides, dust and carbon monoxide will be greatly reduced after 2014 (when Unit 6 enters into operation and Units 1-3-4 are shut down); such reduction process will continue until year 2050, with a further drop in production level around 2028, when only Unit 6 will be in operation.

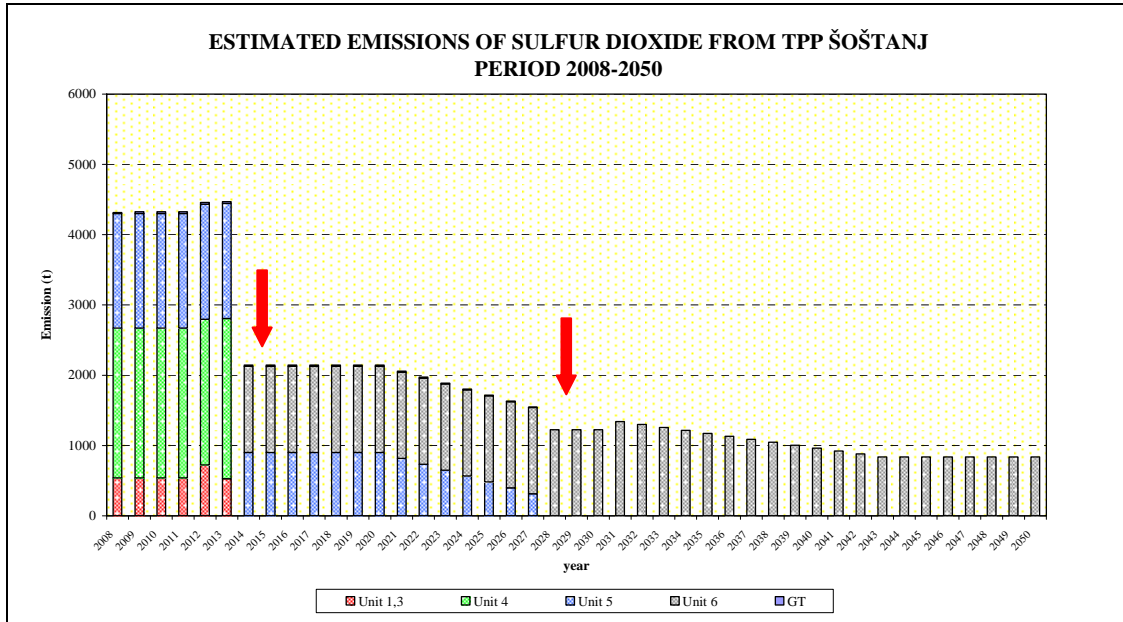


Figure 6: Estimated emissions of sulphur dioxide in TPP in the period 2008 – 2050

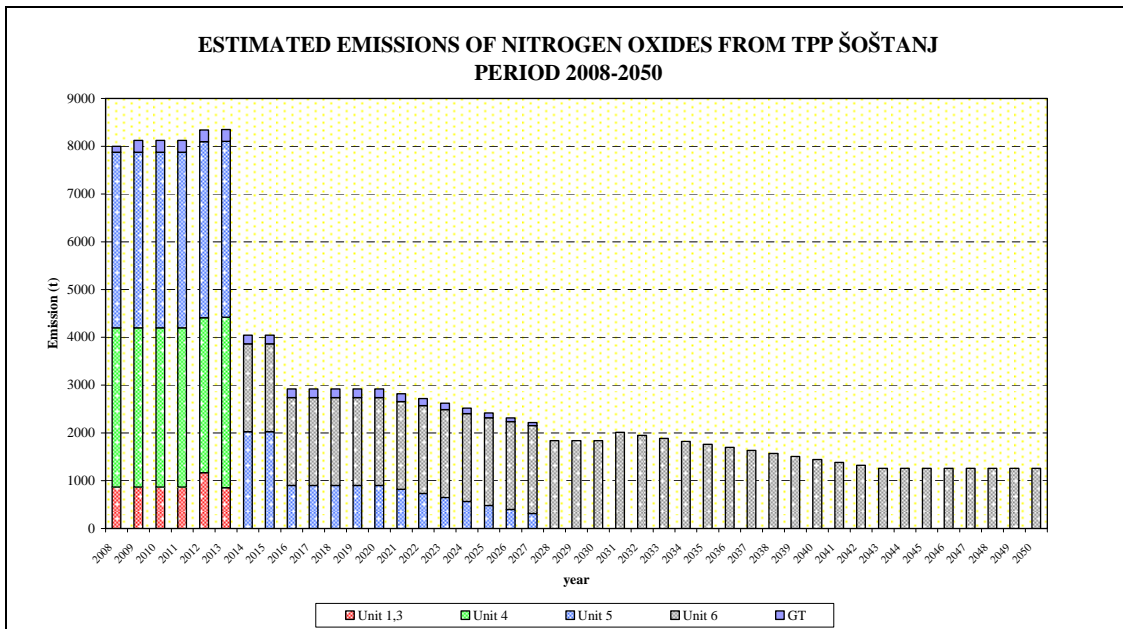


Figure 7: Estimated emissions of nitrogen oxides in TPP in the period 2008 – 2050

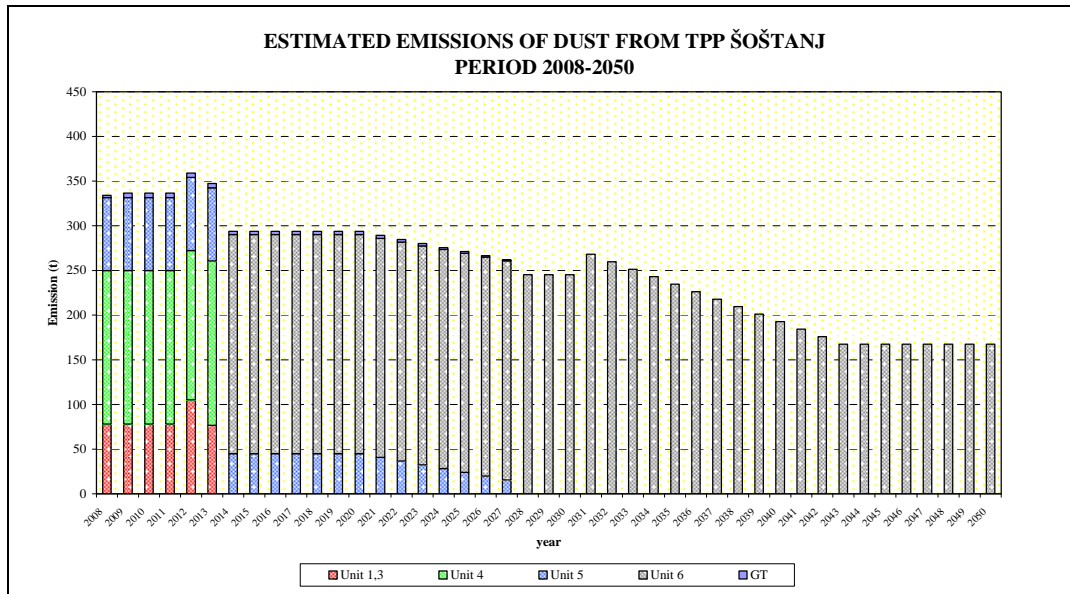


Figure 8: Estimated emissions of dust in TPP in the period 2008 - 2050

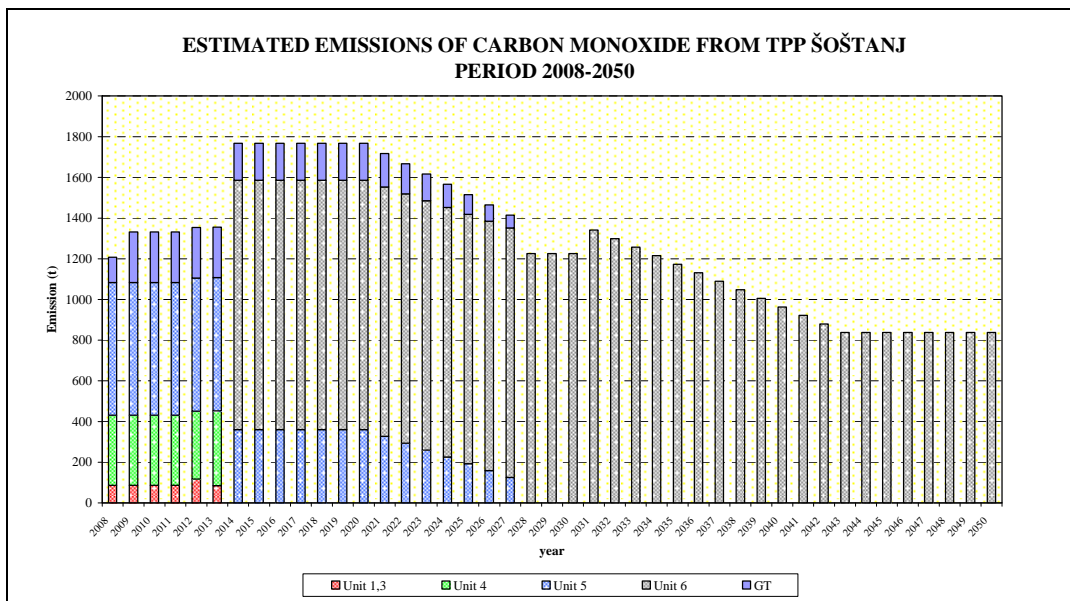


Figure 9: Estimated emissions of carbon monoxide in TPP in the period 2008 - 2050

The construction of Unit 6 will present high efficiency at a rate of 43%, contributing greatly in reducing carbon specific emissions - those CO<sub>2</sub> tons released in the atmosphere for each unit of gross electricity produced (kWh). The table below reports CO<sub>2</sub> specific emissions for each unit of the Šoštanj Power Plant together with specific emissions of the power plant for the period between 2009 and 2027. A decrease in specific power plant emissions is evident: from 1,012 kg/kWhe in 2009 to 0,804 kg/kWhe in 2015, and to 0,782 kg/kWhe after 2027.

Unit 6 CO<sub>2</sub> specific emission values amount to 0,768 kg CO<sub>2</sub>/kWhe of gross power, close enough to values measured in state-of-the-art power plants in Germany fed with lignite coal, with specific CO<sub>2</sub> emissions equal to 0,930 kg CO<sub>2</sub>/kWhe.

YEAR	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Unit 1-3	1,243	1,243	1,243	1,243	1,243	1,243	0,000	0,000	0,000	0,000
Unit 4	1,045	1,045	1,045	1,045	1,045	1,045	0,000	0,000	0,000	0,000
Unit 5	0,951	0,951	0,945	0,951	0,952	0,945	0,919	0,919	0,919	0,919
Unit 6	0,000	0,000	0,000	0,000	0,000	0,000	0,768	0,768	0,768	0,768
<b>Total</b>	<b>1,012</b>	<b>1,006</b>	<b>1,008</b>	<b>1,006</b>	<b>1,006</b>	<b>1,008</b>	<b>0,804</b>	<b>0,804</b>	<b>0,804</b>	<b>0,804</b>

YEAR	2019	2020	2021	2022	2023	2024	2025	2026	2027
Unit 1-3	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Unit 4	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Unit 5	0,919	0,919	0,919	0,919	0,919	0,919	0,919	0,919	0,919
Unit 6	0,768	0,768	0,768	0,768	0,768	0,768	0,768	0,768	0,768
<b>Total</b>	<b>0,804</b>	<b>0,804</b>	<b>0,801</b>	<b>0,799</b>	<b>0,796</b>	<b>0,792</b>	<b>0,789</b>	<b>0,785</b>	<b>0,782</b>

The company falls under the EU Emission Trading Scheme (EU ETS), with a granted annual allocation of 4,3 mln t per annum under the National Emission Plan. The company's emission figures over the past few years have been of 4.6–4.9 mln t. Estimated emissions after 2015 will be at a level of around 4 mln ton.

### 3.5 Will Unit 6 be CCS ready?

Carbon Capture and Storage (CCS) technologies have yet to be included into BAT for large combustion plants, but considering the fast development of such technologies, it can be predicted they will be considered as BAT before 2020.

A CCS-ready power plant is one which can include CO<sub>2</sub> capture when the necessary regulatory or economic drivers are in place. Slovenian legislation doesn't require the application of CCS technology. However, due to strategic value of CO<sub>2</sub> emissions, Unit 6 is designed to have a CO<sub>2</sub> separation and capture unit from flue gasses in order to be ready when legislation requires it in the future; consequently the captured CO<sub>2</sub> would be stored, preventing it from entering the atmosphere.

TEŠ, in collaboration with the Environmental Research & Industrial Co-operation Institute (ERICo) of Velenje, has been researching CCS technology since 2003, with the following outcomes:

**2003** A general review of CO<sub>2</sub> capture, storage and utilisation technologies was conducted. The potential to reduce Slovenia's CO<sub>2</sub> emissions from energy sector by capture and utilisation was estimated. Because the estimated amount of used CO<sub>2</sub> in Slovenia is negligible in comparison to emissions, the main option considered for the long-term was storage in underground geologic formations.

**2004** CO<sub>2</sub> capture technologies in the energetic sector were investigated: the most useful technology identified was post-combustion flue gas scrubbing. An experiment on sequestration of CO<sub>2</sub> in Coalmine Velenje was also carried out, injecting CO<sub>2</sub> directly into the coal seam from the mine shaft.

**2005** Possibilities of permanent CO<sub>2</sub> storage in different geological formations were looked into. A trial of CO<sub>2</sub> storage was performed during the preparation of a new

well. Ecological monitoring of released gases and underground water was performed. Approximate costs of introduction of CCS technology were also estimated. Possibilities for implementation of CCS technology at Thermal Power Plant Šoštanj tested as good, especially when possibilities for CO<sub>2</sub> storage in the Šaleška Valley are developed.

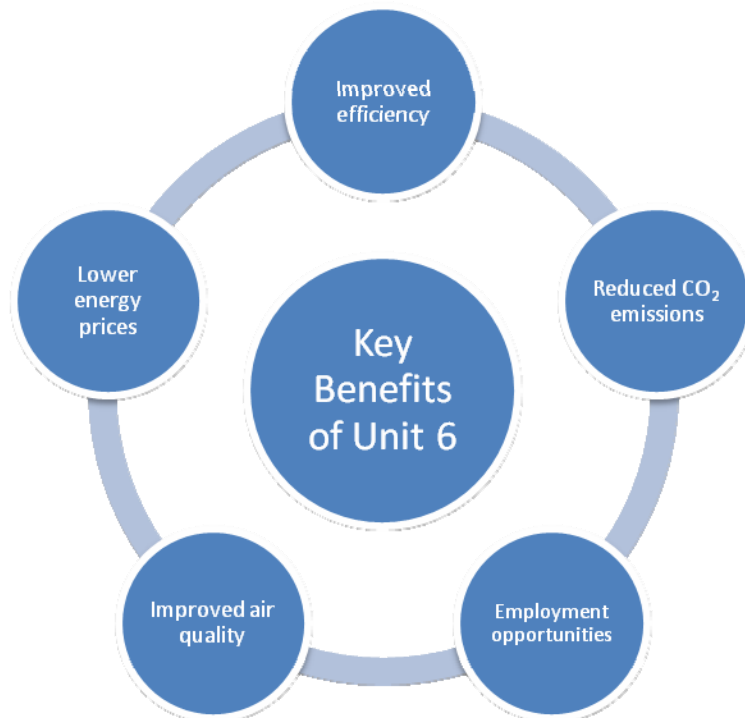
- 2008 An experiment on the sequestration of CO<sub>2</sub> in the indestructible coal seam was exercised. The aim was to collect data on permeability of coal seam for CO<sub>2</sub> in Velenje coal mine.
- 2009 Studies are ongoing regarding potential for geological storage of CO<sub>2</sub>, implementation of emission trading and CCS legislation, and development of technologies for CO<sub>2</sub> capture.

Although CCS technology is currently not economically viable, preliminary results of the above mentioned research show good potential for it in the near future. The issue will be further investigated by TEŠ and final results of these studies will be made available when ready.

## 4 Benefits of Modernisation Programme

Besides guaranteeing significant quality improvements and energy savings, the modernisation project and the replacement of old inefficient units with a state-of-the-art new unit will substantially decrease environmental impacts from TEŠ operations.

Low efficiency conventional units will be replaced by a new unit fully compliant with European BAT standards for large combustion plants. Further to the modernisation project, TES energy-generating assets will comply with current and future EU environmental standards - as defined by the IPPC and the planned Industrial Emissions Directive. Unit 6 will bring significant benefits to TEŠ and to the local community from an environmental, economic and social point of view, improving the current situation of Šoštanj and of the Šaleška Valley.



Among other things, Unit 6 will:

- improve efficiency by increasing production of electric energy per ton of coal;
- reduce specific CO<sub>2</sub> emissions (tons of CO<sub>2</sub> released /KWh produced) and environmental impacts;
- improve air quality in the area due to the adoption of best available technology and the subsequent reduction of emissions of air pollutants such as SO<sub>2</sub>, NO<sub>x</sub> and dust;
- reduce electric energy price, ensure further existence of energy production in Šaleška Valley;
- sustain employment in the area (in both TEŠ and other connected enterprises, e.g. Velenje coal mine).

## 4.1 Cumulative environmental impacts

Impacts from the construction and operation of Unit 6 have been examined and assessed in an Environmental Impact Assessments study, which also takes into consideration the impacts associated with the coal mine exploitation.

The main direct impacts from TEŠ Unit 6 will be air emissions and noise. Unit 6 will be equipped with flue gasses treatment and continuous emission monitoring to ensure compliance with all applicable BAT standards. Moreover, TEŠ will continue to monitor air quality in the Šaleška valley through a network of monitoring stations located across the area.

Noise reduction measures have been included in the design of Unit 6, namely noise mufflers, protective housing for generators, and sound insulation. Equipment will be installed inside closed structures to minimize acoustic impact. The main cumulative impact associated to the coal mine is on land surface: underground mining induces subsidence of ground surface; in the past the result has been the formation of the Družmirje and Velenje lakes. The areas around the lakes are used as a tourist resort, with leisure facilities and organised tracks for jogging or bikes.

Premogovnik Velenje purchased the land property where further subsidence will occur, allowing in the mean time the use of the land for agricultural purposes. Buildings in those areas were demolished and land owners were moved to new areas where Premogovnik Velenje provided infrastructure and utilities for new properties. Neither claims nor complains were registered in the process. The impact of further mining activities will be similar to the present one. As the land targeted for coal exploitation is owned by PV, no further resettlement will be needed. Mitigation measures and monitoring of all environmental impacts will continue throughout the construction and the operation of Unit 6.

## 4.2 Cumulative social impacts

Construction and operation of Unit 6 will not significantly affect the economic and social structure of the Šaleška region. Overall, the predicted social impacts of the Unit 6 operation are positive for local people, the region and the economy.

It is expected that the shutting down of old units and the erection of Unit 6 will have a minimal impact on workforce in TEŠ: some of the surplus workers will retire while others will be retrained and employed in the operation of Unit 6. Some extra workers will need to be employed as well.

The construction process will result in an inflow of labour to the region. The EPC contractor (Alstom) will be required to ensure full compliance with Slovene health and safety standards and all staff will be required to comply with a code of conduct. The EPC contractor will be responsible for ensuring accommodation during the construction process.

The reduced demand for lignite coal will have a limited impact on Coalmine Velenje employees. No losses of jobs are expected, as some workers will retire and others will be re-employed within the company.

The Unit 6 erection has been very well accepted by TEŠ employees and by the Trade Union. No detrimental effects on employees or local resident health are predicted from the Unit 6 development. A recent survey conducted in Šoštanj shows general acceptance of the construction of Unit 6.

TEŠ developed a Stakeholder Engagement Plan to inform and involve affected stakeholders. Based on TEŠ existing experience of stakeholders' engagement, all internal and external stakeholders have been identified and their interests and concerns regarding Unit 6 project are being analysed and addressed.



### 4.3 Planned management and monitoring systems

TEŠ has established a certified Quality, Environmental and Health and Safety Management System, according to international standards ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007.

Construction and operation of Unit 6, as well as other assets of TEŠ, will be carried out according to procedures and standards set by the management system, which allows TEŠ to control all of its processes and manage its impacts on environment and risks for health and safety of workers.

An extensive monitoring program is already in place at TEŠ to constantly control environmental impacts from the power plant's activities: such program will be implemented also on Unit 6, both during construction and operation phases. The program includes:

- *Air emissions monitoring*  
Unit 6, like existing units, will be endowed with a Continuous Emission Monitoring System (CEMS) for SO<sub>2</sub>, CO, NO<sub>x</sub> and dust. Yearly measurements of other pollutants will be carried out, as required by European and National regulations.
- *Air quality monitoring*  
TEŠ runs a program for continuous ambient air quality monitoring, with 8 monitoring points across the Šaleška Valley plus a mobile monitoring station. The system provides the value of pollutants concentrations for each point, updated every 10 seconds, together with historical values. Monitored data can be checked by the control rooms at TEŠ power plant.
- *Water discharges monitoring*  
Unit 6 will not produce wastewater: all processed water will be recycled in a closed circuit. The only water discharged to the river Paka will be cooling water from the cooling tower. TEŠ will continue to monitor discharges of cooling water into the river by conducting monthly samplings and analyses.
- *Soil, groundwater and surface water monitoring*  
TEŠ is conducting soil and groundwater monitoring at subsidence area between Družmirje and Velenje lakes. Periodic analyses on the quality of lake waters are also carried out.

### 4.4 Planned stakeholder engagement

TEŠ has developed a Stakeholder Engagement Plan in order to enhance public information and stakeholders engagement process, especially in relation to the ongoing modernisation project. The main stakeholder groups have been identified and grievance mechanisms have been tailored to address possible issues.

Methods employed by TEŠ to involve stakeholders include:

- information via mass-media (newspapers, magazines, radios, television, internet);
- meetings with the public (e.g. roundtable meetings with public representatives);
- open days and site tours;
- public opinion surveys;
- awareness-raising booklets and leaflets;
- annual report (including information on targets achieved in environmental protection, health and safety, and community development);
- support to various community development projects;

All documents regarding the modernisation project, including the Environmental Impact Assessment for the unit 6 modernisation, have been made available for public consultation on TEŠ website, at the Power Plant offices in Šoštanj, at Šoštanj Public Library and also at two locations in Ljubjana, Elektroinstitut Milan Vidmar and the Regional Environmental Centre.

A mechanism for public grievance has been developed: concerns and requests can be submitted by filling a Public Grievance Form and sending it to TEŠ's Public Relations Department. Written answers will be provided to each request within 30 days.

Additional information regarding TEŠ operations and Unit 6 is available on TEŠ website ([www.te-sostanj.si](http://www.te-sostanj.si)) or can be obtained by writing at:

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