

Cogeneration Roadmap for Latvia

SUMMARY

November 2014

Leading CODE2 Partner: Jozef Stefan Institute, Slovenia

Summary

Latvia is between the top 3 MSs in EU by its higher than 40% share of high efficient cogeneration (CHP) in total gross electricity production due to a very intensive recent development with a more than doubling of the CHP capacity in the period 2006 – 2013. CHP plants mainly using natural gas contribute more than a half of the Latvian electricity generation beside more than 45% share of hydro generation. Latvia is still net importer of electricity at the level more than 15%. Cogeneration fits well to the ambitious national goals for the increase the use of renewable energy sources (40% share till 2020 and to 50% share till 2030) and energy efficiency to decrease current high energy dependency. Fast recent CHP growth and high penetration of cogeneration especially in district heating as a result of proper CHP position in national energy policy with incentive support framework are key drivers for general high CHP awareness in Latvia. How to preserve the current volume of CHP generation and further future development is huge financial challenge in current unfavourable energy market conditions which have increased the requested CHP support intensity and enlarged the needed financial resources.

The CHP roadmap path would deliver up to 1 TWh/a of primary energy saving (PES) and 0,5 million tonnes of CO₂ reductions are achievable till 2030. Increase of sustainable CHP electricity generation by new CHP units mainly using RES for up to 0,9 TWh would decrease Latvian import dependency but not increase the primary energy supply. Fast and effective revision of the current CHP support scheme, providing the least feasible support to preserve the long term operation of CHP plants using natural gas and continuation of successful investment subsidies for increasing efficiency of district heating systems are key actions needed and will request adequate financial resources.

1. Where we are now

With a higher than 40% share of cogeneration in total gross electricity production and very intensive recent development with a more than doubling of the CHP capacity in the period 2006 – 2013 is Latvia between the top 3 MSs in EU. Hydro and mainly natural gas based CHP electricity generation provide more than 80% of the total electricity generation and 60% of the district heat supply in Latvia.

2. Energy and climate strategy

An increase of the use of renewable energy sources (RES) and increase of the energy efficiency are key strategic goals of energy and climate policy based on the Sustainable development Strategy of Latvia. Turn toward the electricity generation from RES will significantly contribute to the set ambitious target of 40% RES share in final energy consumption till 2020 and 50% till 2030 and decrease of the current high import dependency.

3. Cogeneration awareness

Fast

recent growth and high penetration of cogeneration especially in district heating as result of proper CHP position in national energy policy with incentive support framework are key drivers for general high CHP awareness in Latvia. High level on cogeneration awareness of energy utilities with proper support of domestic CHP engineering and technical services enables incentive environment for new CHP investment. Positive attitude of banks for financing the CHP projects due to profitable and secure support level is important factor to overcome current lack of financial resources and emerging ESCO services in Latvia.

4. Key observed existing barriers

Current unfavourable energy market conditions have increased the requested CHP support intensity and enlarged the needed financial resources which caused a huge financial burden for the final electricity prices and competitiveness of Latvian economy. How to preserve the recently augmented CHP generation and assure further CHP investments are key Latvian challenges. Lack of financial resources for financing the feed-in supports and CHP investment subsidies is the key barrier for continuation of successful Latvian CHP development.

5. Cogeneration potential

Several assessments proved existing potential for further growth of CHP and increase of CHP electricity generation for up to 1 TWh. Evident economical CHP potential will re-assessed within EED prescribed comprehensive assessment till end of 2015. Recent fast growth of RES CHP electricity generation proves huge bio energy CHP opportunities assessed also by the recent CODE2 analysis. Although a potential for micro CHP applications has not yet been assessed, good natural gas infrastructure offers a proper environment for development of micro CHP units in SMEs outside district heating area if necessary new incentives would be introduced in Latvia.

6. The roadmap

To assure adequate necessary financial resources and preserving long term stable and predictable incentive legal framework for cogeneration is key priority necessary for keeping current volume and enabling further future CHP development in Latvia. Fast and effective revision of the current CHP support scheme, providing the least feasible support to preserve the long term operation of CHP plants using natural gas and continuation of successful investment subsidies for increasing efficiency of district heating systems are key actions needed.

At least 20% or 0,9 TWh increase of current CHP electricity generation is by proposed CHP road map implementation. Majority of close to 175 MWe of new CHP capacity would be installed in district heating and using renewable energy sources. Moderate CHP development is expected also in other sectors and SMEs. The current high more than 40% share of CHP electricity generation in final electricity demand could be preserved till 2030.

Potential CHP primary energy savings could contribute up to 1 TWh or up to 10% of the indicative national target of primary energy savings till the year 2020 and reduce CO₂ emissions for up to 0,5 million tons of CO₂ till the year 2030. Growth of CHP generation will enable efficient and sustainable domestic electricity and heat generation mainly from renewable resources and significantly contribute to the decrease of Latvian import dependency.

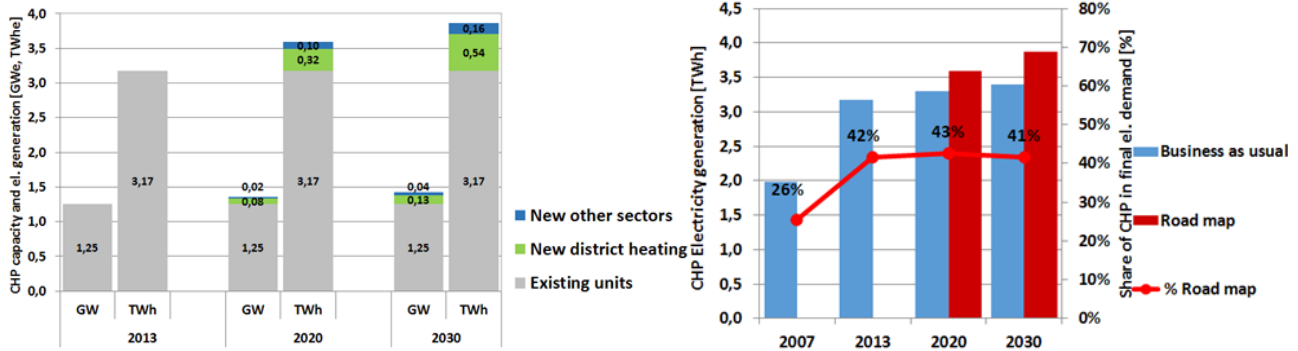


Figure 1: CHP Roadmap target path to CHP growth till the year 2030

For more detailed information about the Cogeneration Roadmap for Latvia please refer to the complete document available at the www.code2-project.eu.

About CODE2 project:

This roadmap has been developed in the frame of the CODE2 project, which is co-funded by the European Commission (Intelligent Energy Europe – IEE) and will launch and structure an important market consultation for developing 27 National Cogeneration Roadmaps and one European Cogeneration Roadmap. These roadmaps are built on the experience of the previous CODE project (www.code-project.eu) and in close interaction with the policy-makers, industry and civil society through research and workshops.

The project aims to provide a better understanding of key markets, policy interactions around cogeneration and acceleration of cogeneration penetration into industry. By adding a bio-energy CHP and micro-CHP analysis to the Member State projections for cogeneration to 2020, the project consortium is proposing a concrete route to realise Europe's cogeneration potential.