R347 & PLIMA

R347 OBLIGATIONS AND RECOMMENDATIONS

Network Assessment training 7 March, Athens - Nenad Šijaković, Mag.Sci.E.E., ECS
Nikola Tesla (1856-1943):

“Development and wealth of a city, the success of a nation, the progress of the whole human race, are all determined by the available energy.”

Mihajlo Pupin (1858-1935):

"Nothing makes a man so happy as his honest belief that he did all he could by investing in his work his best ability."
The Energy Community Treaty

- **Mission - to extend the EU internal energy market** on the basis of a legally binding framework

- **The overall objective - to create a stable regulatory and market framework** in order to:

  1. Attract investment
  2. Create an integrated energy market allowing for cross-border energy trade and integration with the EU market;
  3. Enhance the security of supply
  4. Improve the environmental situation in relation with energy supply in the region;
  5. Enhance competition at regional level and exploit economies of scale.

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Parties to the Treaty: EU and eight Contracting Parties + Georgia as Candidate + Observers

Energy Community Map

Energy Community Secretariat

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The Energy Community Treaty

By signing the Energy Community Treaty, the Contracting Parties committed:

- To implement the relevant EU acquis communautaire:
  - gas, electricity, environment, competition, renewable energy sources, energy efficiency, antitrust and state aid, statistics, oil.

- To develop an adequate regulatory framework and
- To liberalise their energy markets in line with the Treaty acquis.
Process Timeline

Process of ensuring secure, stable and optimal energy supply...

10y-50y ahead ...

Long term planning measures:
- System development Planning
- Infrastructure planning and management

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“streamlining and simplifying procedures for facilitating the permitting and implementation of energy infrastructure priority projects”
The Regulation, as adapted for the Energy Community, lays down rules for the timely development and interoperability of energy networks in the Energy Community, in order to:

- **Verify priority (714/2009, 715/2009),**
- **Facilitate,** and
- **Financially assist…**

...**PRIORITY infrastructure projects in Energy Community: PECI/PMI – Projects of Energy Community Interest / Projects of Mutual Interest**
R347 – 10 steps

**Priority identification and verification**

1. Identification of infrastructure investment needs!!! – ENTSO-E TYNDP, RgIP – NDPs, in Gas lack of similar regional initiative and process (Dir. 714/2009 and 715/2009)
2. Cost benefit analysis (CBA, 714/2009 and 715/2009) – the base for continuation of the process through PECI selection and potential CBCA application
3. Projects of Energy Community Interest selection (PECIs)
4. Consultation on the list of proposed Projects of Common Interest – Additional projects in oil, gas and electricity

**II-a Accelerated permit granting**

1. Accelerated permit granting procedure
2. Transparency and public participation

**II-b Improved regulatory treatment**

1. Cross Border Cost Allocation (CBCA)
2. Risk-related incentives
3. Other improvements of the regulatory treatment

**III Financial support**

1. Financing through the IPA, WBIF, NIF
Preliminary TYNDP 2018 – Concept

Scenarios Building → Identification of System Needs → CBA Assessment of Candidate Projects
Preliminary TYNDP 18 Scenarios – Three paths to the future

- **European 2030 target scenario**
  - MAF only
  - Best estimate Gas before coal
  - Distributed Generation
    - 15% Coal
    - 15% Gas
  - EU CO
    - 21% Coal
    - 9% Gas

- **Global Climate Action**
  - Best estimate Coal before gas
  - Distributed Generation
    - 25% Coal
    - 25% Gas
  - EU CO
    - 34% Coal
    - 17% Gas

- **Sustainable Transition**
  - Best estimate Gas before coal
  - Distributed Generation
    - 27% Coal
    - 10% Gas
  - EU CO
    - 19% Coal
    - 7% Gas

- Distributed Generation
  - Consumer driven transition with solar and batteries
  - Global Climate Action
  - Large scale RES development
  - Sustainable Transition
  - CO₂-reduction through replacing coal and oil with gas
  - European Target Scenario
  - External scenario reaching the EU 2030 targets
The key benefits for a project having PECI status are:

- accelerated planning and permit granting procedures (capped at 3.5 years),
- a single national competent authority which will act as a one-stop-shop for permit granting procedures,
- fewer administrative costs for the project promoters and authorities due to a more streamlined environmental assessment procedure, whilst respecting the requirements of EnC law,
- increased transparency and improved public participation,
- increased visibility and attractiveness for investors thanks to an enhanced regulatory framework where costs are allocated to the countries that benefit most from a completed project, and
- potential financial support under the IPA and NIF.
The selection of priority infrastructure projects is done in line with the EU Regulation 347/2013, as adapted for the Energy Community.

1. 1st call for project proposals ended on 25th February 2016.
2. 2nd call for project proposals ended on 2nd June 2016.
3. Categories: energy infrastructure concerning electricity, gas and oil, as well as 1 thematic area covering smart grids.
4. Two Project Groups formed with the following objectives:
   - to list all projects eligible to be candidates for PECI / PMI status;
   - to assess all eligible projects, based on the proposed and accepted methodology, fulfilling the necessary criteria defined in the Regulation;
   - to adopt a preliminary PECI/PMI list, as well as to perform monitoring tasks accordingly.

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PECI/PMI 2016 selection process – project assessment workflow / methodology

1. Questionnaires for submission of candidate projects
2. Eligibility check
3. Verification of project data
4. CBA
5. MCA
6. Relative ranking of projects

- CBA results
- Enhancement of competition
- Improvement of System Adequacy
- Project Maturity

Market simulations – first indication of project influence on the market
Network simulations – consistent with UMPSI2015

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**Project Assessment Criteria**

1. **Change in socio-economic welfare**
   - Incremental welfare changes resulting from individual investment projects are estimated as regards the project’s impact on
     - market integration / price convergence
     - reduction of CO2 emissions
   - Calculation of the **economic net-present value (NPV)** discounting the incremental costs and benefits of each investment project back to their present values

2. **System Adequacy**
PECI/PMI 2016 selection process

- The proposal of the project preliminary lists was made by the electricity and gas groups, featuring the ministries, regulators and transmission system operators of the Contracting Parties, the European Commission as the chair of the process, and the Energy Community Secretariat.

- In cooperation with ACER, the Energy Community Regulatory Board has provided its opinion to the proposed list.

- The final list of Projects of Energy Community Interest (PECI) and respectively, Projects of Mutual Interest was endorsed by the Permanent High Level Group and approved by the Ministerial Council in October 2016.
The final PECI/PMI lists for electricity

<table>
<thead>
<tr>
<th>Electricity PECIs and PMIs</th>
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<tbody>
<tr>
<td><strong>Electricity PECIs</strong></td>
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<tr>
<td>Transbalkan corridor consisting of the following five PECI projects:</td>
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<td>El01</td>
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<td><strong>Interconnection between Albania and former Yugoslav Republic of Macedonia:</strong></td>
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<td>El13</td>
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<td><strong>Electricity PMIs</strong></td>
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<td><strong>Interconnection between Romania and Moldova:</strong></td>
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<td>El06</td>
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<td><strong>Interconnection between Ukraine and Slovakia:</strong></td>
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<td>El09</td>
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</table>
The Map of PECI/PMI projects
Clustering Gap – PCI/PECI complementarity 1) and 2)
Mid term projects (in realisation):

1. **Transbalkan corridor – phase 1**
   - 400 kV OHL Resita (RO) – Pancevo (RS)
   - 400 kV OHL Kragujevac (RS) – Kraljevo (RS)
   - 400 kV OHL Obrenovac (RS) – B.Basta (RS)
   - 400 kV OHL B.Basta (RS) – Pljevlja (ME) – Visegrad (BA)
   - 400 kV OHL Pljevlja (ME) – Lastva (ME)

2. 400 kV OHL Bitola (FYROM) – Elbasan (AL)

Long term - potential future projects:

3. 400 kV OHL Mukacheve (UA) – V.Kapusany (SK)
4. 400 kV OHL with B2B Substation, Isacea (RO) – Vulcanesti (MD) – Chisinau (MD)
5. **Transbalkan corridor – phase 2**
   - 400 kV OHL B. Basta (RS) - Kraljevo (RS)
   - 400 kV OHL Kraljevo (RS) – Nis (RS)
   - New interconnection between Serbia and Bulgaria
6. New interconnection between Serbia – Croatia
7. New interconnection between Serbia – Romania
8. 400 kV OHL B. Luka (BA) – Lika (HR)
## PECI/PMI projects status

<table>
<thead>
<tr>
<th>Electricity PECIs and PMIs</th>
<th>Status</th>
<th>Construction Works/Commissioning year</th>
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<tr>
<td><strong>Electricity PECIs</strong></td>
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<td>Trans-Balkan corridor consisting of the following five PECI projects:</td>
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<tr>
<td>E1 01 400 kV OHL Resta (RO) - Pancen (RS)</td>
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<tr>
<td>E1 01 400 kV OHL Kragujevac (RS) - Kraljevo (RS)</td>
<td>✗</td>
<td>✗</td>
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<tr>
<td>E1 01 400 kV OHL Obrenovac (RS) - Bajina Basta (RS)</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>E1 01 400 kV OHL Bajina Basta (RS) - Visegrad (BA) - Pljevlja (ME)</td>
<td>✗</td>
<td>✗</td>
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<tr>
<td>E1 03 400 kV OHL Pljevlja (ME) - Bistrica (ME)</td>
<td>✗</td>
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<td><strong>Interconnection between Albania and former Yugoslavia Republic of Macedonia:</strong></td>
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<td>E1 13 400 kV OHL Bitola (MK) - Elbasan (AL)</td>
<td>✗</td>
<td>✗</td>
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<tr>
<td><strong>Electricity PMIs</strong></td>
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<tr>
<td>E1 05 Back to back station station ex 400 kV OHL Voluntari (MD) – Craiova (RO) and new 400 kV OHL Voluntari (MD) – Chisinau (MD)</td>
<td>✗</td>
<td>✗</td>
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<tr>
<td><strong>Interconnection between Ukraine and Slovakia:</strong></td>
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<tr>
<td>E1 09 Rehabilitation of 400 kV OHL Mukachevo (UA) – V.Kaputany (SK)</td>
<td>✗</td>
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</table>
As discussed and concluded at the last ENTSO-E System Development Committee mini-retreat of 16 January 2017 and further approved by the ENTSO/E System Development Committee, ENTSO-E suggested the following:

1. PECI projects groups (coordinated by ECS), will maintain the PECI/PMI list based on results of ENTSO-E TYNDP project assessments, whenever candidate projects exists in TYNDP;
2. ENTSO/E will provide necessary CBA assessment for PECI selection process;
3. Potential connection of UA and MD to the CE power system need to be considered through specific regional development scenario and sensitivity analysis according to the methodology approved by ENTSO/E.
4. ECS will organise workshop between ENTSO-E from one side and Ukrenergo and Moldelectrica from another side related to market and network modelling. - Request for providing ENSTO/E data in line with the approved methodologies;
5. ENTSO/E CSE RG will implement consistent clustering of the projects according to the technical logic during next project nomination for TYNDP2018 (May-June 2017).
6. ECS and ENTSO/E will further work on coordination of PECI selection process with TYNDP timeframe or select appropriate data to be used.
Line up activities and needs of PECI/PMI and ENTSO/E TYNDP

Problem with EnC transposed Regulation 347/2013, MC Decision 09/2015. - PECI selection process is not in line with TYNDP timeframe.

Proposed line up activity:
coordination of PECI selection process with TYNDP timeframe and/or selection of appropriate data to be used.
Problem with clustering of projects.

**Proposed line up activity:**
Consistent clustering of the projects according to the technical logic during next project nomination for TYNDP2018 (May-June 2017).
EnC need to access projects between UA, MD and EU. Problem exists with lack of data for Ukrenergo and Moldelectrica.

**Proposed line up activity:**
ECS will organise workshop between ENSTOE from one side and Ukrenergo and Moldelectrica from another side, related to market and network modelling. - Request for providing ENSTOE data respecting approved methodologies.
In ENTSOE, scenarios and visions do not cover UA and MD which generates huge problem during project identification (not covered by TYNDP) and project assessment phase as well.

Proposed line up activity:
Potential connection of UA and MD to the CE power system need to be considered through specific regional development scenario and sensitivity analysis according to the methodology approved by ENTSOE (not before TYNDP2020). Such calculations will be performed by SECI Special project.
Resolving previously mentioned problems 1-4 we will have conditions for the following line up activities:

- PECI projects groups (coordinated by ECS), will maintain the PECI/PMI list based on results of TYNDP project assessments, whenever candidate projects exists in TYNDP.
- ENTSOE through work of SECI will provide necessary CBA assessment for PECI selection process.

The diagram illustrates the multi-criteria assessment and the ability of each project to fulfill the criterion, along with the weights assigned to each criterion.

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According to the Article 18 of adopted Regulation 347/2013 (MC Decision D/2015/09/MC-EnC): The Energy Community Secretariat shall establish, by six months after the date of adoption of the first Energy Community list (14th April 2017), an infrastructure transparency platform easily accessible to the general public, including via the internet. This platform shall contain the following information:

- general, updated information, including geographic information, for each project of Energy Community interest;
- the implementation plan as set out in Article 5(1) for each project of Energy Community interest;
- the main results of the cost-benefit analysis on the basis of the methodology drawn up pursuant Article 11 for the projects of Energy Community interest concerned, except for any commercially sensitive information;
- the Energy Community list;
- the funds allocated and disbursed by the Union for each project of Energy Community interest.
PLIMA – Project Library and Interactive Map Application

PLIMA – Project Library and Interactive Map Application provides up to date information on the geographic location for each of the projects listed as PECI/PMI, as well as other relevant project data, using user friendly and interactive approach, and represents:

- Regional Infrastructure Transparency Platform, and
- Project Monitoring Tool

PLIMA is a web based application developed using open source apps PHP/MySql and Wordpress platform (which is also an open source platform), embedded Google map APIs and different Google charts.
PLIMA possess the following functionalities (1):

1. **PECI/PMI projects presentation using Interactive map approach (using Google map APIs),**

2. **Project library, dynamically connected to the GIS based map, provides up to date information on the geographic location for each of the projects listed as PECI/PMI as well as other relevant project data, using user friendly and interactive user interface. Projects covered by PLIMA are divided into the following categories:**
   a) **Electricity transmission,**
   b) **Electricity storage,**
   c) **Smart grid,**
   d) **Gas transmission,**
   e) **Gas storage,**
   f) **LNG,**
   g) **Oil.**
PLIMA possess the following functionalities (2):

3. **Possibility to list every project category with pinpoint function connected with Interactive map interface.**

4. **Project detailed page, with all necessary project data, images, charts as well as predefined, Data Base backed up, interactive Gantt Diagram with 7 predefined project phases, which is used for the project monitoring purposes (each phase is described by start date, end date, duration, percent done...).**

5. **Overall projects Monitoring Tool with appropriate charts and other relevant statistical data.**