

A young girl with dark hair and a small red earring is shown in profile, blowing on a dandelion seed head. The dandelion is in her hand, and many seeds are floating in the air around it. The background is a bright green field with a blue sky and some distant trees.

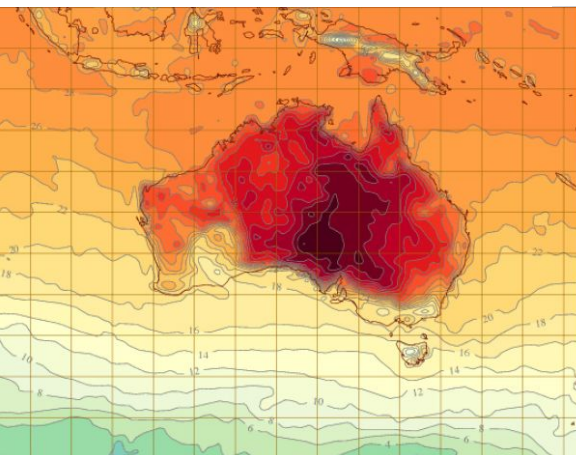
**Norwegian climate policy**

**Ukrainian CCS forum 28 Oct 2016**

**Sirin Engen, Bellona**

**BELLONA**

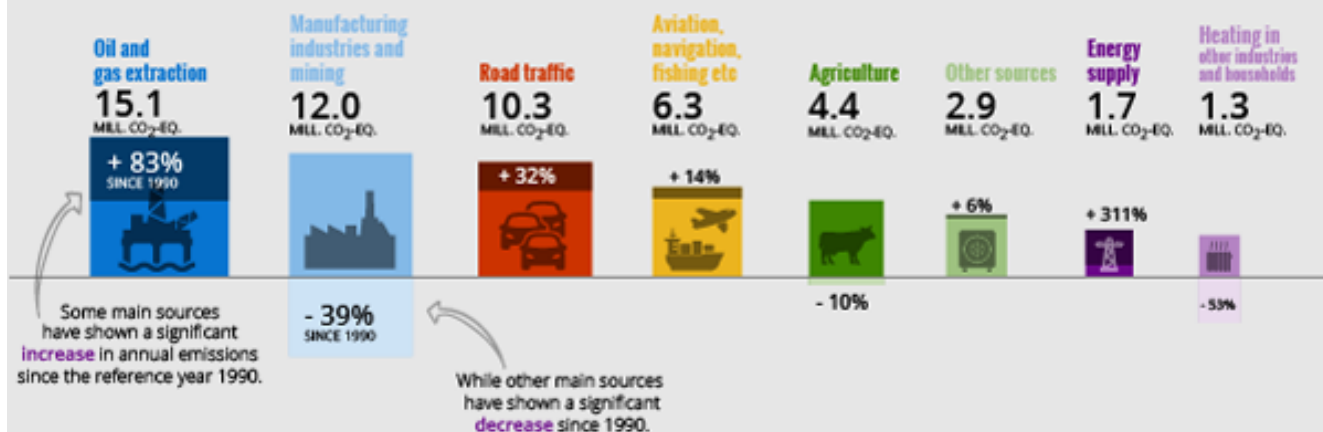






## Which sources contribute most to the emissions?

**Oil and gas extraction** is the main contributor to greenhouse gas emissions, and made up **28 per cent** of the total emissions in 2015. Annual emissions from oil and gas extraction have increased by 83 per cent since 1990.





# Energy balance, 2015, \*preliminary figures

The energy balance shows the energy flows that appear within the national territory

## Primary energy production

Primary energy products are extracted or obtained directly from the environment and have not been transformed from other energy sources.

## Supply

Total energy supply

## Net domestic energy consumption

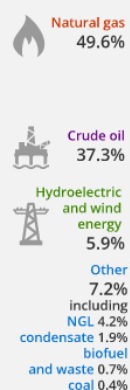
Net domestic energy consumption mainly includes the consumption of secondary energy products as well as end use of biofuels, natural gas, coal and NGL/ethane.

## By user group

Manufacturing, mining and quarrying  
**67 TWh**  
(- 0.1% since 2014)

Transport  
**57 TWh**  
(+ 1.5% since 2014)

Other user groups  
**89 TWh**  
(+ 2.5% since 2013)



2 397 TWh

334 TWh

Incl. raw materials

236 TWh

Excl. raw materials

213 TWh

9 TWh  
International bunkers  
(marine and aviation)

- 3 TWh  
Changes in stocks  
net decrease (+)  
net increase (-)

38 TWh  
Losses (11 TWh)  
and statistical  
differences  
(27 TWh)

72 TWh  
Losses (ex: flaring,  
transmission and  
distribution losses) (6 TWh)  
and energy use in energy  
producing industries (66  
TWh).

Transformation: The  
process where primary  
energy products are  
converted into secondary  
energy products, such as  
crude oil being converted  
to gasoline.

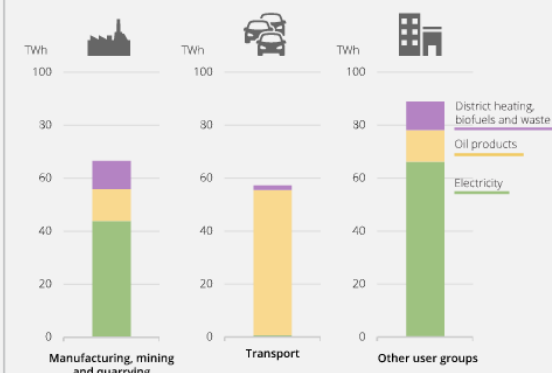
Exports  
2 140 TWh

Imports  
89 TWh

United Kingdom,  
Germany, the Netherlands  
and France account for 75  
per cent of the energy  
export from Norway.

**How much is actually 1 TWh?**  
1 terawatt hour (TWh) is one billion  
kilowatt hours (kWh). An average  
Norwegian household uses around  
20 000 kWh per year (2012).

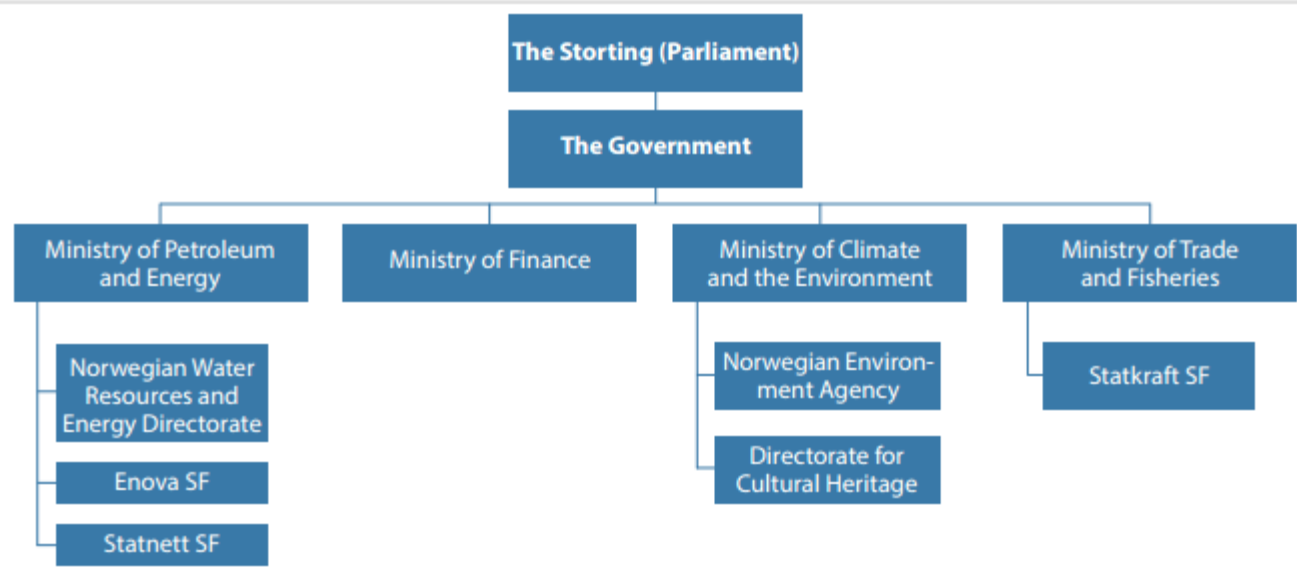
## Energy consumption broken down by energy products



Statistisk sentralbyrå  
Statistics Norway



**Figure 1.1: State organisation of energy and water resources activities.**



Source: MPE



# A carbon neutral Norway in 2050

## 2020

- Parliament's Climate Agreement (2012)
- Kyoto commitment
- Contribute to lowering global emissions
- 30%

## 2030

- Paris Agreement
- Common emission obligation with the EU
- 40%



# A carbon neutral Norway in 2050

## 2020

Renewable energy target: 67,5 %

*One full scale CCS project*

Ban on oil furnaces

*50 000 EVs by 2017*

Technology

*Biogas*

EU ETS

*Rain forests*

## Mechanisms

Green certificates

*CLIMIT, TCM, funding over state budget*

Legislative

*Tax breaks +++*

Climate Technology Fund, Enova

*Enova*

Brussels

*REDD+*



# A carbon neutral Norway in 2050

2030

Non-ETS (transport, buildings, waste, agriculture): 40 %

ETS

CCS

???????





**BELLONA**