



NORWEGIAN MINISTRY OF  
THE ENVIRONMENT



# Policy mapping, the case of Norway

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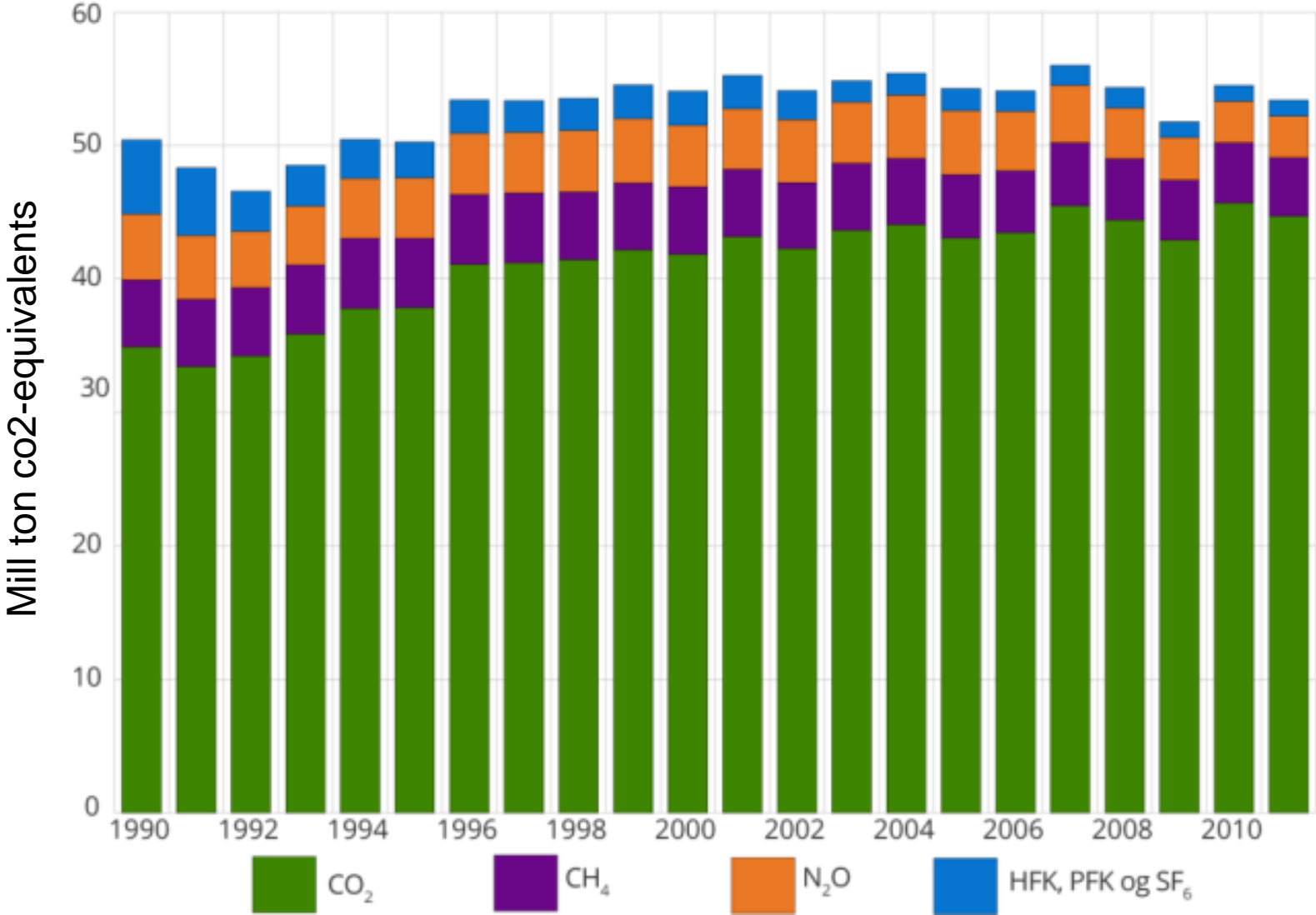
Ministry of the Environment, Norway

Washington, March 14th 2013

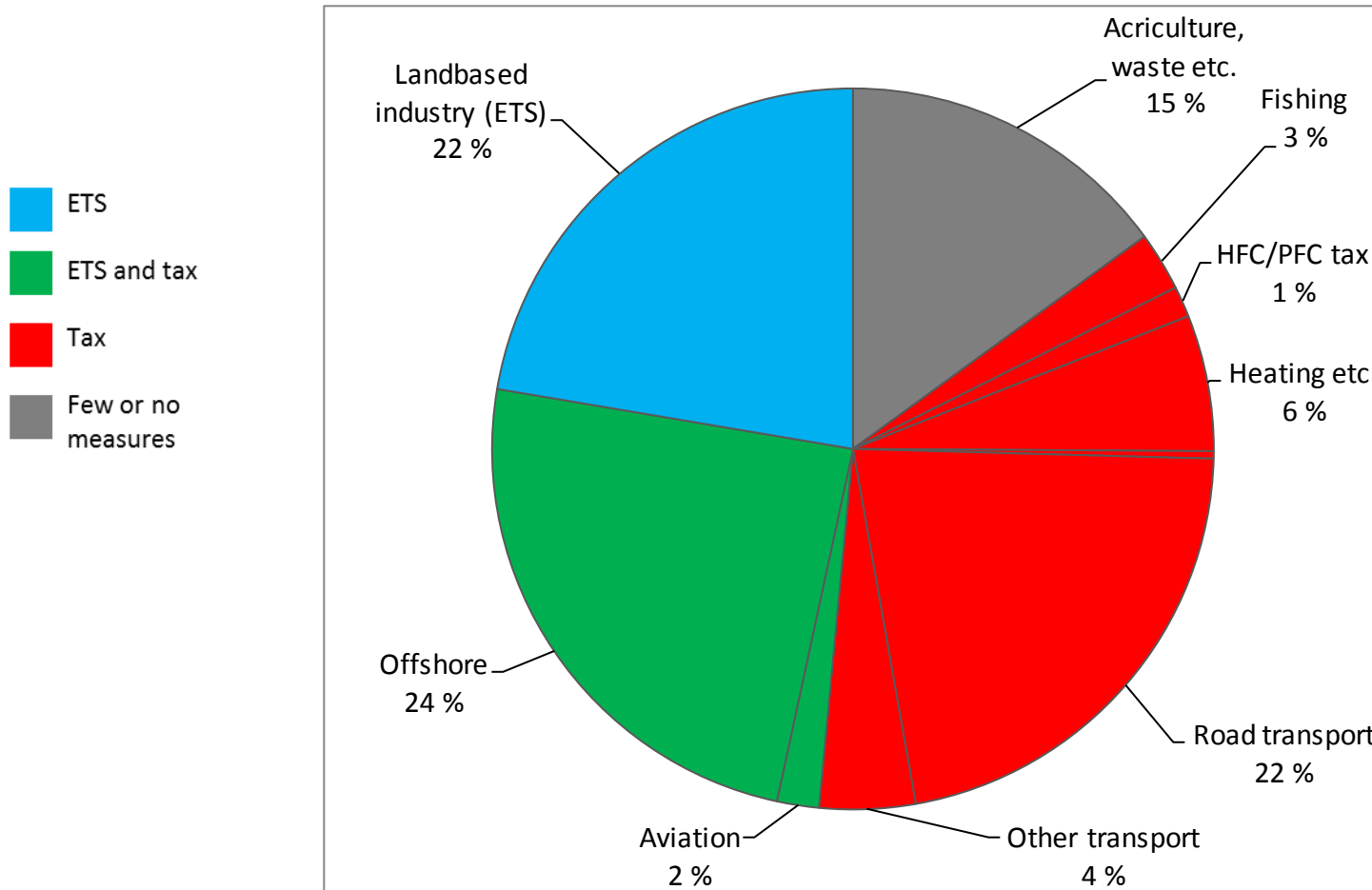
# Context: Growing concern of sustainability in the late 80's

- The Brundtland commission 1987: "*Sustainable development is the kind of development that meets the needs of the present without compromising the ability of future generations to meet their own needs*"
- Increasing awareness in the late 80's of impact on nature by human activity and especially fossil fuels. Sulphur, NO<sub>x</sub>, CO<sub>2</sub>, Mercury, etc.
- Parliament decided in 1989 a preliminary target for CO<sub>2</sub> emissions, replaced by a broader internationally binding GHG target through the Kyoto protocol in 1997
- CO<sub>2</sub> tax introduced in 1991

# Status Norwegian GHG emissions



# Climate instruments by source



Source: Norwegian Ministry of Finance

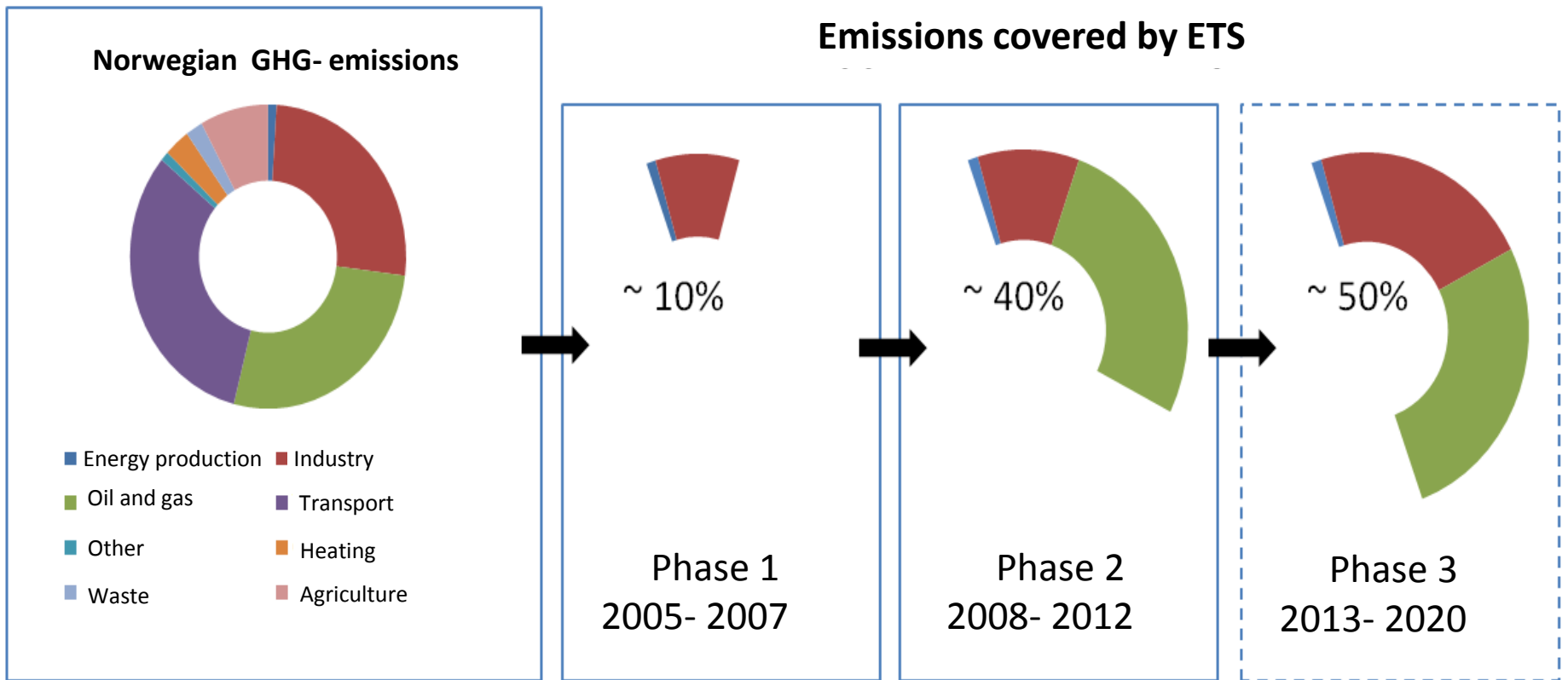
# The CO<sub>2</sub> tax

- Introduced in 1991
- Levied on mineral oil products and on CO<sub>2</sub> emissions from petroleum activities, and gas used for heating and transport
- Objective: cost effective way to reduce emissions & polluter pays principle
- Current tax rates vary across energy products and sectors
- Generate revenues to the government
- Low administrative costs

# Emissions trading

- In principle a predefined cap
- Carbon price set by cap and emission reduction costs
- 2005-2007 - National emission trading system -one way link to EU ETS
- From 2008 – fully linked to EU ETS- (Norway has lower share of free allowances)
- From 2013- Norway part of the EU ETS harmonised system.
- From 2013 about 50 % of Norwegian emissions are covered by the ETS.

# ETS in Norway from 2005 - 2020



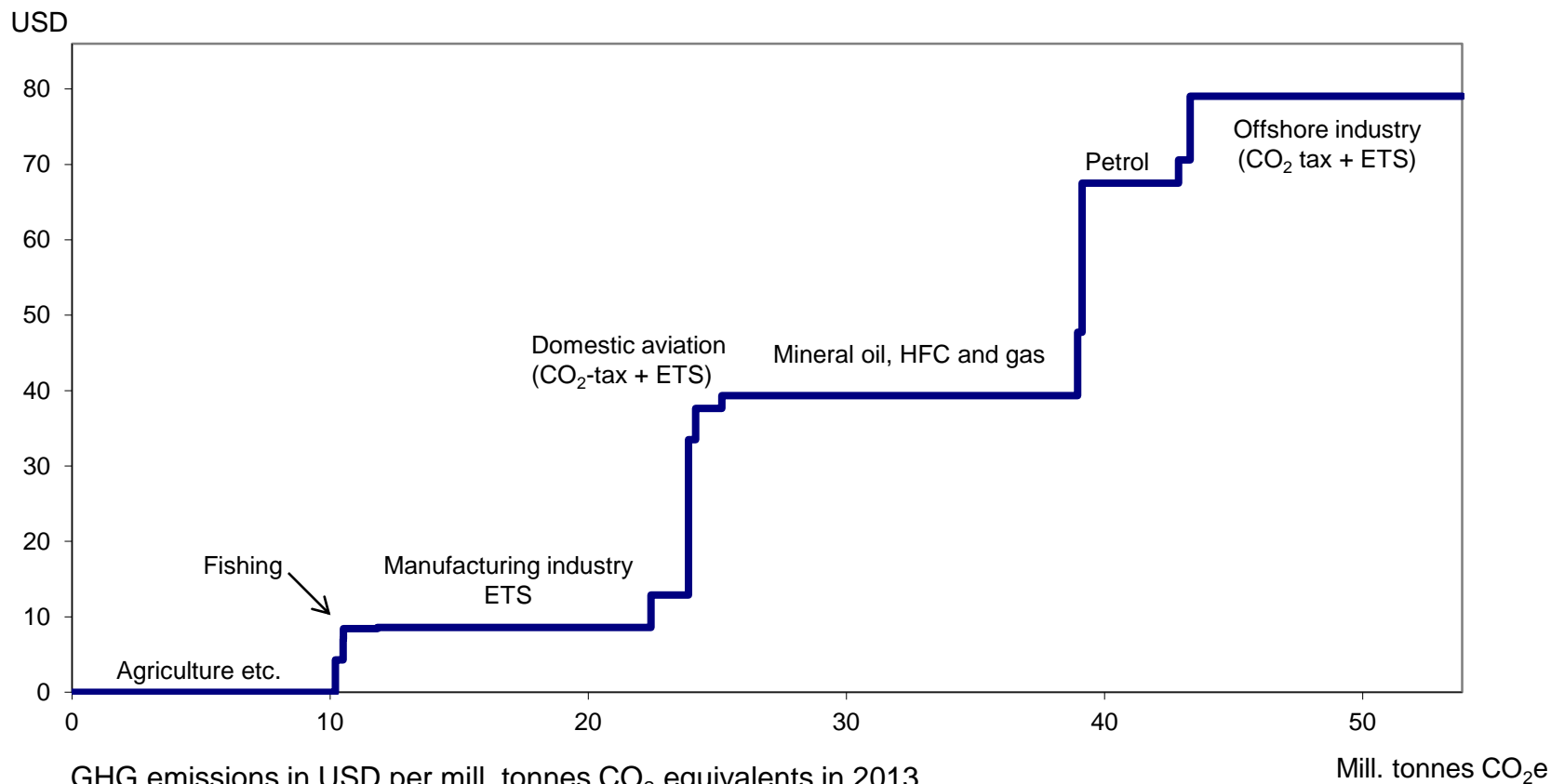
# Mix of policies- Carbon tax and ETS

- Tax and ETS both put a price on emissions
- In a well functioning ETS, taxes on sectors covered by ETS has no impact on total emissions
- Reduce emissions in targeted sector, and increases technology transition incentives
- Lowers allowance price, reduces the emission cost for other sectors, and leads to higher emissions in these
- Sectors covered by the ETS are as a main rule exempted from carbon tax
- Double regulation applies to the offshore sector and the aviation sector



# Carbon price variations

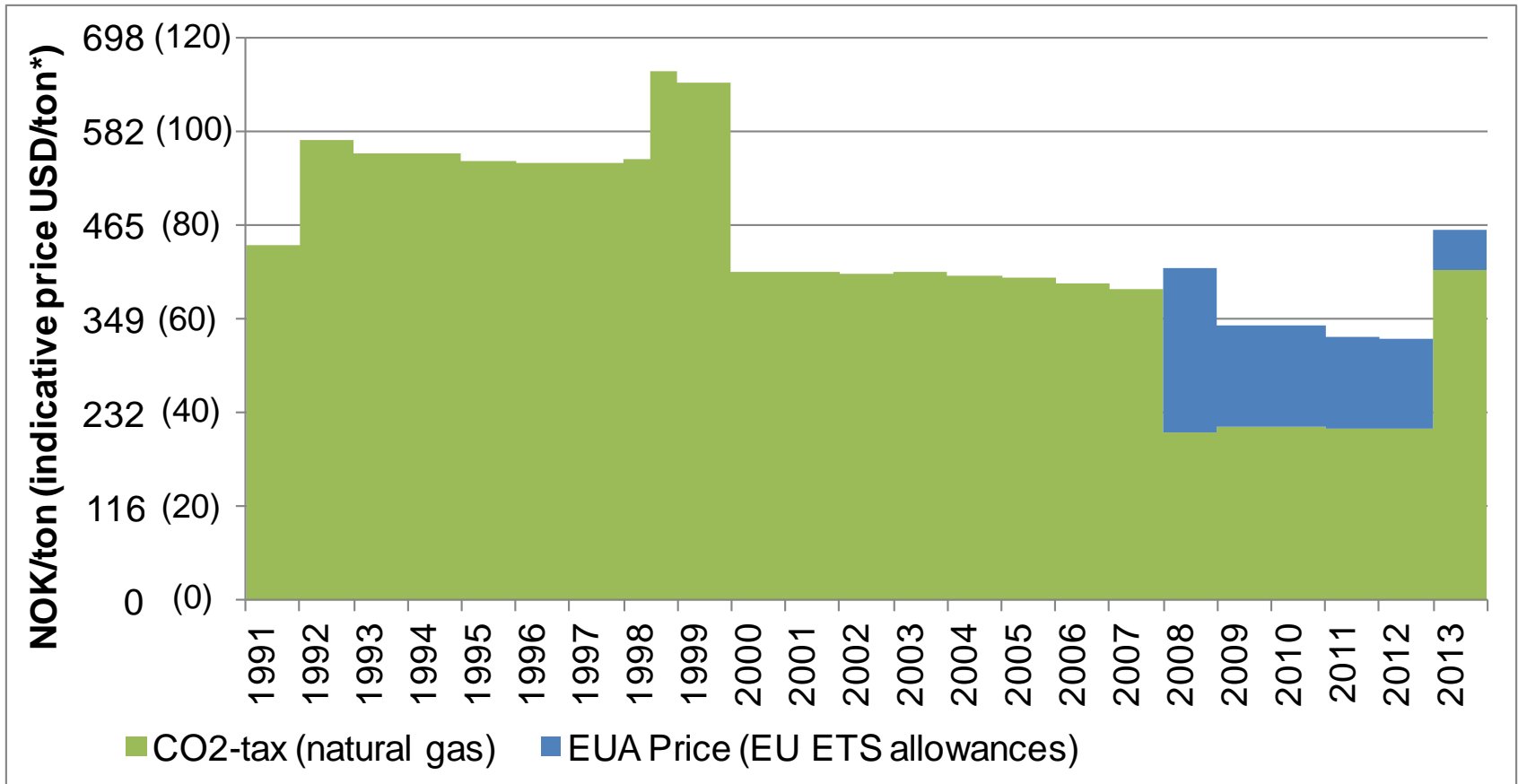
## Marginal cost of GHG emissions in 2013



GHG emissions in USD per mill. tonnes CO<sub>2</sub> equivalents in 2013.  
Emission figures are from 2010.

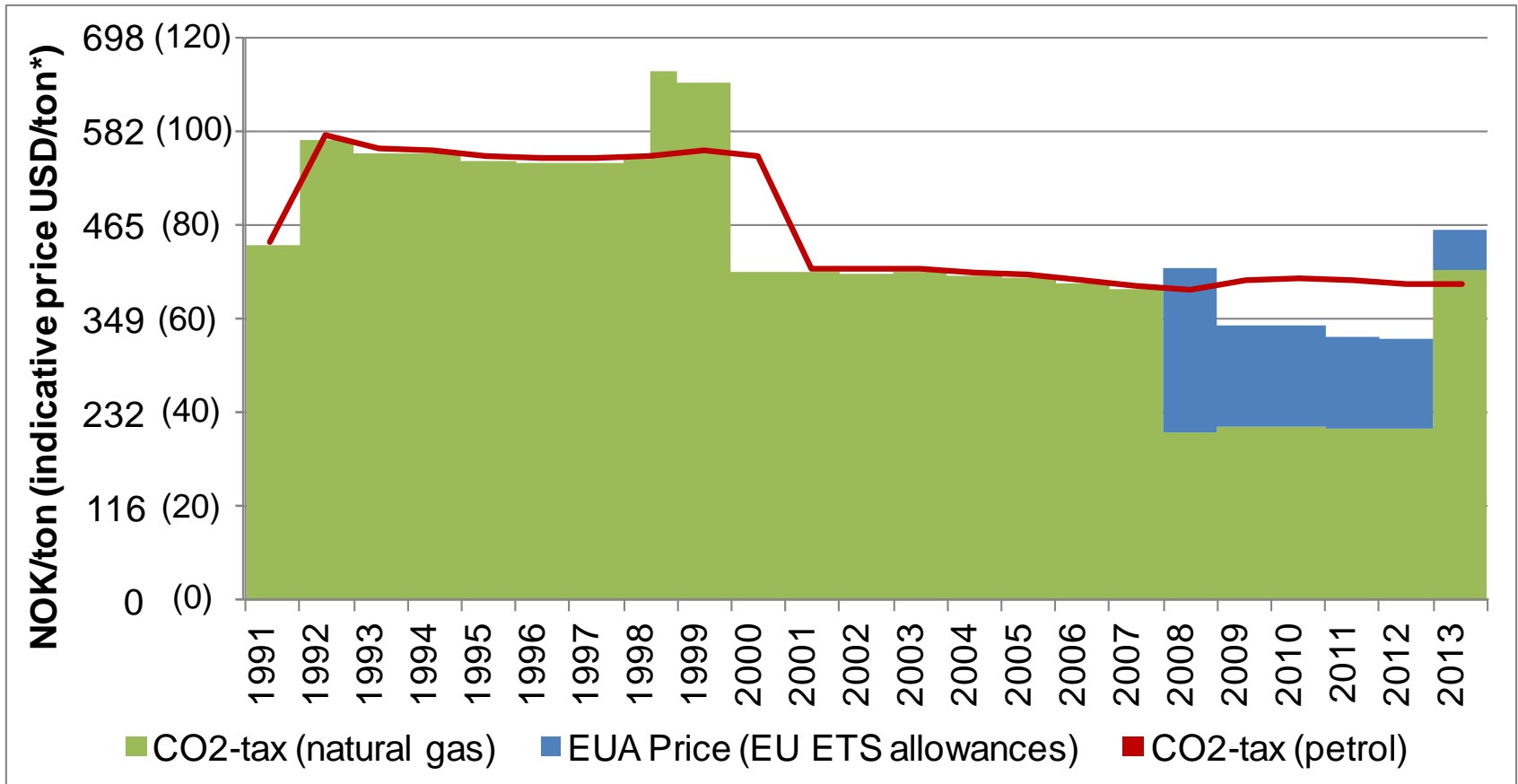
Source: Norwegian Ministry of Finance

# Mix of policies – cap and tax: the offshore petroleum industry



\*) Using 2012 exchange rate

# Mix of policies – cap and tax, example: the oil and gas industry



\*) Using 2012 exchange rate

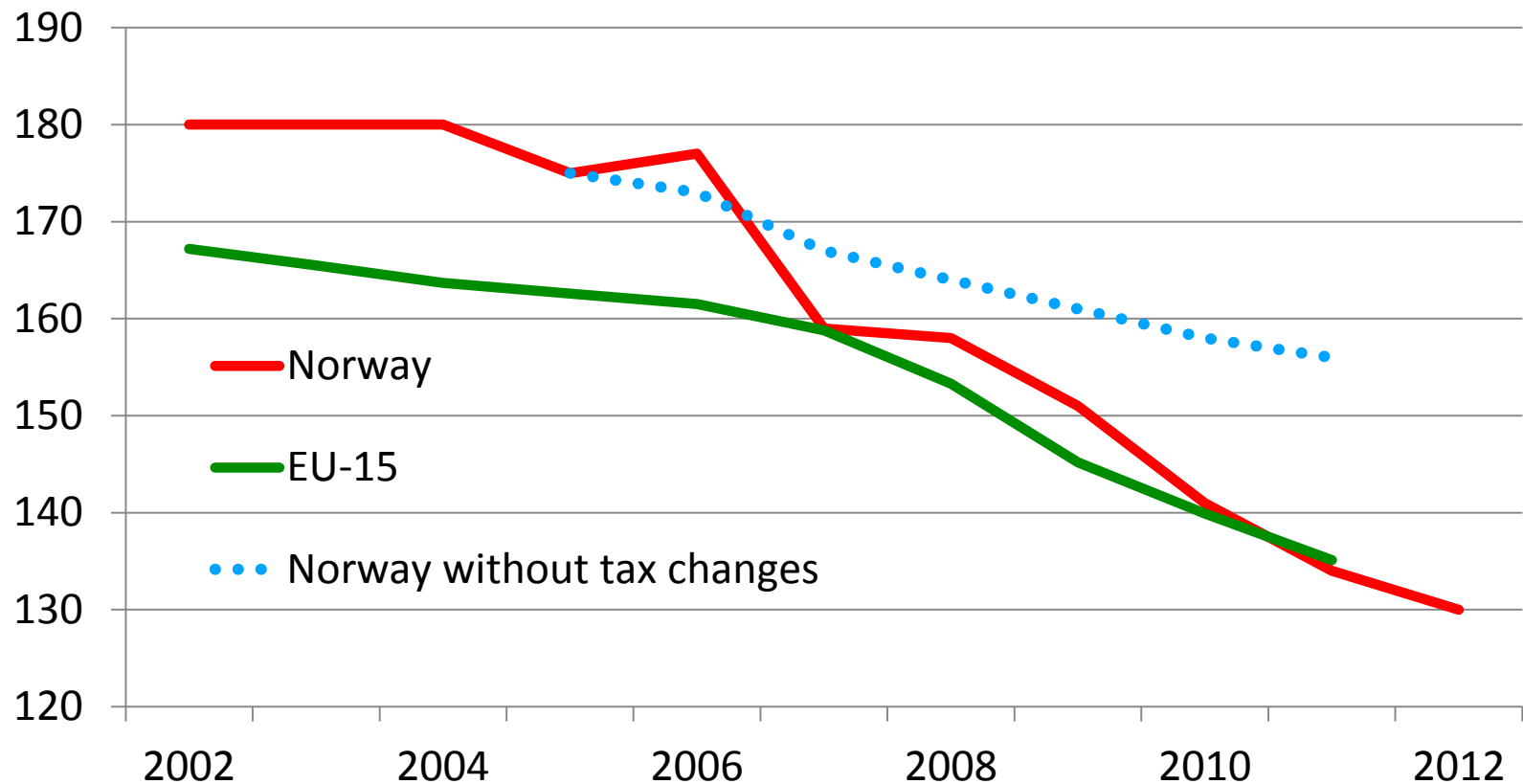
# Cost internalization of externalities in general, example: diesel for cars

Diesel tax in NOK per liter (indicative value USD per gallon using 2012 exchange rate)				
year	Diesel total tax rate, dependent on sulfur content			Including CO2-tax
	<500 ppm		≥500 ppm	
1995	5.05 (3.28)		5.16 (3.35)	0.64 (0.41)
1996	5.01 (3.26)		5.11 (3.33)	0.63 (0.41)
1997	5.52 (3.59)		5.63 (3.66)	0.63 (0.41)
1998	5.57 (3.62)		5.67 (3.69)	0.64 (0.42)
1999	5.62 (3.66)		5.72 (3.72)	0.65 (0.42)
	< 50 ppm		≥ 50 ppm	≥ 500 ppm
2000	5.59 (3.64)		5.93 (3.86)	not allowed
2001	4.44 (2.89)		4.83 (3.14)	not allowed
2002	4.24 (2.76)		4.67 (3.04)	not allowed
2003	4.24 (2.76)		4.67 (3.04)	not allowed
2004	4.20 (2.73)		4.64 (3.02)	not allowed
	< 10 ppm	< 50 ppm	≥ 50 ppm	
2005	4.13 (2.68)	4.19 (2.72)	not allowed	
2006	4.07 (2.64)	4.13 (2.68)	not allowed	
2007	4.02 (2.62)	4.08 (2.65)	not allowed	
2008	4.24 (2.76)	4.30 (2.79)	not allowed	
2009	4.44 (2.89)	4.50 (2.93)	not allowed	
2010*)	4.45 (2.89)	4.50 (2.93)	not allowed	
2011	4.38 (2.85)	4.44 (2.89)	not allowed	
2012	4.37 (2.84)	4.42 (2.87)	not allowed	
2013	4.36 (2.84)	4.41 (2.87)	not allowed	

\*) Lower tax on biodiesel from 2010

Tax rates in real terms

# Tax changes have reduced CO<sub>2</sub> emissions from new cars in Norway



Average CO<sub>2</sub> emissions from new passenger cars, grams per km, 2002 – 2012

# Other regulations – with emission impacts

- housing standards
- car emission standards
- Green certificates
- Support schemes energy efficiency (industry and households)
- Support to research and development

# Long term measures and policy for the future

- Low emission society by 2050 (and carbon neutral)
- Strongly advocate global carbon price
- Norway will contribute to global mitigation through a combination of national measures and global available international instruments both inside and outside the UN system, and substantial international efforts (REDD+)
- National measures:
  - Carbon pricing important part of national climate policy
  - R&D for developing of new climate technology
  - Handle increased traffic in cities with public transport, focus on intercity railways
  - Climate friendly building sector, housing standards for low energy use



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Thank you!

