

Commission for Electricity and Gas Regulation

Electricity Generation Capacity in Belgium over the Period 2011-2020

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Context & Methodology

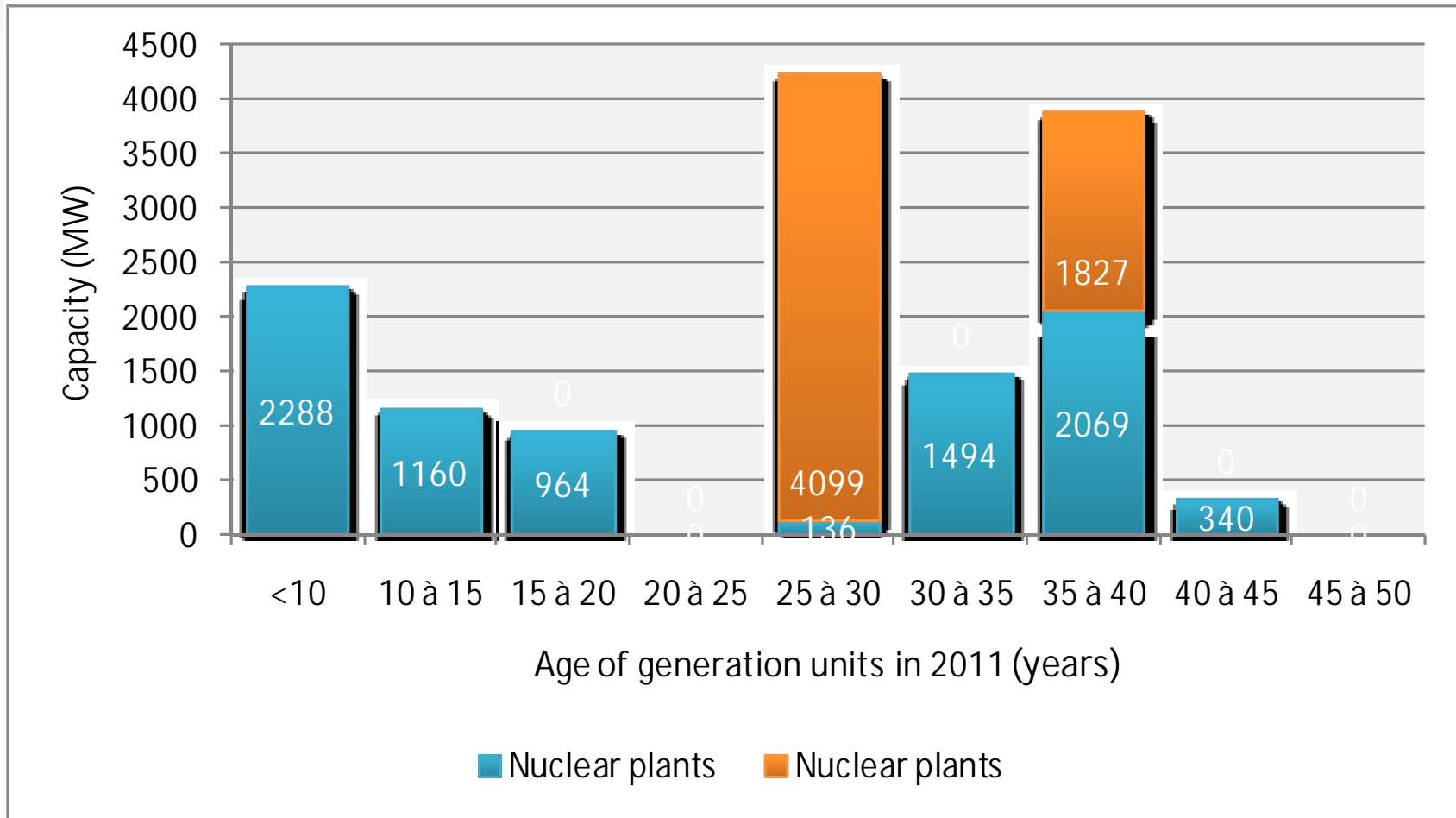
- Current legal framework
- Fukushima – direct consequences
 - Closing of German nuclear plants
 - Stress tests for nuclear plants in Europe
- Update of CREG-study 715 from 09/2007
- Study over timeframe 2011-2020
- Model Procreas : probabilistic calculation method with economic data
- Adequacy criterium : $LOLE = \max 16h/year$

Assumptions

- Evolution Electricity demand : +1.8%/year (projection ELIA high demand in project of development plan 2010-2020)
- No structural net import (self-security)
- +1146 MW new plants in 2011
 - T-Power, Marcinelle Energie, SPE (GT's Angleur) and Max Green
- Shutdown of plants
 - Nuclear : legal Belgian framework (40y)
 - Announced shutdowns of older plants
 - Expected maximum lifetime for other thermal units
 - LCP-Directive

Assumptions

Age of centralised units

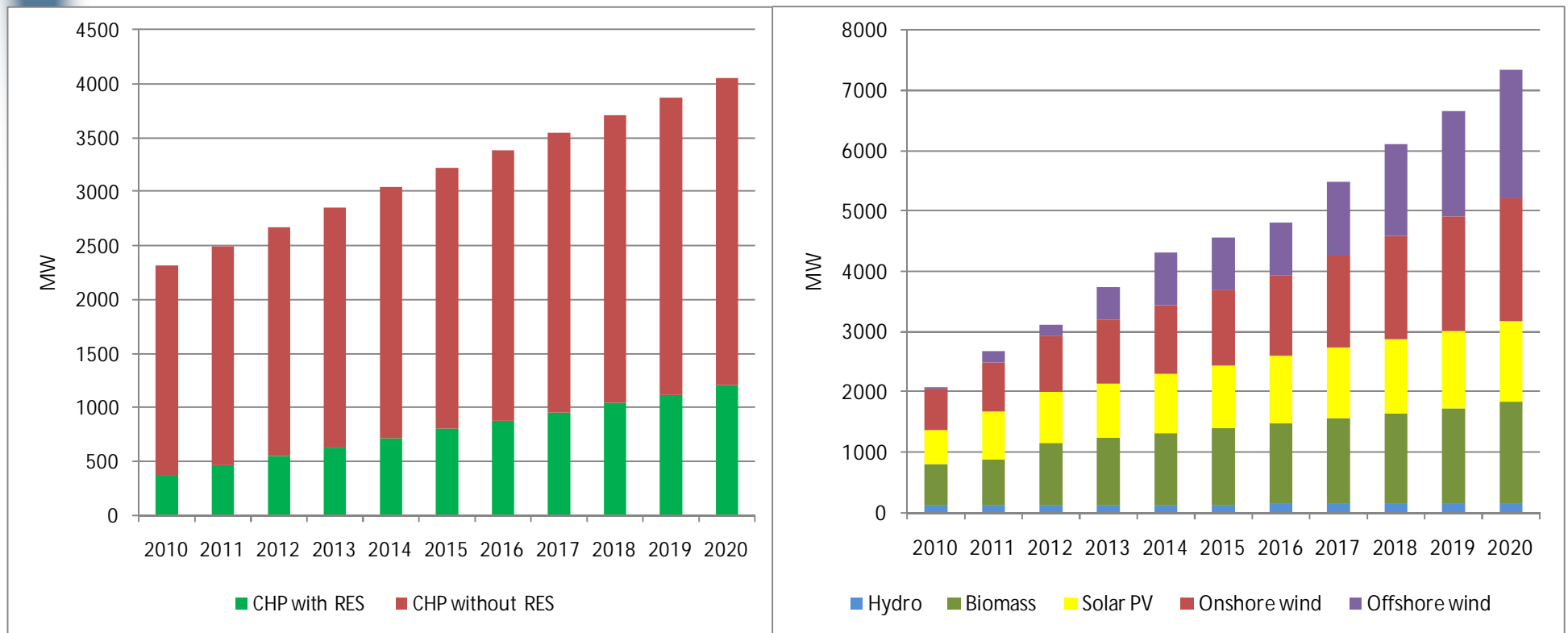


Assumptions

CHP and RES

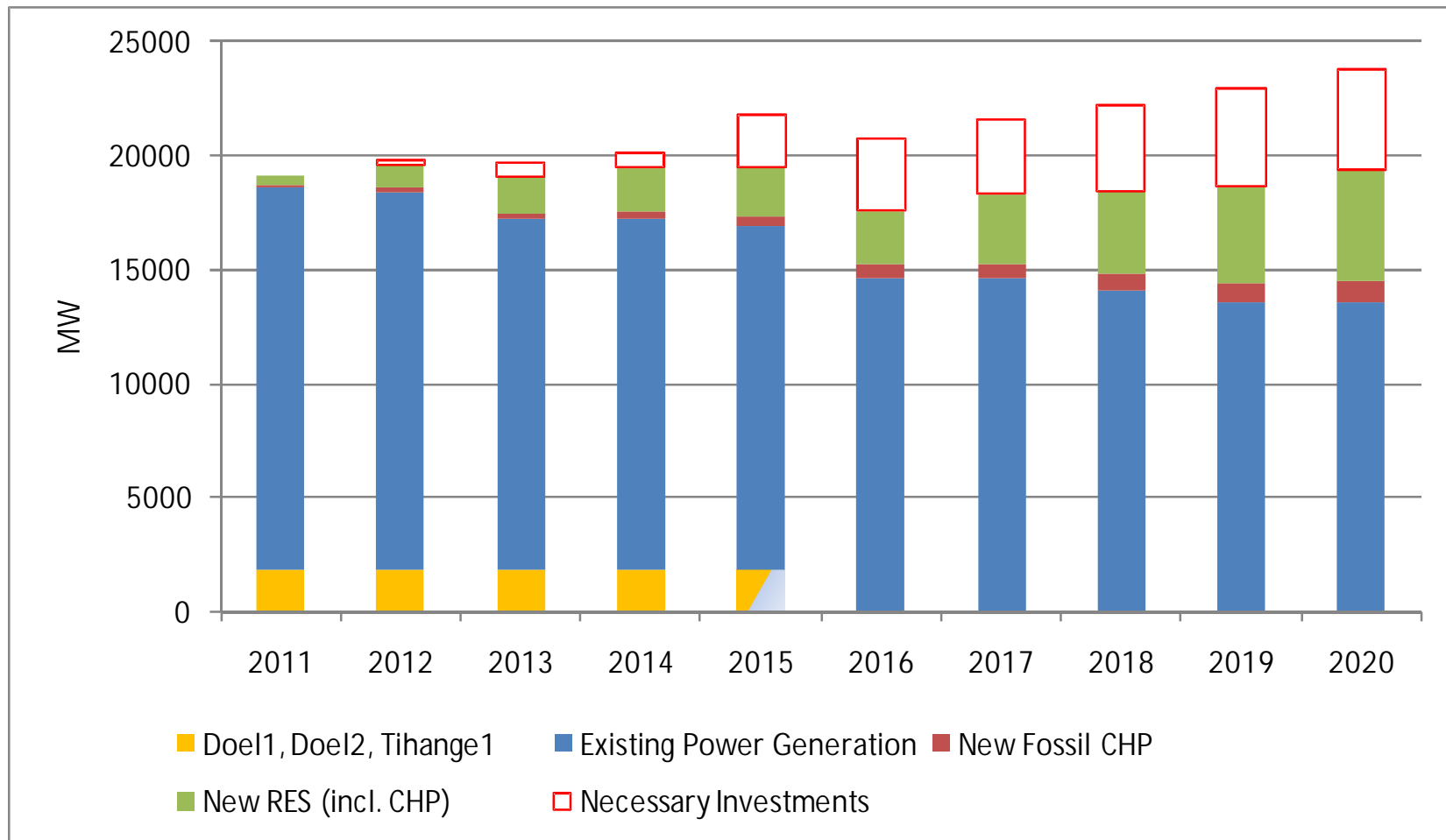
Evolution based on regional and federal forecasts

Electricity with RES in 2020 : 20% of Electricity consumption
(Belgian renewable target = 13% of GFEC)



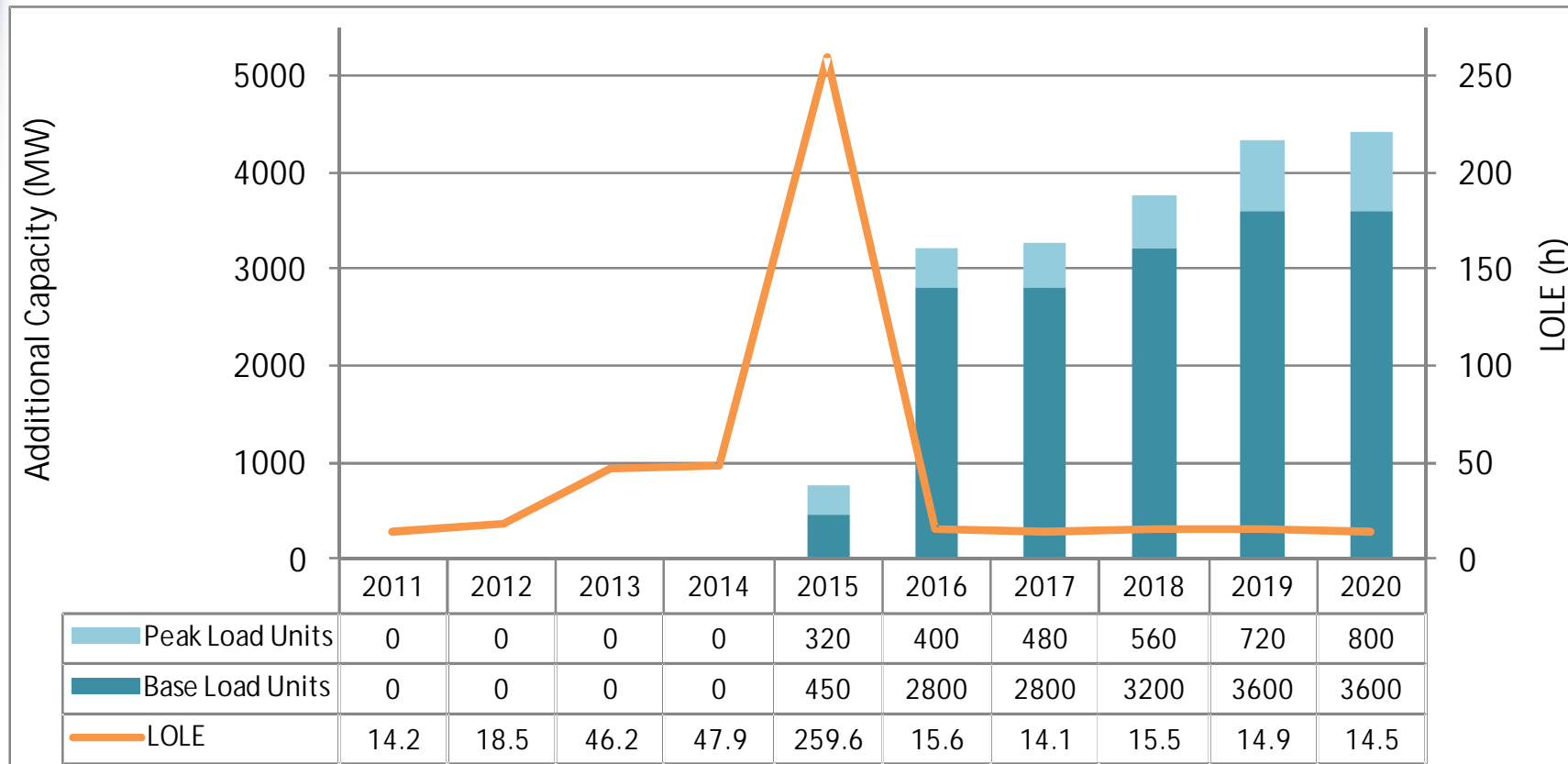
Results

Evolution generation capacity for electricity



Results

Evolution LOLE with possible investments



Conclusions

- Sufficient number of projects in the pipeline to cover needs till 2020 (yet to be decided)

But

- Most of these projects cannot be realized before 2016.
- Closing of classic thermal generation units on top of the shutdown of three oldest nuclear plants
- Increased risk over the period 2012 -2015
- Early shutdown of three oldest nuclear plants leads to an even higher risk
- (transitional) measures are necessary

Recommendations

- NegaWatts
- Financial incentives for new power plant investments
- Exceptional measures :
 - Extension of Nuclear lifetime with 1 or 2 years for 3 oldest reactors (D1, D2 en Ti1)
 - Maintain availability of certain old thermal power plants beyond their normal lifetime (LCP)
- Stress test results and political decision ASAP



Study 1074 available at

www.CREGI.be

