



Consumers as Guardians of the Power System

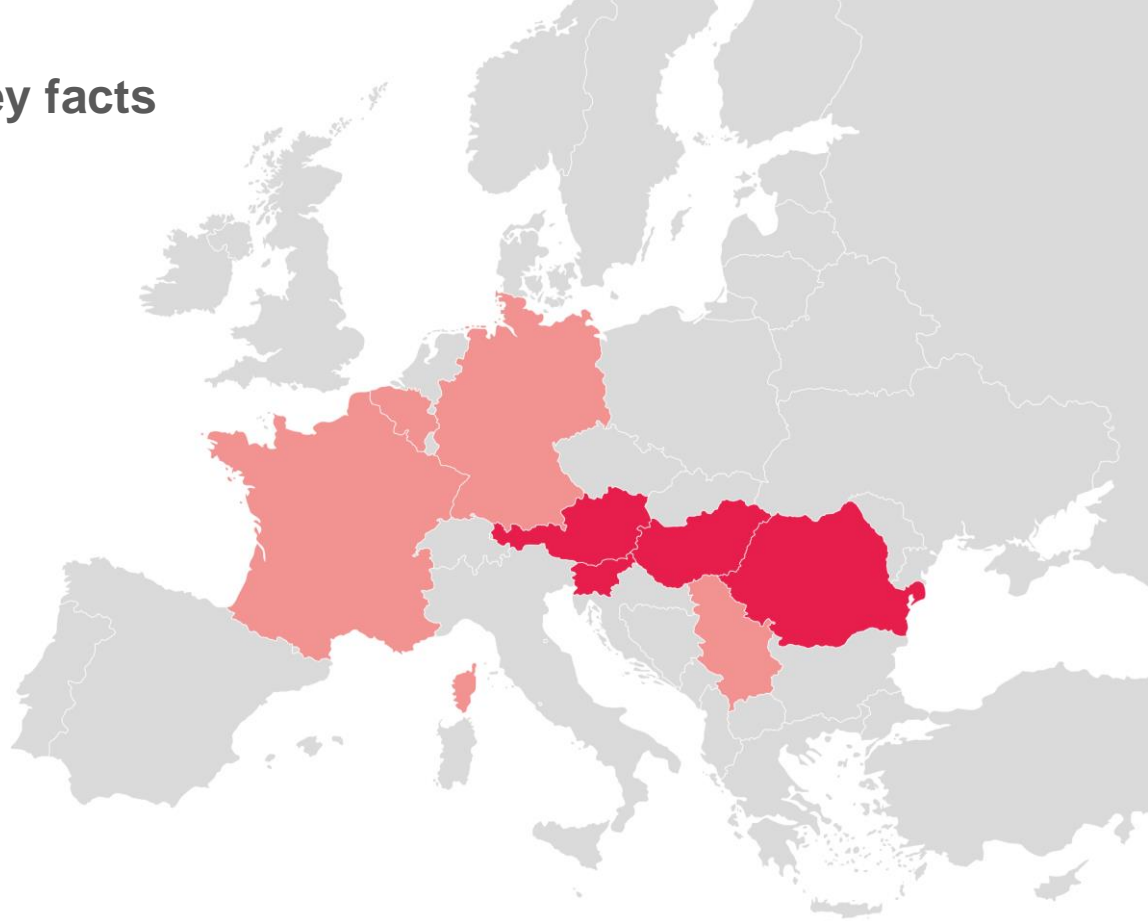
Gospodarska Zbornica Slovenije, December 2019

Darko Kramar,
Co-Coordinator of the FutureFlow Project



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n° 691777

Key facts



HORIZON 2020, Call

H2020-LCE-2015-3 Advanced architectures and tools for pan-European markets for ancillary services and balancing

Project title:

Designing eTrading Solutions for Electricity Balancing and Redispatching in Europe

Project acronym:

FutureFlow

Grant Agreement No.:

691777

Duration:

4 years (1.1.2016 - 31.12.2019)

Coordinator:

ELES d. o. o., Slovenia

Consortium:

12 partners from 8 countries

General objective:

To design and pilot test for access of advanced consumers and distributed generators to a Regional Platform for balancing and redispatching services

Maximum grant amount:

12,9 mio EUR



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n° 691777

2050 EU Goal
(Energy Roadmap 2050)

The EU is committed to reducing
greenhouse gas emissions
to 80–95% below 1990 levels
by 2050

2050 EU Goal
(Energy Roadmap 2050)



1990

2050



Germany to phase out coal by 2038 in move away from fossil fuels



Los Angeles Times

EUROPE WORLD

Germany to close all 84 of its coal-fired power plants, will rely primarily on renewable energy

By ERIK KIRSCHBAUM JAN 26, 2019 | 12:35 PM | BERLIN



Forbes

Billionaires Innovation Leadership Money Consumer Industry

1,684 views | Feb 1, 2019, 07:51am

Germany, Struggling To Reduce Emissions, Will Phase Out Coal Within 20 Years

 **Dave Keating** Contributor 
Energy



Europe | China-Europe | Opinion | Window of China | Latest | Photos | Video

www.news.cn

www.xinhuanet.com

EUROPE

Monday, March 25, 2019

Solar energy in Germany records strong growth in 2018

Source: Xinhua | 2019-02-01 00:03:48 | Editor: yan

BERLIN, Jan. 31 (Xinhua) -- Solar power plants with a total peak output of 2,960 megawatts were newly put into operation in Germany in 2018, marking an increase of 68 percent

TOP ST



Search jobs Sign in Search International edition

The Guardian

News Opinion Sport Culture Lifestyle More

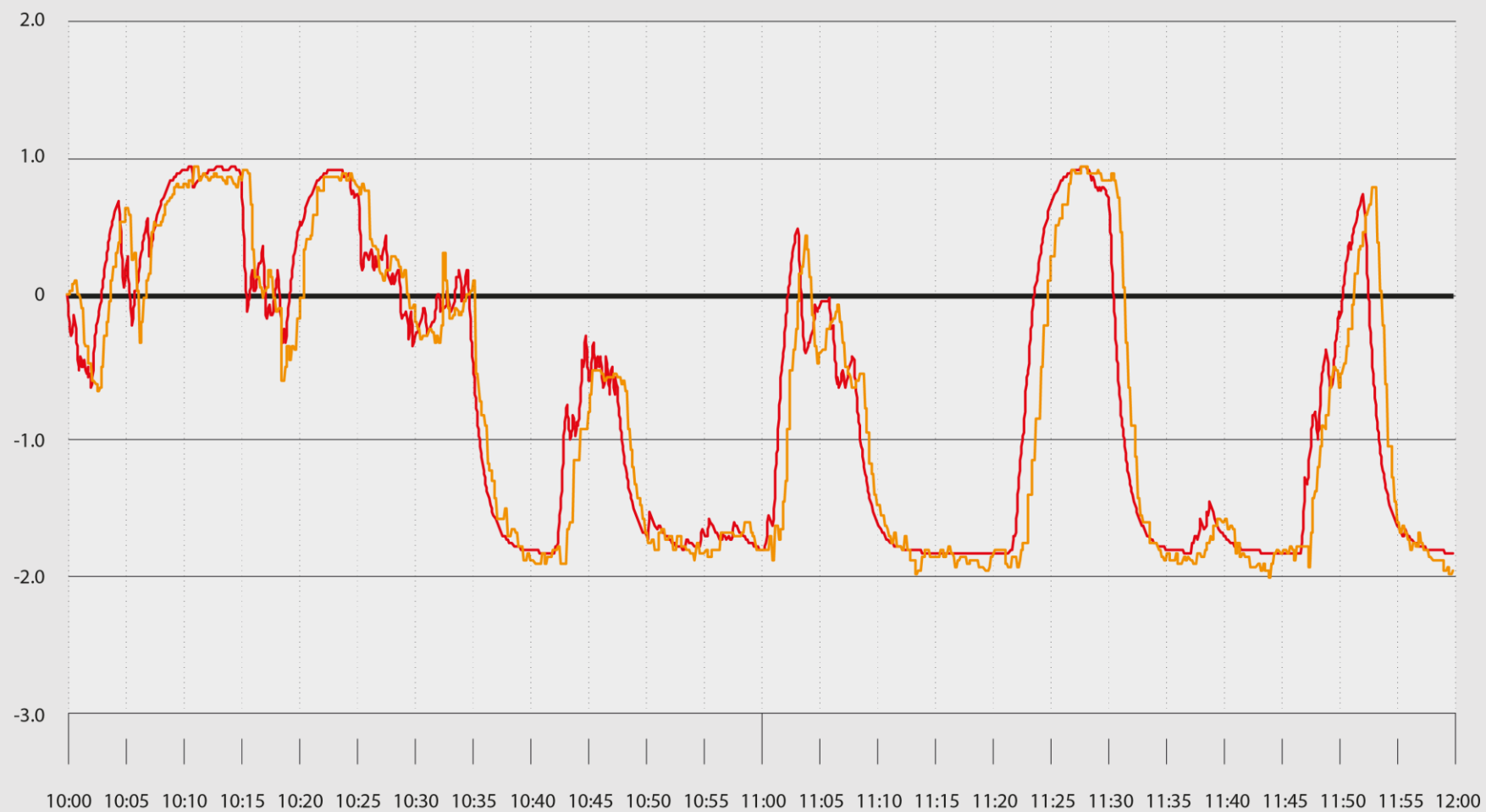
Environment Climate change Wildlife Energy Pollution

Germany agrees to end reliance on coal stations by 2038

Fossil fuels provide nearly 40% of country's power as tensions rise on phaseout timetable



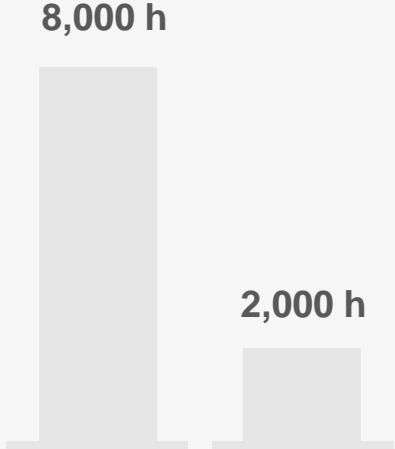
The FutureFlow project – developing an International market for most advanced frequency services in EU



What is happening today?



Lowering of operational hours of thermal power plants (coal power plants)



What is happening today?

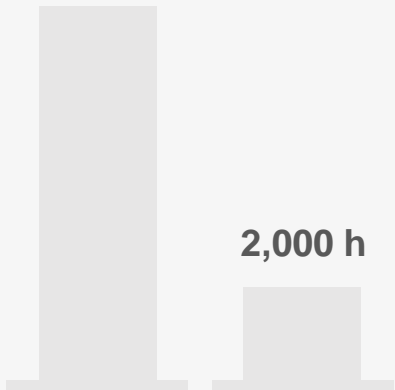


Lowering of operational hours of thermal power plants (coal power plants)

Introduction of capacity mechanisms for ensuring stability of operation with lower share of coal power plants

8,000 h

2,000 h



What is happening today?



Lowering of operational hours of thermal power plants (coal power plants)

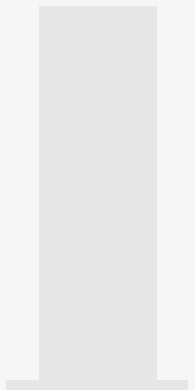


Introduction of capacity mechanisms for ensuring stability of operation with lower share of coal power plants

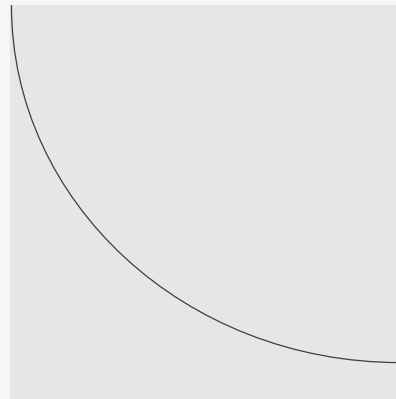
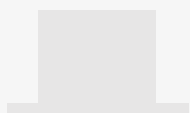


Switching thermal power plants to system services
Lowering the prices of system services

8,000 h



2,000 h



What is happening today?



Lowering of operational hours of thermal power plants (coal power plants)



Introduction of capacity mechanisms for ensuring stability of operation with lower share of coal power plants



Switching thermal power plants to system services

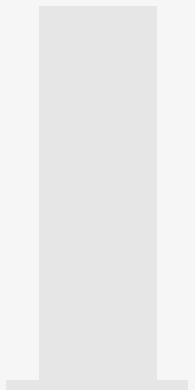
Lowering the prices of system services



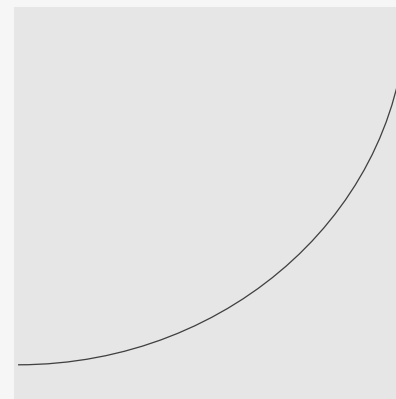
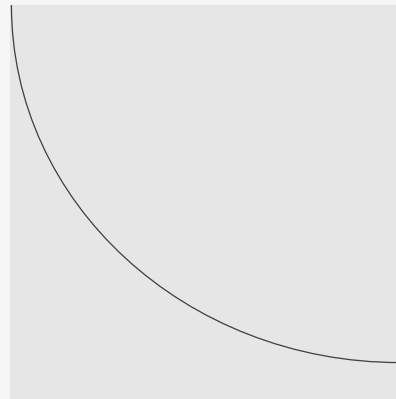
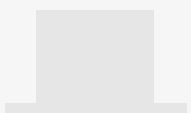
Closing of thermal power plants

Raising the prices of system services

8,000 h



2,000 h



What is happening today?

Lowering of operational hours of thermal power plants (coal power plants)

Introduction of capacity mechanisms for ensuring stability of operation with lower share of coal power plants

Switching thermal power plants to system services

Lowering the prices of system services

Closing of thermal power plants

Raising the prices of system services

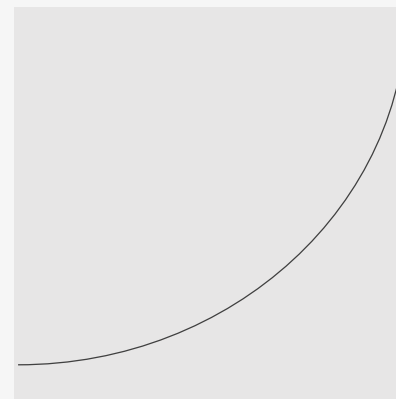
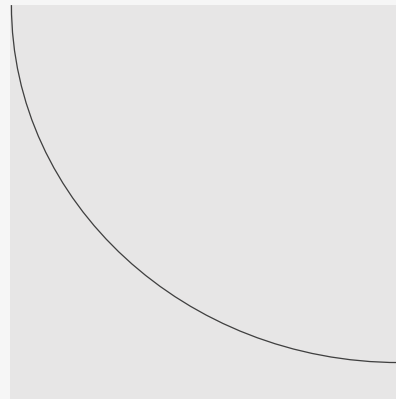
Centralised storage

Gas

 **FutureFlow**

8,000 h

2,000 h



2019

15

2035

The FutureFlow project –
developing an International
market for most advanced
frequency services in EU



Designing eTrading Solutions
for Electricity Balancing and
Redispatching in Europe



Project
FutureFlow

Slovenia, Austria, Hungary, Romania



www.futureflow.eu

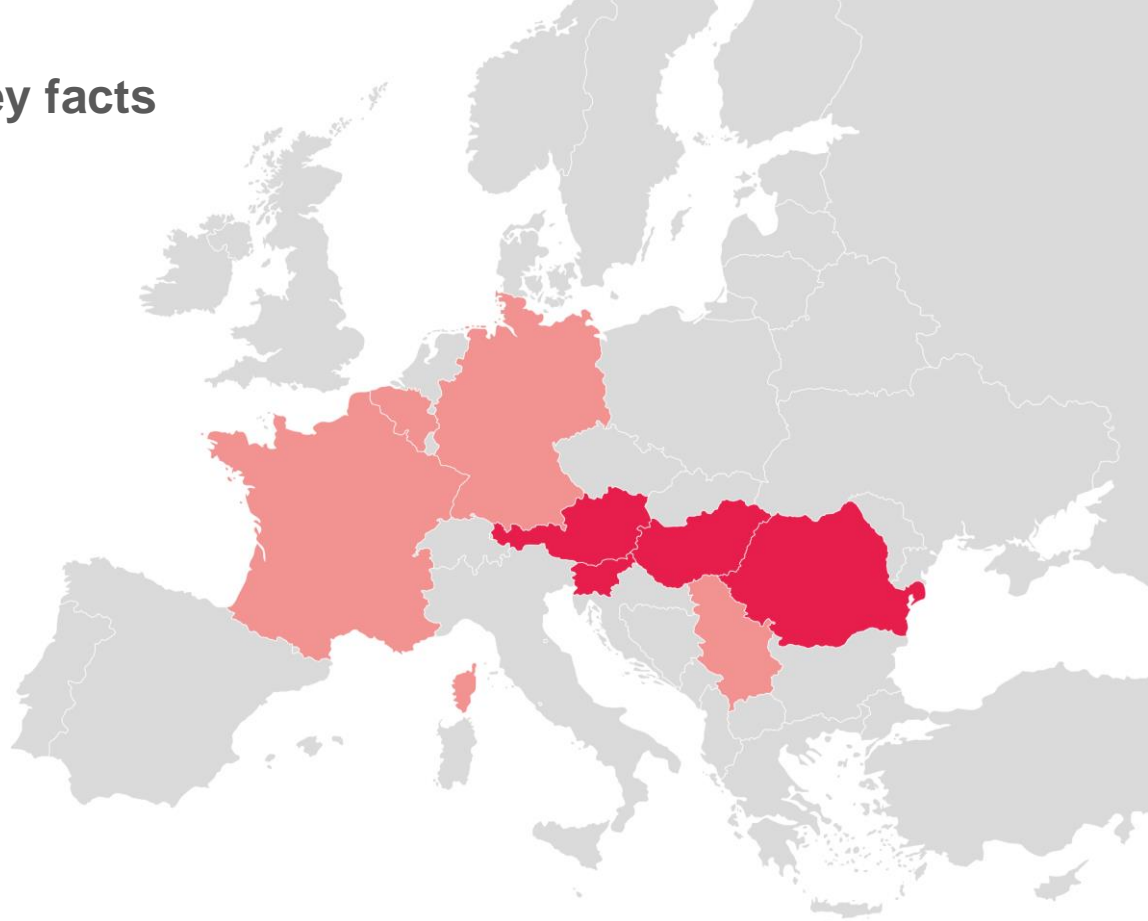


H2020

 **FutureFlow**



Key facts



HORIZON 2020, Call

H2020-LCE-2015-3 Advanced architectures and tools for pan-European markets for ancillary services and balancing

Project title:

Designing eTrading Solutions for Electricity Balancing and Redispatching in Europe

Project acronym:

FutureFlow

Grant Agreement No.:

691777

Duration:

4 years (1.1.2016 - 31.12.2019)

Coordinator:

ELES d. o. o., Slovenia

Consortium:

12 partners from 8 countries

General objective:

To design and pilot test for access of advanced consumers and distributed generators to a Regional Platform for balancing and redispatching services

Maximum grant amount:

12,9 mio EUR



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n° 691777