Nuclear power program in Poland
Global Supply Chain and Localization

Nuclear Supplier and Customer
Countries Engagement Group
NSCCEG
Paris, 7-8 November 2017

Andrzej SIDŁO
Chief Expert
Department of Nuclear Energy
Ministry of Energy, Poland
Ministry of Energy

Polish Power System

The total maximum capacity in Polish Power System (PPS) reached **39 777 MW** (December 2016).

- Coal-fired power plants – **19 443 MW**
- Lignite-fired power plants – **9 322 MW**
- Gas power plants – **973 MW**
- Industrial power plants – **2 451 MW**
- Hydroelectric power plants – **2 330 MW**
- Renewable resources – **5 258 MW**
- **Nuclear: 0 MW**

Energy consumption:

164 625 GWh/year (2016)
3,2 MWh/per citizen/year; the lowest in OECD.
According to all estimations energy consumption in Poland will grow in coming decades.

Transmission grid - **14 069 km**:
- 1 line of 750 kV (114 km),
- 89 lines of 400 kV (5 984 km),
- 167 lines of 220 kV (7 971 km),

Under-sea 450 kV DC connection between Poland and Sweden(245 km)

INTERNATIONAL FRAMEWORK FOR NUCLEAR COOPERATION

Nuclear power program in Poland
Polish Nuclear Power Program (PNPP)

- PNPP was approved on January 28th 2014 by the Council of Ministers. Its key goals resulting from the Energy Policy of Poland until 2030 are following:
  - assuring long-term security of electricity supply
  - maintaining electricity prices at levels acceptable by the national economy and the society
  - reducing emissions of CO$_2$ and other air pollutants
- 2 NPPs planned with total installed capacity: 6000 MWe
- Currently PNPP under revision by Council of Ministers (until end of 2017):
  - Change of business model/project’s finance
  - Revision of time schedule
Local content (1 of 4)

Target of Government in PNPP (chapter XV): progressive increase of local content: 30% of project value at first stage, up to 60% to be localized by Polish industry.

Government and subordinated agencies is responsible for implementation of industry related activities in order to prepare companies for nuclear project.

Initial phase for a.m. activities: comprehensive assessment of national competences (gap analysis) has been carried out:

- Direct dialogue: Government – Polish Industry (continuous activity)
- Specialized additional analysis ordered by Polish Government (2015)
Gap analysis methodology:

- **Local content = global supply chain**

- **III groups of criteria to be met by Polish industry to become nuclear supplier (jointly):**
  - Technical competencies (ability to deliver nuclear products, nuclear certificates),
  - Other than technical competencies: long term management of companies, financial standing, ability to manage nuclear projects, human resources policy,
  - Nuclear philosophy (nuclear quality) to be properly understood and practiced by industry

- **Identification of branches (sub branches) of Polish industry with:**
  - nuclear experience today,
  - with potential to become nuclear supplier in 3-5 years (with reasonable adjustment process to implement).
  - with potential to become nuclear supplier in 5-7 years (with reasonable adjustment process to implement).

- **Identification of possible adjustment time, cost and process of Polish industry to become nuclear supplier.**

- **SWOT analysis and identification of barriers for Polish industry**

- **Database of Polish companies with nuclear experience/potential.**
Local content (3 of 4)

Gap analysis results:

• 59 Polish companies with nuclear experience in past 10 years (for NPP and fuel cycle facilities, nuclear laboratories, CERN, ITER, Polish research nuclear reactor Maria, other),

• Another 25 Polish companies are in advanced preparation for nuclear cooperation,

• Another 21 Polish subsidiaries of foreign companies are active on nuclear market,

• Another 220 Polish companies with sufficient capabilities/competencies for nuclear industry. Those companies will require only minor to moderate additional investments to fulfill nuclear requirements (Tier 2 and 3 according to WNA).
Gap analysis results:

• Polish industry has strong capabilities/competences gained in power sector but implementation of nuclear program requires additional and joint effort – of companies, chambers of industry, utilities, Government and other stakeholders.

• Future involvement of national industry for Polish NPP project goes through the current cooperation with global nuclear industry (participation in global supply chains).

• In 2015 Government has initiated industry related activities in order to build up competences: trade missions, specialized conferences, informative specialized activities. 5-7 training and promotion events/year
Thank you for attention