BIOFIT

Bioenergy Retrofits for Europe's Industry

Welcome and introduction to BIOFIT

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Contents

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1. Overview and overall objectives
2. Project characteristics and partnership
3. Mapping of retrofitting options
4. Case studies
5. Other BIOFIT activities

Ptolemaida V 600 MWe power station (under construction), Due to the 2028 Greek Coal phase-out, a bioenergy retrofit is considered.

Overview and overall objective

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58% of EU's renewable energy in 2018 was provided by bioenergy

IEA Technology Roadmap (2017) "Modern bioenergy plays an essential role in the International Energy Agency (IEA) 2°C Scenario (2DS) providing nearly 17% of final energy demand in 2060 compared to 4.5% in 2015"

EU Taxonomy (2021): "bioenergy is no longer labelled as transitional…"

Overview and overall objective

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Bioenergy retrofitting

Bioenergy retrofitting can be used to replace fossil fuels or upgrade outdated renewable technologies

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

Overall objective BIOFIT

"to facilitate the introduction of bioenergy retrofitting in five exemplary industries, namely **first-generation biofuels**, **pulp and paper**, **fossil refineries**, **fossil firing power** and **Combined Heat and Power (CHP) plants**, leading to an increase in the share of renewable energy in the final EU energy consumption."

Project characteristics and partners

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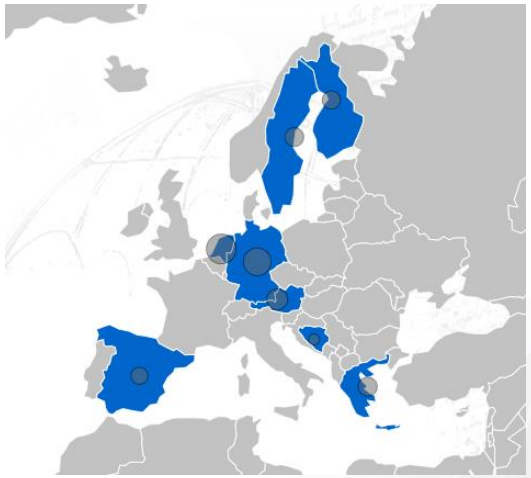
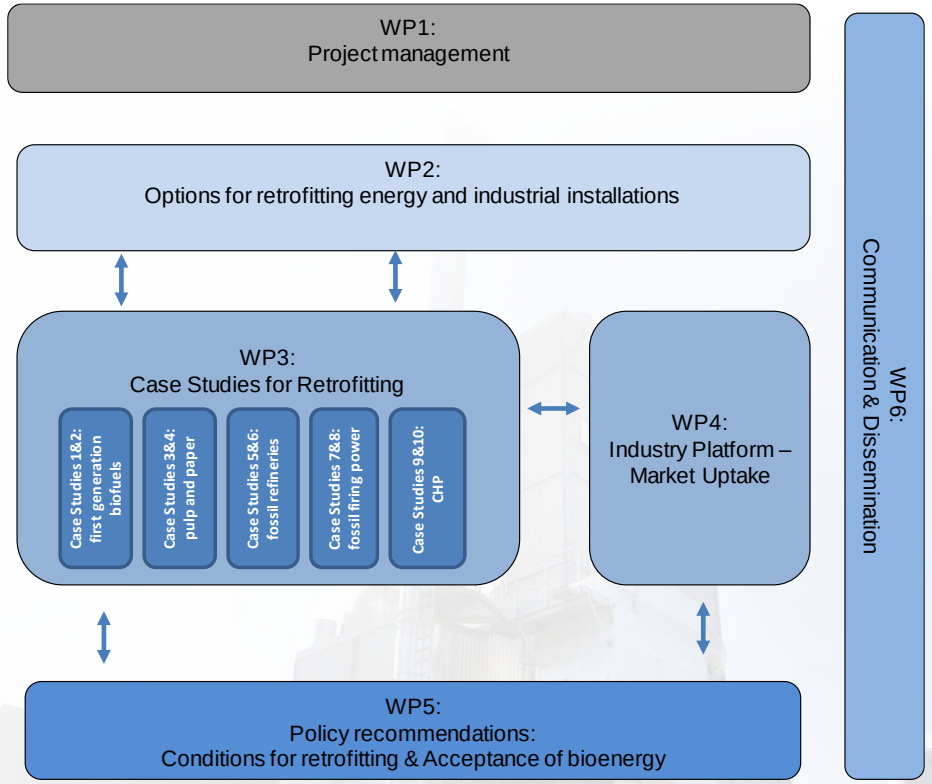
Project characteristics

- Duration; 1 October 2018 – 31 March 2022
- Budget: 2,6 MEuro
- Six Work Packages
- Partners: 14 partners from 8 countries

btg biomass technology group
energikontor sydost
HELLENIC PETROLEUM
DBFZ
BEST Bioenergy and Sustainable Technologies
BIOCARBURANTES DE CASTILLA Y LEON SA
WAGENINGEN UNIVERSITY & RESEARCH
VTT
Ciemat
WIP RENEWABLE ENERGIES
CERTH CENTRE FOR RESEARCH & TECHNOLOGY HELLAS
TechnipFMC
Swedish BioFuels
JP ELEKTROPRIVREDA BiH





Mapping of retrofitting options

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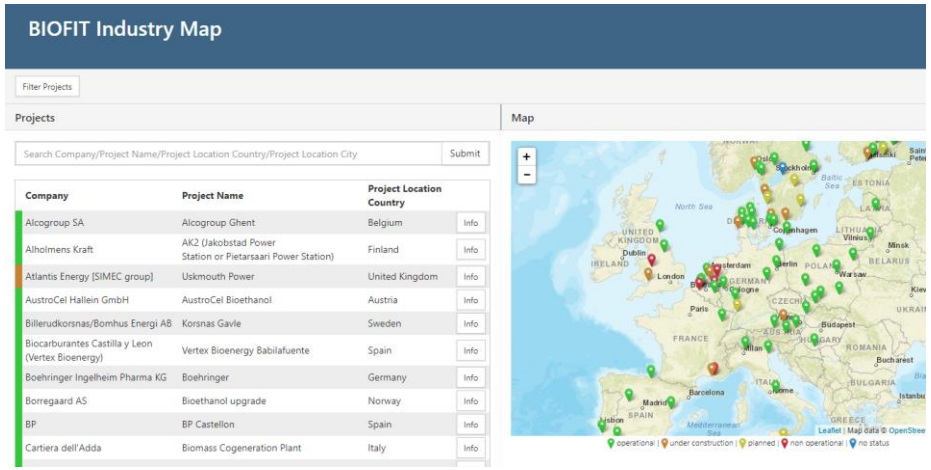
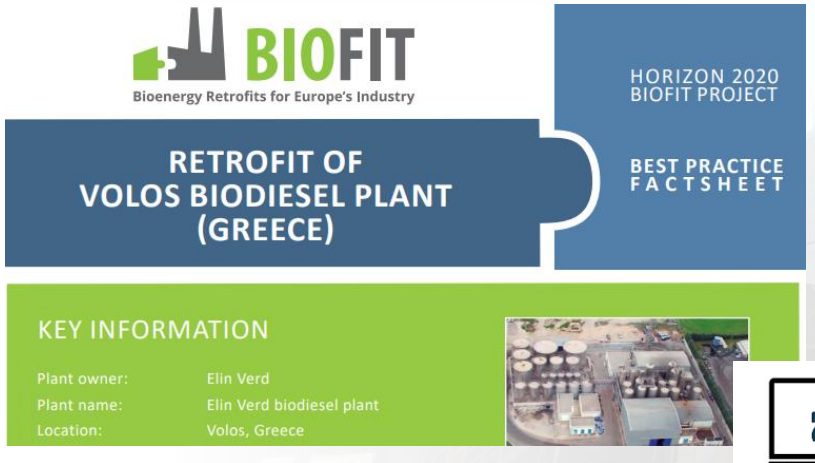
Biofit has identified, studied and is disseminating **existing retrofit examples** focusing both on **technical** and **non-technical** aspects via a survey, an Industry Map, Fact Sheets, a Handbook

A set of DST tools will be available on our website





Case studies

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Biofit has developed 10 Concrete proposals – 2 per industry sector – in cooperation with industrial market players with actual retrofitting plans

1G biofuels: Biocarburantes de Castilla y Leon and Swedish Biofuels

Pulp and Paper: AustroCell Hallein and C-Green

Fossil refineries: Total and Hellenic Petroleum

Fossil fired power: Elektroprivreda BiH and EP Produzione

Combined heat and Power: Elektroprivreda BiH and Solvesborgs Energi

Main conclusions:

- There are many new technological options for bioenergy retrofitting
- Nearly all case studies result in an economically feasible project.
- Retrofitting will often result in a significant CAPEX reduction of around 50%, or in some cases over 85%.

Other BIOFIT activities

Evaluating **framework conditions** (legal, institutional and political) to identify – generic and industry-specific – barriers and enablers

Biofit is focusing on **actual barriers** for industry retrofitting, and tackle **acceptance issues** of bioenergy

Provision of **advice to policy makers** at national and regional level

Other BIOFIT activities

Biofit aims to inform, support and facilitate dialogue with industry, through dedicated meetings, direct contact, surveys, and presentations at conferences

Other BIOFIT activities

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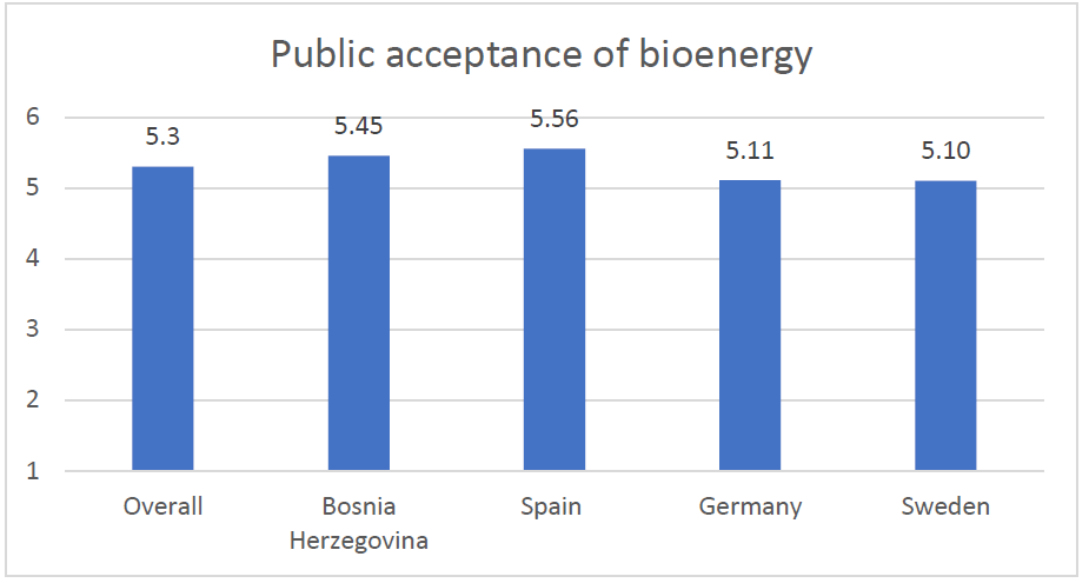
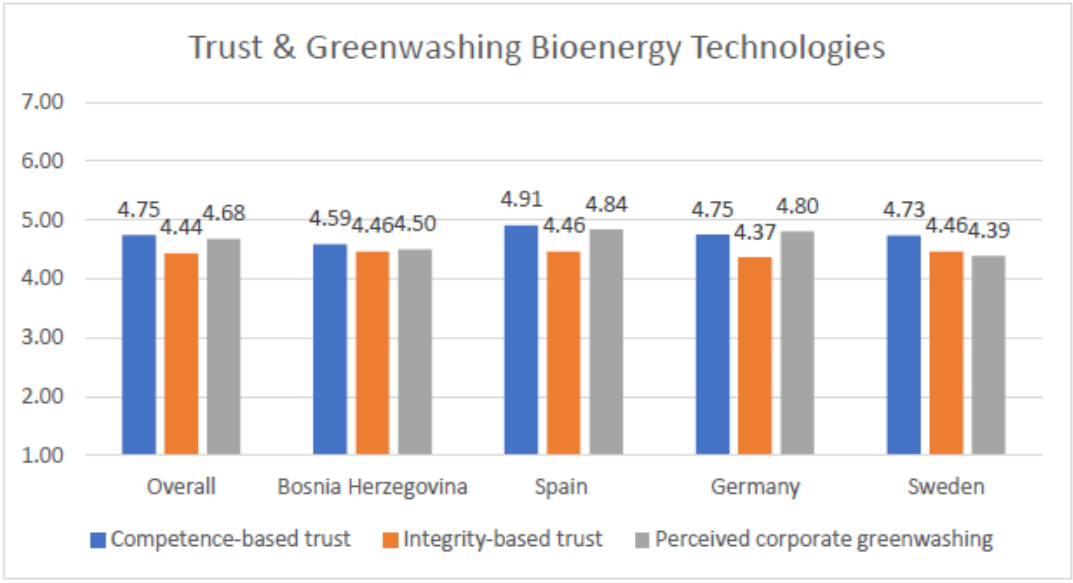
In a survey of 3,200 members of the general public in four countries (Bosnia and Herzegovina, Germany, Spain, and Sweden), attitudes towards bioenergy and retrofitting were investigated.





Public acceptance of bioenergy is relatively high….

..but less so when asked about the companies behind it.

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Visit biofit-h2020.eu

Thank you!