

CZ- AT Seminar

Charles University – Carolinum, Nov. 8, 2016

RES in the CZ – Current state and perspective



Jaroslav Knápek

Czech Technical University in Prague,

FEE



Content

1. From the history of the Czech RES support

- Start of operational RES support for power generation (since 2002)
- Search for systematic support scheme (2003-2005)
- Logic RES-E support scheme according to Act 180/2005 Col. (2006-2012)
- PV paradise – collapse of the system of support (what happened and what are the consequences)
- Introduction of revised RES-E support scheme – change of the logic and rules (Act 165/2012)
- Who should bear the cost of RES support

Content 2

2. Present state

- Validation of licensing process from previous years (2009, 2010 – PV licenses)
- Notification of RES support scheme – not finished yet
- Stagnation of RES development

3. Perspectives

- Updated State Energy Policy (2015 version)
- Obstacles for RES projects
- Individual RES categories

From the history of the Czech RES support

No systematic (operational) support of RES till the end of 2001

- RES (RES-E) project were eligible only for (not guaranteed) support from Czech Energy Agency and State Environmental Fund
- mainly pilot projects and reconstruction of small hydro
- but (domestic) investors (funs) were searching good locations and waiting

Start of operational support since 2002

- basic logic of FIT scheme – basic differentiation for RES cat.
- legally only one year guarantee, problems with financing
- high majority of the investors is still waiting



From the history of the Czech RES support2

Search for systematic RES support (2003-2005)

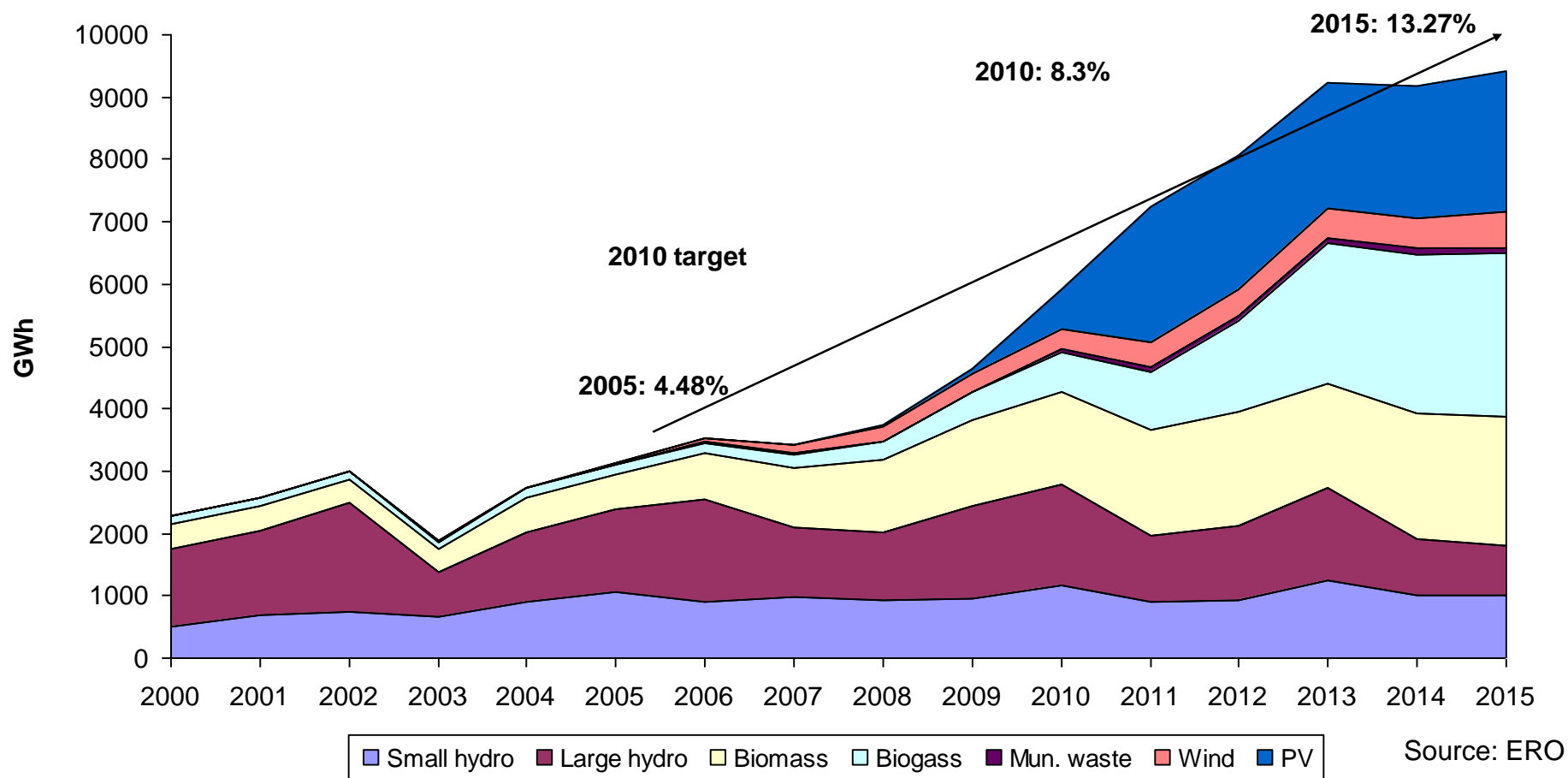
- from the idea of TGC to FIT scheme
- very long period of discussions, different expectations and attitudes
- final compromise – solution only for RES power
- finally FIT and FIP scheme chosen
- discussion of the FIT logic (e.g. length of guaranteed period, RES categories, biomass categories, co-firing, etc.)

From the history of the Czech RES support3

Start of systematic RES support – Act 180/2005 Col.

- FIT and FIP scheme (operator could choose, year base)
- main aim to reach the Czech RES-E target (8%) in 2010 – creation of good conditions for investors (risk reduction)
- FIT: rate of return approach - technologically neutral (from $NPV=0$, discount rate 6-7%), logic of time matrix
- reference projects used for FIT determination – troubles with data collection, reflection of technological progress, availability of locations etc.
- guaranteed period for FIT values (20 years, SH 30 years), later inflation update included, full transfer of cost to power consumers
- start of many RES-E projects

From the history of the Czech RES support4



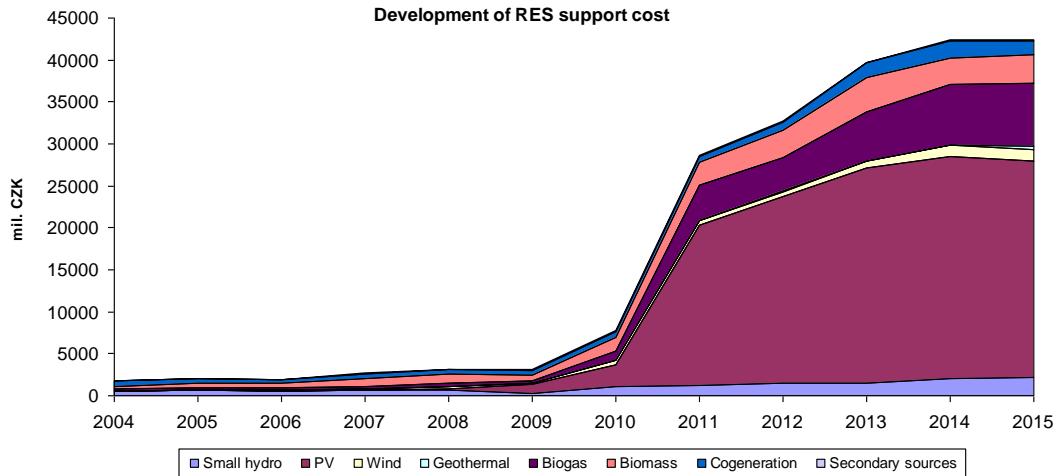
Development of RES power generation

From the history of the Czech RES support5

PV paradise – collapse of the support scheme

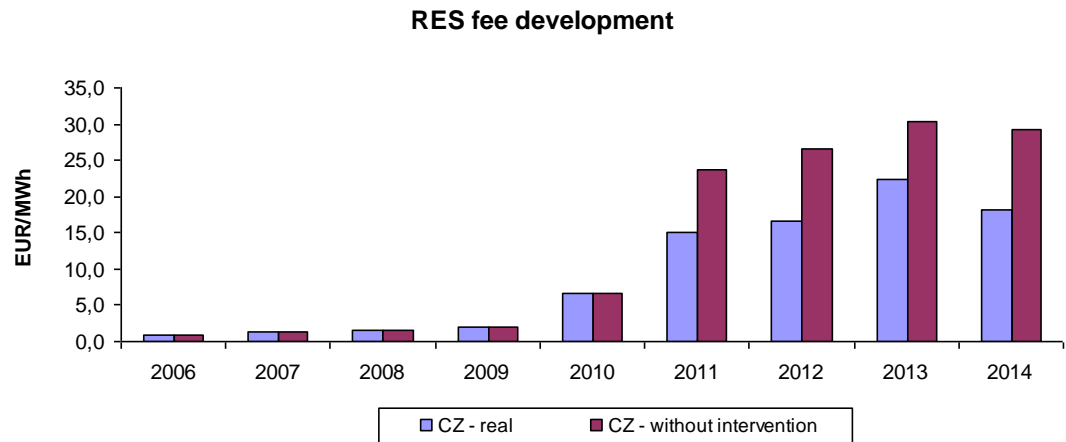
- support scheme seemed effective and reasonable till the end of 2008
- 2009: start of PV boom (fall PV component cost), ERO cannot sufficiently react (-5% limit for FIT reduction)
- rocket PV boom: combination of several factors (political crisis, world economic and financial crisis – investors are searching for safe parking of their money, lobbyism)
- support cost skyrocketed – started to be both political and economic problem

From the history of the Czech RES support6



Reduction of fee value:
participation of state budget
(2017: 26 bil. CZK)

Total RES support in 2015:
43,5 bil. CZK



From the history of the Czech RES support7

PV paradise – consequences

- Extremely high FIT till the end of 2010 (app. 12 CZK/kWh), higher by 25-30% than adequate level
- Totally chaotic growth of PV projects, fight for locations and for the grid permissions
- Situation in February 2010: app. 4500 MW in projects with valid permission, grid operators stopped permissions for new application after February 2010
- Extremely high return for PV investors (FITs were higher by 30-40% that were their adequate values)
- Extreme return creates conditions for „extreme things“
- Blocked access to the grid for many of other RES-E projects

From the history of the Czech RES support8

PV paradise – consequences 2

- Search how to cover RES support cost – e.g. introduction of (retroactive) tax imposed to gross revenues (monthly base), 26% for 3 years, then 10% till the end of support
- Legal actions against the state (finished in case of domestic investors, some international arbitrations still opened)
- Introduction of legislative changes – e.g. stop of tax holidays for REs projects, only small PV applications (up to 30 kWp) on roofs and facades are permitted
- Lost reputation for RES projects and investors („solar lords“)

From the history of the Czech RES support9

Introduction of revised RS support scheme

- Act 165/2012 col. (valid from 2013)
- Complete change of the logic, FIT are derived from 15 year payback, significant reduction of FIT values
- FIT are available only for smaller plants, FIP on hourly base (relation with the spot market)
- Possibility to include state strategy – link to NREAP (possible roofs for individual RES categories)
- Support of RES heat
- Gradual change in RES categories – PV, co-firing and biogas are nomore supported (since 2014)

RES support – present state

Validation of licenses (PV) issued in the past

- Some licenses were (and are) subject of police investigation and brought before the court (series of 22 cases, several licences already cancelled)

Notification of RES support scheme

- Application at the end of 2012 – still not finished
- Great discussions on price ERO price decision for 2016 (signed only at the end of December, 2015)
- High uncertainty for the investors and operators

RES support – present state 2

Notification process

- Case divided into 6 individual subcases:
 1. RES power plant with operation start between 2013-2015 (Act 165/2012 Col.)
 2. Small hydro power plant with start of operation in 2016-2020
 3. Heat from biogas stations (up to 500 kW) with start of operation in 2016-2020
- These three cases are finished – notification issued
- ERO price decision for 2017 already announced

RES support – present state 3

Notification process

- Still on waiting list:
 - RES power plant with operation start between 2006 and 2012 (Act 180/2005 Col.) – by far the biggest part of the problem
 - Secondary and non traditional sources
 - Heat from RES/cogeneration, divided into other three subcases

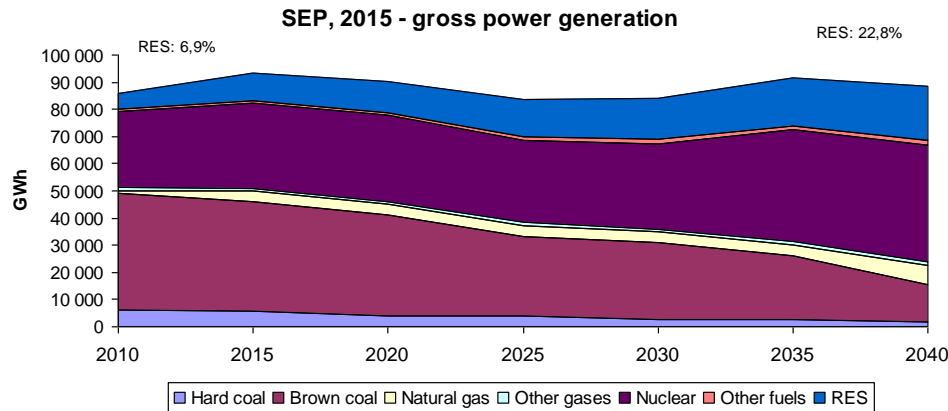
Expectation

- Successful finish of notification of support according to Act 180/2005 (if not, critical situation)
- Non traditional sources and possibly some parts of cogeneration only in next year
- Stagnation of RES development

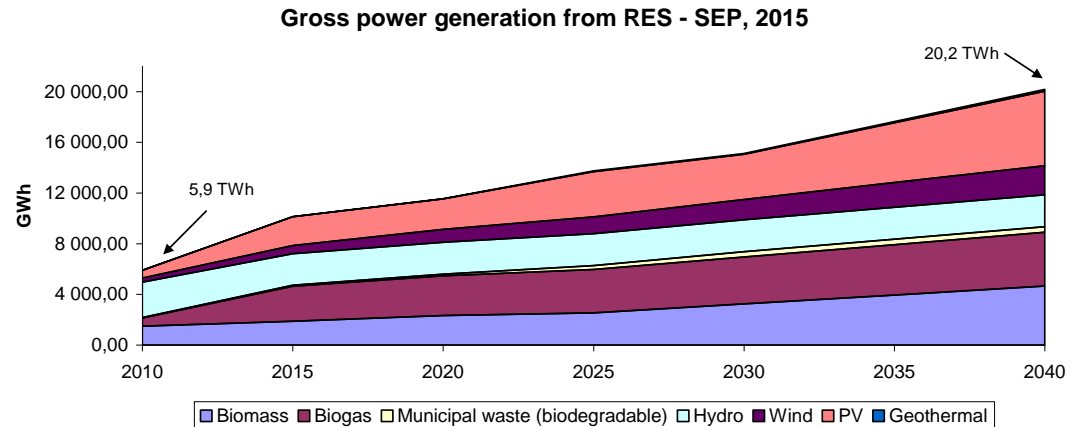
RES perspectives 1

Updated Czech Energy Policy

Relatively high expectation of RES development



But, is it realistic ?



RES perspectives 2

Many obstacles still exists

- e.g. very complicated permission proces (EIA, etc.)
- negative attitude of many municipalities and regional councils (wind turbines)
- only limited amount of suitable locations (namely wind, small hydro)
- last years we concentrated to notification and to solve problems from the past
- unclear continuation of RES support
- postponed solution of distribution tariff changes

RES perspectives 3

Potential RES market

- Small PV on roofs (negative conditions for large PV projects)
- Cogeneration – potential substitution of domestic coal with biomass
- Heat pumps – support of household installation
- Small hydro – repowering (only small space for the new projects)
- Biogas – in agriculture already reached high share
- Land area for maize as the input into biogas stations: current app. 80-90 th. hectares would be more than doubled
- Still many of small and middle size companies operating RES plants, resell and concentration of the business is expected (and already started)



Thank you for your attention !

Děkuji za pozornost!