ENVIRONMENTAL CONCERNS OF ELECTRICITY PRODUCTION IN ENERGY COMMUNITY CONTRACTING PARTIES

21th OSCE ECONOMIC AND ENVIRONMENTAL FORUM

4-5 February 2013, Vienna

THE COMMUNITY – A LOOK AT THE MAP

Status: February 2013
BASIC ELEMENTS

TREATY ESTABLISHING THE ENERGY COMMUNITY

- signed in October 2005; entered into force on 1 July 2006
- Contracting Parties
  - European Community (after Lisbon Treaty: European Union)
  - 9 Contracting Parties: Albania, Bosnia & Herzegovina, Croatia, Macedonia - FYR of, Moldova, Montenegro, Serbia, Ukraine, UNMIK/Kosovo
- 15 EU MS as Participants (since 1 March 2009): AT, BG, CZ, CY, FR, DE, EL, HU, IT, NL, PL, RO, SK, SI, UK
- 4 Observers: Armenia, Georgia, Norway, Turkey
- Content
  - implementation of the Treaty – *acquis* → no dynamic adjustment to EU *acquis* – requires Ministerial Council Decision
  - deadlines
  - institutional framework

THE COMMON LEGAL FRAMEWORK

1) **Title II: Implementation of the acquis communautaire**
   - *only regarding Network Energy*
   - acquis of the Energy Community
   - geographic scope: Contracting Parties
     - Gas
     - Electricity
     - Environment
     - Competition
     - RES
     - Generally Applicable Standards of the European Community
2) **Title III: Mechanism for Operation of Network Energy Markets**
   - geographic scope: Contracting Parties and Participants
3) **Title IV: Single Energy Market**
   - geographic scope: Contracting Parties
     - Free movement of goods
     - Import/export to and from third countries
     - Mutual assistance in case of disruption
INSTITUTIONS

compared to EU-structure

- **Energy Community**
  - Secretariat (+Cion)
  - Ministerial Council (1p.a.)
  - PHLG (4 p.a.)
  - Gas, Electricity, Oil, Social
  - ECRB (4 p.a. + WGs)

- **EU**
  - Cion
  - Ministerial Council
  - ~ COREPER
  - Gas, Electricity, Oil, Social/ Customers
  - ERGEG (4 p.a. + WGs)

Energy Community Treaty

Implementation of environmental acquis
Title II: “ACQUIS of the EnC”

**geographic scope:** Contracting Parties

**Environment**
- Directive 1999/32/EC relating to a reduction in the sulphur content of certain liquid fuels – as of 1 January 2012
- Directive 2001/80/EC on the limitation of emissions of certain pollutants into the air from large combustion plants – as of 1 January 2018 (LCP Directive)
- Endeavour to accede: Kyoto Protocol; Council Directive 96/61/EC concerning integrated pollution prevention and control
- Construction and operation of new generating plants – after the entry into force of the Treaty and with compliance on the acquis on environment

---

**Large Combustion Plant Directive**

2001/80/EC

HAS TO BE IMPLEMENTED TILL DEC 31, 2017
LCP Directive 2001/80/EC

- Rated thermal input ≥ 50 MW
- Solid, liquid and gaseous fuels
- Aims to reduce emissions of \( \text{SO}_2, \text{NO}_x \) and dust to protect human health and environment
  - emission limit values (concentrations) which are fuel / capacity / age dependent
- Three distinct groups of plants
  - **existing**: permitted before 1 July 1987
  - **“new”**: permitted before 27 Nov 2002
  - **“new new”**: permitted after 27 Nov 2002

LCP Directive 2001/80/EC

- Techniques for pollution prevention and reduction are available and mature
  - \( \text{SO}_2 \): low S coal, flue gas desulphurisation (dry/wet)
  - \( \text{NO}_x \): combustion modifications, SNCR, SCR
  - dust: electrostatic precipitators, bag filters

LCP Dir emission limit values can easily be achieved by applying the Best Available Techniques (BAT)

- EU has moved on: Industrial Emissions Directive (IED) 2010/75/EU sets stricter ELV based on BAT from 1/1/16
ELEMENTS OF FLEXIBILITY

- Two main ways of implementation:
  1) Art. 4(1) and (2) in connection with Annexes III to VII – compliance with individual emission limit values
  2) Art. 4(6) - preparation of a National NERP

- Art. 4(4) - Limited lifetime derogation (opt-out)
  - Temporary exemption for meeting the emission level values
  - Limited in time
  - Plant has to shut down at the end of the derogation period → security of supply has to be strictly considered

- Art. 5(1) – Peak load plants
  If a plant only operates a limited amount of hours every year, it may be subject to less stringent emission limit values

- Annex III, Part A – Desulphurization rate (for solid fuels)
  Where the emission limit values cannot be met due to characteristics of the fuel (coal with high S-content)

LCP Directive 2001/80/EC

- Emission reductions mainly due to LCP Directive implementation in 2020 vs 2005 (GAINS, PRIMES BL)

<table>
<thead>
<tr>
<th>Country</th>
<th>SO2 (kt/y)</th>
<th>NOx (kt/y)</th>
<th>PM 2.5 (kt/y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>9 (47%)</td>
<td>3 (14%)</td>
<td>1 (11%)</td>
</tr>
<tr>
<td>Bosnia/Herzegovina</td>
<td>181 (80%)</td>
<td>13 (37%)</td>
<td>7 (35%)</td>
</tr>
<tr>
<td>Croatia</td>
<td>43 (68%)</td>
<td>22 (32%)</td>
<td>5 (26%)</td>
</tr>
<tr>
<td>Macedonia, FYR of</td>
<td>85 (85%)</td>
<td>12 (38%)</td>
<td>6 (46%)</td>
</tr>
<tr>
<td>Serbia</td>
<td>363 (80%)</td>
<td>74 (45%)</td>
<td>19 (28%)</td>
</tr>
</tbody>
</table>
LCP Directive 2001/ 80/ EC

- **Health impacts**
  - **2020 vs 2000** (GAINS, PRIMES BL)

<table>
<thead>
<tr>
<th></th>
<th>Loss in average life expectancy (months)</th>
<th>Years of life lost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2000</td>
<td>2020</td>
</tr>
<tr>
<td>Albania</td>
<td>5.7</td>
<td>2.8</td>
</tr>
<tr>
<td>Bosnia/Herzegovina</td>
<td>6.2</td>
<td>2.9</td>
</tr>
<tr>
<td>Croatia</td>
<td>8.1</td>
<td>4.2</td>
</tr>
<tr>
<td>Macedonia, FYR of</td>
<td>6.2</td>
<td>2.7</td>
</tr>
<tr>
<td>Serbia</td>
<td>7.6</td>
<td>3.6</td>
</tr>
</tbody>
</table>

**CHALLENGES AND POSSIBLE SOLUTIONS**

- Power and heat generation facilities located in the Energy Community region are, generally speaking, in a bad condition
- Main reasons: maintenance delay / lack of investment over the last two decades
- Remaining 5 years until deadline seems to be a long time but it is short considering the related investment cycle
- Current financial environment is not very supportive

- Secretariat’s support
- Study on a plant-by-plant analysis about to be launched (see later)
- Environmental Task Force to continuously monitor progress until the deadline (and possibly beyond)
STUDY ON THE NEED FOR MODERNIZATION OF LCPs

SCOPE

• Main objective: to support governments, decision-makers, privately and publicly owned energy companies, private and public investors in their efforts to make Contracting Parties capable to meet their commitments under the Energy Community Treaty (ECT) by the deadline foreseen (end 2017).

• Options:
  - modernization of large combustion plants;
  - change of fuels;
  - replacing plants by new capacities.

The consultant is expected to develop a scenario for each option.

SPECIFIC OBJECTIVES

• Accurate assessment of the investment needs on a plant-by-plant basis to meet the requirements of the LCP Directive in all Contracting Parties.

• Different scenarios for the individual plants in order to achieve compliance with the emission limit values of the LCP Directive, their technical feasibility/limitations and their costs (at a generic level, i.e. by using cost ranges or factors) shall be identified.

• Realistic investment need scenario at plant and Contracting Party level, taking into account the different modernisation options explored as well as the alternative scenario of replacing capacity (by either fossil fired plants or renewable energy sources).

• To examine the potential and the costs involved for achieving compliance with the emission limit values of Annex V of Directive 2010/75/EU on industrial emissions.
STUDY ON THE NEED FOR MODERNIZATION OF LCPs

TIMELINE

• Deadline for submission of tenders: 22 November 2012
• Latest date to award contract: 11 December 2012
• Expected date of commencement of service: 12 December 2012
• Duration of study: 30 September 2013

THANK YOU FOR YOUR ATTENTION!

CONTACT

Energy Community Secretariat
Web: www.energy-community.org