

Bioenergy Retrofits for Europe's Industry – The BIOFIT Project

BIOFIT Industry Fora:

Bioenergy retrofit of facilities in the CHP and heat-only sector

19 April 2021, online

Göran Gustavsson, Regional Energy Agency of southeast Sweden



This project has received funding from the European Union's Horizon2020 research and innovation programme under grant agreement No 817999.



Decarbonisation of the sector is on-going

Directives and legislations in the EU are striving for decarbonisation

'Gas is over': EU bank chief signals phaseout of fossil fuel finance

Published on 21/01/2021, 11:07am

The European Investment Bank provides limited support for gas under its current policy and intends to end all funding for fossil fuels before the end of the year



Source: [https://www.climatechangenews.com/](https://www.climatechangenews.com/2021/01/21/gas-eib-president-signals-complete-phase-unabated-fossil-fuels/)

2021/01/21/gas-eib-president-signals-complete-phase-unabated-fossil-fuels/

DENMARK WILL PHASE OUT COAL BY 2028



The last coal-fired combined heat and power plant in Denmark will close in 2028, thereby bringing the national coal phase-out forward by two years.



HUNGARY BRINGS COAL PHASE-OUT FORWARD BY 5 YEARS

Hungary is the sixth European country to bring forward its coal phase out plan, announcing that it will shut its last coal plant in 2025.

Source: <https://beyond-coal.eu/coal-exit-timeline/>



EUROPE IS HALFWAY TO CLOSING ALL ITS COAL PLANTS

Five years from the UN Paris Climate Agreement, half of all coal plants operating or under construction in Europe (162 out of 324) have been closed, or have announced they will close by 2030.



2 CHPS SWITCH FUEL & LAST NEW COAL PROJECT CANCELLED IN CZ

Two days ago, Czech energy company C-Energy announced to convert its Plana coal-fired CHP plant to biomass. Veolia Czech Republic recently confirmed, that coal use in its Karvina CHP plant will end in 2026 and the new multi-fuel boiler planned will not burn coal.

Retrofitting often means lower capital expenditure, shorter lead times, faster implementation, less production time losses and lower risks

BIOFIT Overall Objective

Support and initiate bioenergy retrofitting opportunities in five industry sectors



combined heat and power



fossil firing power



first-generation biofuels



fossil refineries



pulp and paper

leading to an increase in the share of renewable energy in the final EU energy consumption

BIOFIT Case Studies



1G biofuels:

1. Biocarburantes de Castilla y Leon (ES)
2. Swedish Biofuels (SE)



Pulp and Paper:

1. AustroCell Hallein (AT)
2. C-Green (FI)



Fossil refineries:

1. Hellenic Petroleum / Thessaloniki Refinery (GR)
2. Preem / Lysekil (SE)



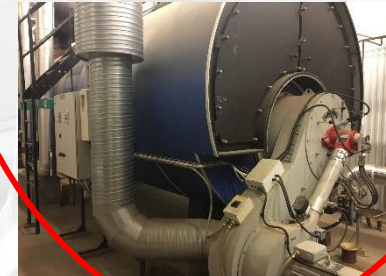
Fossil power:

1. EPBiH/ Tuzla (BA)
2. EPProduzione / Fiume Santo (IT)



Combined Heat & Power:

1. EPBiH/ Kakanj (BA)
2. Sölvesborgs Energi (SE)



- Develop 10 concrete proposals (Case Studies) for bioenergy retrofitting together with industry and market actors
- Obtain an overview of options for bioenergy retrofitting
<https://www.biofit-h2020.eu/publications-reports/BioFitHandbook-2020-03-18.pdf>
- Involve, engage and support stakeholders and market actors, providing opportunity for dialogue, and developing best practices and tools
<https://www.biofit-h2020.eu/biofit-factsheets/>
- Evaluate framework conditions (legal, institutional and political) to identify- generic and industry-specific - barriers and enablers
- Provide advice to policy makers at national and regional level to serve as input for more informed policy, market support and financial frameworks



BIOFIT Project Overview

- BIOFIT - Bioenergy Retrofits for Europe's Industry
- Coordination and Support Action (CSA)
- Co-financed by the European Commission (Horizon 2020 / Grant Agreement No: 817999)
- Topic: LC-SC3-RES-28-2018-2019-2020 (Market Uptake support)
- Project duration: October 2018 – September 2021
- Budget: 2.6 million EUR
- Coordinator: BTGBiomass Technology Group BV, The Netherlands



BTGBiomass Technology Group BV, The Netherlands
 Patrick Reurman
reurman@btgworld.com
www.btgworld.com



VTT Technical Research Centre of Finland Ltd, Finland
 Heidi Saastamoinen
heidi.saastamoinen@vtt.fi
www.vttresearch.com



Stichting Wageningen Research, The Netherlands
 Marieke Meeusen
marieke.meeusen@wur.nl
www.wur.nl



WIP Renewable Energies, Germany
 Dominik Rutz
Dominik.Rutz@wip-munich.de
www.wip-munich.de



Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas, Spain
 Mercedes Ballesteros
m.ballesteros@ciemat.es
www.ciemat.es



Swedish Biofuels AB, Sweden
 Andrew Hull
andrew.hull@swedishbiofuels.se
www.swedishbiofuels.se



BBEST, Austria
 Dina Bacovsky
dina.bacovsky@best-research.eu
www.best-research.eu



ESS- Energikontor Sydost AB, Sweden
 Göran Gustavsson,
goran.gustavsson@energikontorsydost.se
www.energikontorsydost.se



Hellenic Petroleum S.A., Greece
 Spyros Kiartzis
skiartzis@helpe.gr
www.elpe.gr



Deutsches Biomasseforschungszentrum gemeinnützige GmbH, Germany
 Stephanie Hauschild
Stephanie.Hauschild@dbfz.de
www.dbfz.de



JElektroprivreda BiH d.d.-Sarajevo, Bosnia and Herzegovina
 Anes Kazagic
a.kazagic@epbih.ba
www.epbih.ba/eng



Biocarburantes de Castilla y León S.A., Spain
 Juan María García Alonso,
Juan.garcia@vertexbioenergy.com



Centre for Research & Technology, Hellas, Greece
 Manolis Karampinis
karampinis@certh.gr www.certh.gr,
www.cperi.certh.gr



Technip Benelux B.V., The Netherlands
 Mark Wanders
mark.wanders@technipfmc.com
www.TechnipFMC.com

The webinar of today

Time	Topic	Speaker
12.50 – 13.00	Tech check	-
13.00 – 13.15	Welcome and introduction to the BIOFIT project	Göran Gustavsson, Regional Energy Agency of Southeast Sweden
13.15 – 13.30	Burner technologies, bioenergy conversion to wood powder, prerequisites and driving forces	Björn Forsberg, WTS
13.30 – 13.45	The case Lantmännen Åhus, SE: Grain dryer, 6 MW gas to wood powder/gas	Gustaf Tynelius, Lantmännen
13.45 – 14.00	The case Stalowa Wola, PL: Steamboiler CHP, 8 times 16.5 MW coal to biomass	Artur Swiderski, WTS
14.00 – 14.10	Q&A and short break	All
14.10 – 14.25	Utilizing present equipment for sustainable fuel conversions	Johanna Lindén, PetroBio
14.25 – 14.40	Burner technologies and other considerations when converting to bio-oil, prerequisites and driving forces	Stefan Roslund, Consultant, Semix Consult AB
14.40 – 14.55	"Policies and recommendations for decarbonisation of the CHP and heat only sector".	Gustav Melin, Swedish Bioenergy association, SVEBIO
14.55 – 15	Q&A and wrap-up	All

Thank you for your attention!

Contact

Regional Energy Agency of southeast Sweden

Göran Gustavsson

Email: goran.gustavsson@energikontorsydost.se

Website: <http://energikontorsydost.se/en>



The sole responsibility for the content of this document lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the INEA nor the European Commission are responsible for any use that may be made of the information contained therein.

