

# Short presentation of Norsk Energi – relevant projects

**"Environment, Energy and Climate Change Programme"**  
as part of the III edition of EEA and Norway Grants in Poland **03 March 2020**



# NORSK ENERGI

- Association established in 1916
- About 100 corporate members
- 80 experts with BSc, MSc and PhD
- Consultancy, engineering, analysis, capacity building and training
- Independent knowledge centre
- 90% of turnover from Norwegian projects
- 5 % international projects





# We promote green development



Energy efficiency in industry



Fossil free heating and cooling systems



Environmental friendly and energy efficient buildings



# Expertise on industrial waste heat utilisation



Utilisation of industrial hot off gases

Heat recovery

Energy efficiency

Renewable energy

Analysis of energy- and production data

Development of technical solutions

Piping

Profitability analysis

Energy management according to ISO 50001

# District heating boiler houses and distribution networks



Switch to renewable heating and cooling

Utilisation of low temperature waste heat sources

Simulation of distribution grids

Analysis of demand for heating and cooling

Recommendation of technical concepts

Piping

Investment and profitability analysis

Energy management according to ISO 50001

## Norsk Energi's environmental profile

### Environmental advisory

- New Directives, applications for environmental permits
- Environmental impact assessments
- Air emissions dispersion modelling
- Environmental audits

### Climate mitigation advisory

- GHG accounting and emissions factors
- Energy efficiency
- Renewables

### Capacity building and training, international projects

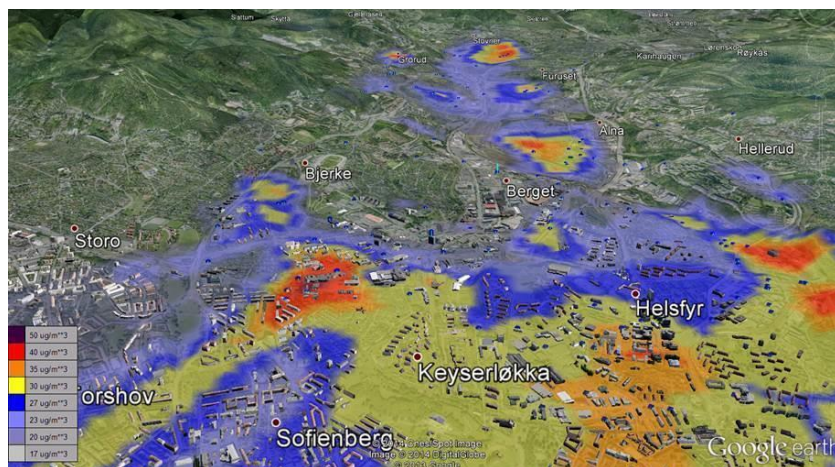


Aker Kværner –CO2 capture at Kårstø - 15 MW boiler plant

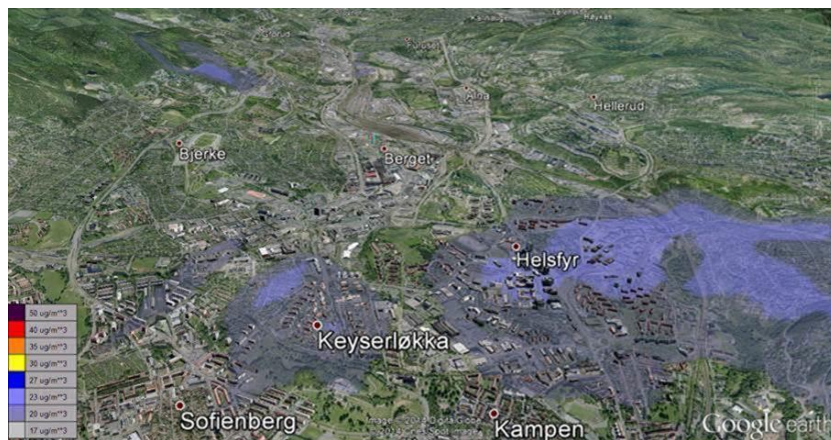


Capacity building and development of climate projects in Ukraine

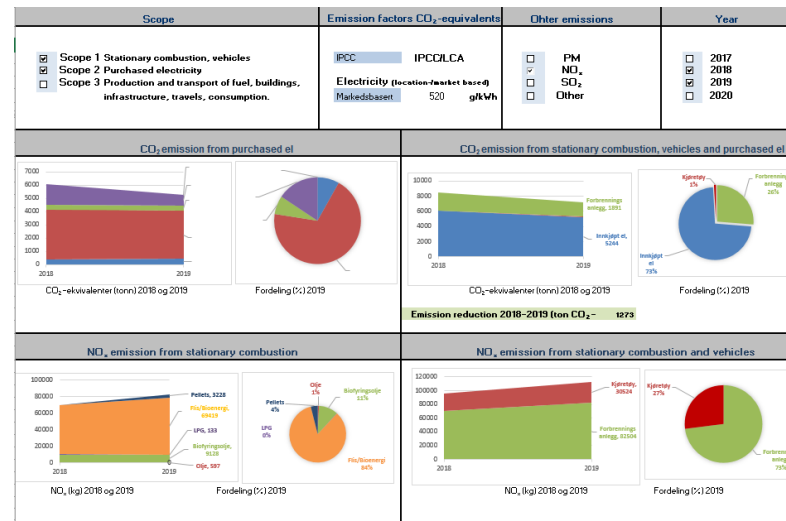
# Emission quantification and dispersion modelling



*Situation before new district heating plant. NO<sub>2</sub> (hourly mean)*



*Situation after new district heating plant. NO<sub>2</sub> (hourly mean)*

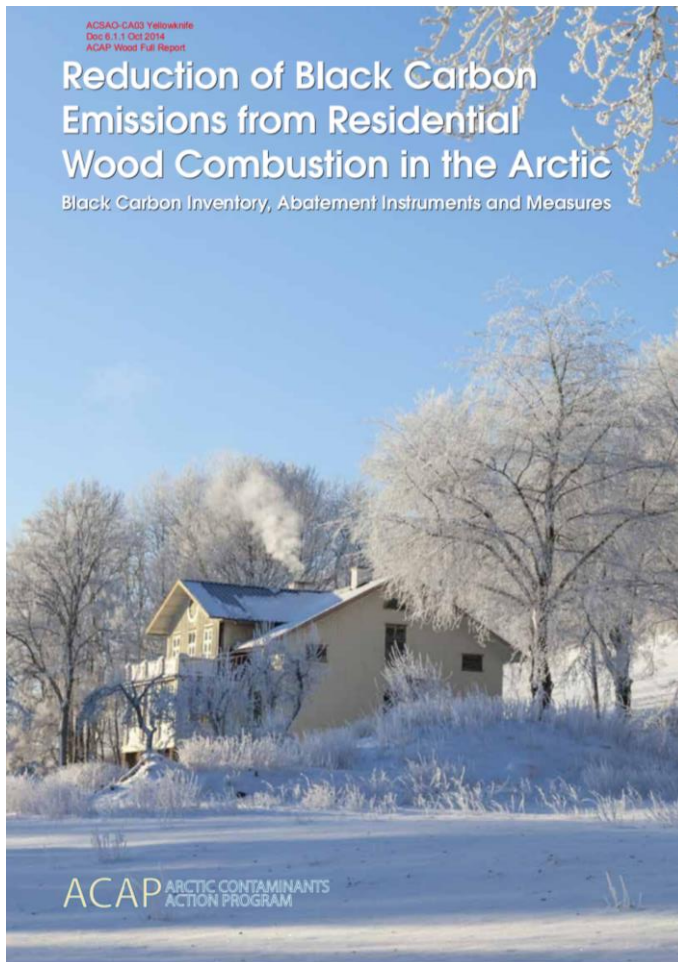


*GHG accounting. CO<sub>2</sub>, NO<sub>x</sub> and PM emission quantification*

- Dispersion and deposition modelling of emissions from carbon capture plants



# Reduction of Black Carbon Emissions from Residential Wood Combustion in the Arctic



ACAP ARCTIC CONTAMINANTS ACTION PROGRAM

 SINTEF

NORSK  ENERGI

Norsk Energis part:

*Black Carbon Emission Inventory – methodology and results*

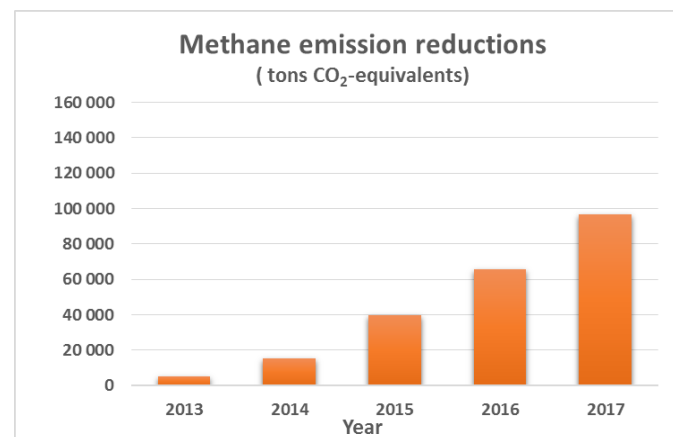
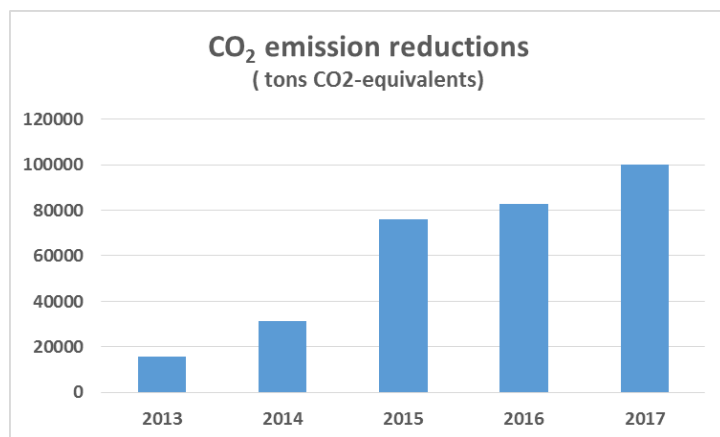
## Hot Spot Ko7 Komi Bioenergy Program – Reduction of CO<sub>2</sub> emission from wood waste



*Waste from timber and pulp and paper industry was mostly left at the landfills before 2013*



*75 boiler houses converted from coal and electric power to biofuel since 2013*



# Projects for Norwegian Environment Agency



## Veileder skorsteinshøydeberegninger



*Guideline stack height/dispersion modeling*  
*Norsk Energi, NILU*



## Tiltaksutredning vedrørende utslipp av klimadrivere fra vedfyring

Stad: Endelig utgave  
Dato: 19.01.2017  
Utarbeidet av: Dag Borgnes (Norsk Energi)  
Franziska Gölle og Morten Seljeberg (SINTEF  
Energiforskning)  
Oppdragsgiver: Miljødirektoratet  
Rapport nr: M-691/2017

*Effektiv, miljøvennlig og sikker utnyttelse av energi*

*Measures for reduction of emission of  
climate forcers from wood combustion*  
*Norsk Energi, SINTEF*

*Measures for reduction of CO<sub>2</sub>-  
emission from industry*  
*Norsk Energi*

*Measures for reduction of NO<sub>x</sub>,  
PM<sub>2.5</sub> and SO<sub>2</sub>--emission from  
industry*  
*Norsk Energi*

*Measures for reduction of PM  
emission from wood combustion  
- municipalities*

## Examples of our Co-operation under Norway Grants

In Bulgaria Norsk Energi worked with 6 municipalities on energy efficiency in buildings



Norsk Energi has co-operated with Green Energy Innovative Biomass Cluster to promote increased use of biomass in Romania





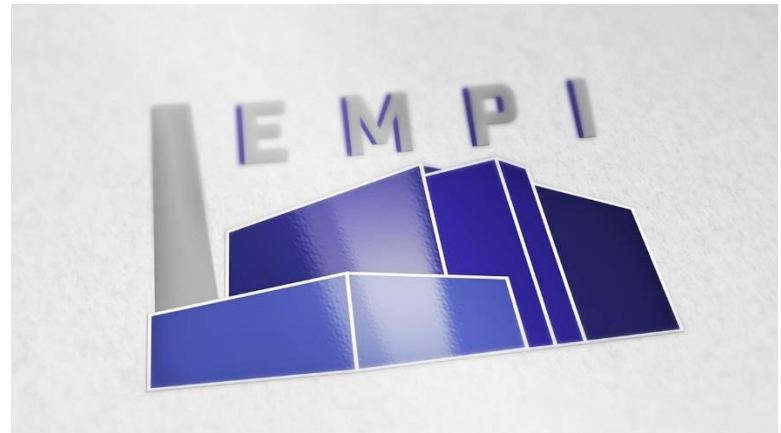
# Energy management in Polish industry

Capacity building programme to implement energy management according to ISO 50001 in 9 Polish companies  
In cooperation with National Energy Conservation Agency (NAPE)

- Project name: EMPI, Energy Management in Polish Industry
- Result: Establishment of energy management according to ISO 50001 in 9 Polish companies
- Budget: 500 000 EUR = ca. 4,5 mill NOK.
- Project period: Mars 2016 – Oktober 2017
- Financing: EEA Grants/Norway Grants under programmet PL04 «Energy saving and promotion of renewable energy».

National operatør for PL04 was *Ministry of Environment og National Fund for Environmental Protection and Water Management*

- Project web site: <http://empiproject.eu/index.php/home/>



## Norsk Energi contributes to the Polish «Stop Smog» campaign

KONFERENCJA PODSUMOWUJĄCA PROJEKT

Kampania edukacyjna

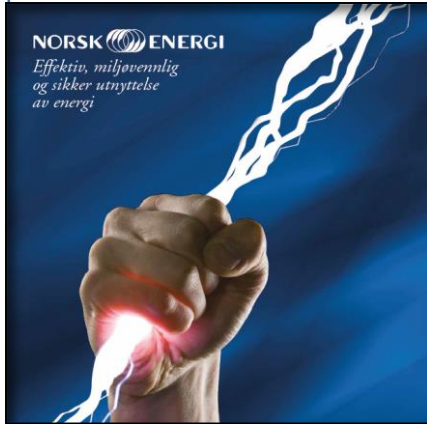
**STOP**SMOG

**18 LISTOPADA 2017 R.**

w siedzibie WYŻSZEJ SZKOŁY KULTURY SPOŁECZNEJ  
I MEDIALNEJ W TORUNIU,  
przy ul. Droga Starotoruńska 3.



- Institute of Environmental Protection – National Research Institute (IOŚ-PIB):
- Multi-variant analysis of eliminating outdated, inefficient and high emissive sources of useful heat, produced by combustion of coal in individual households”.*



# Thank you for your attention

*Effective, environmentally friendly and safe utilisation of energy*