

# **GLOBAL WARMING**

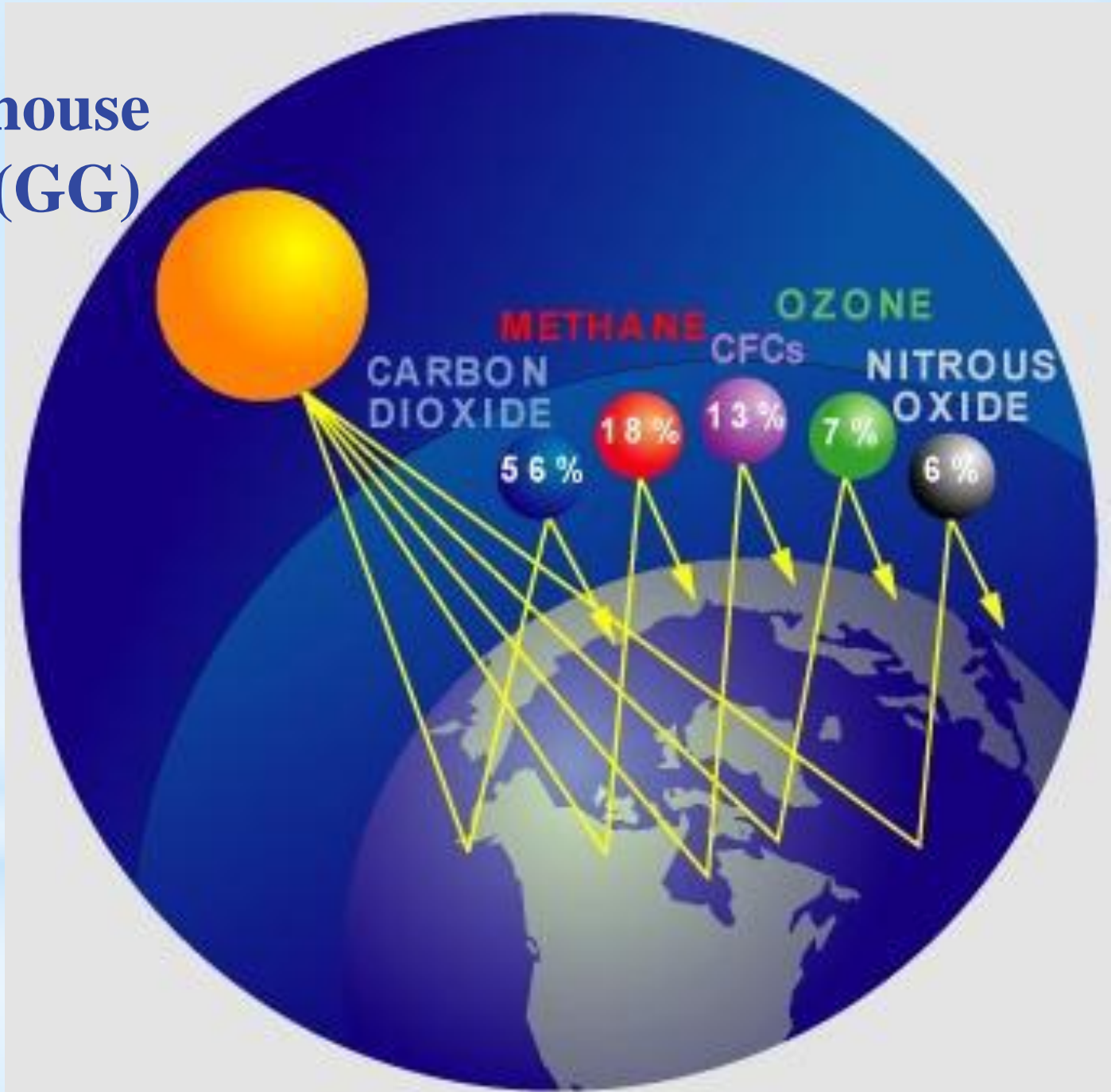
Ilona Jančářová

2017

# GREENHOUSE EFFECT



# Greenhouse Gases (GG)



# CAUSES OF THE WARMING

## a) Human activities

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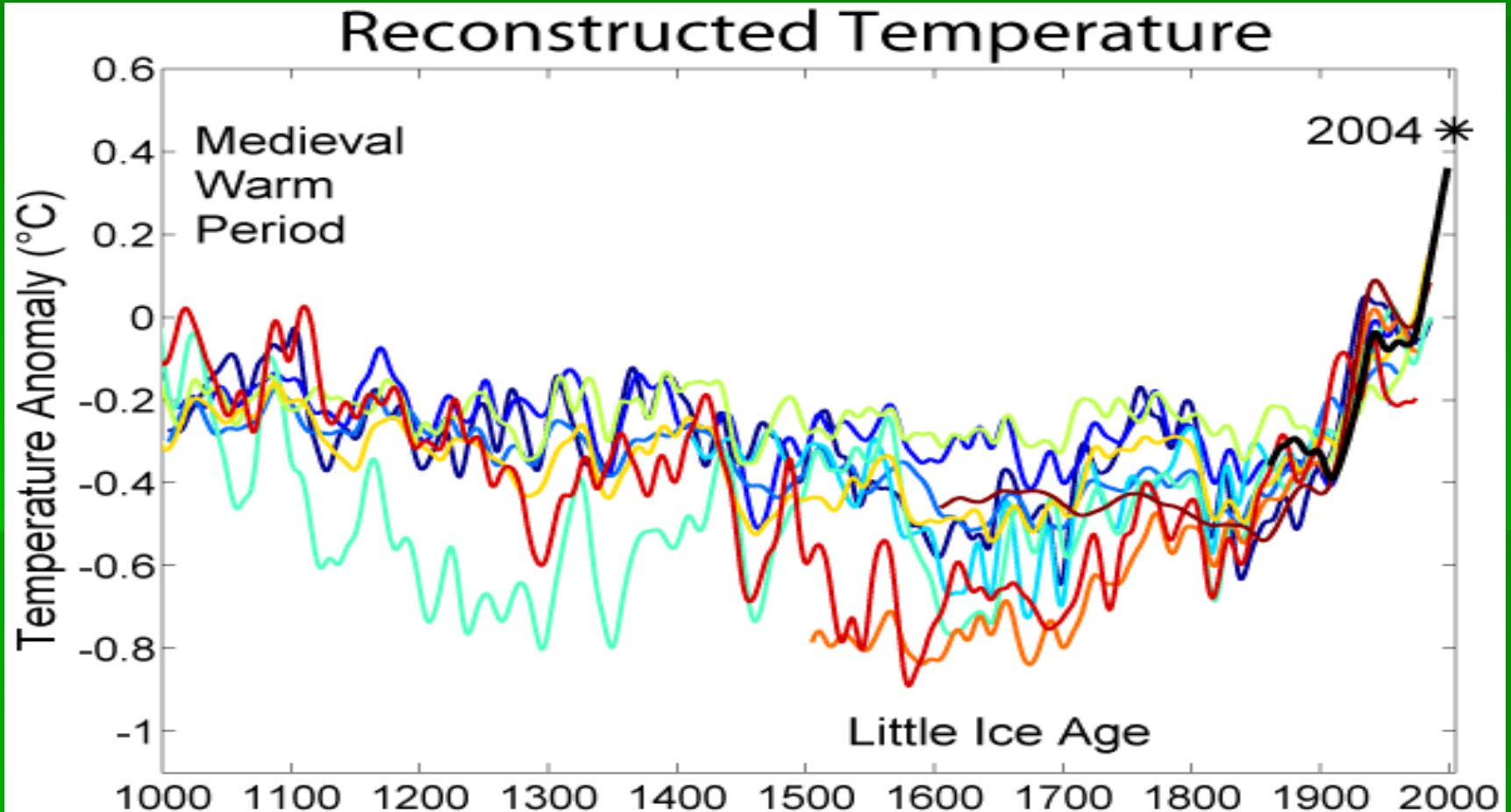
- Burning of fossil fuels
- Way of land use (deforestation)
- Farming etc.

## b) Natural activities

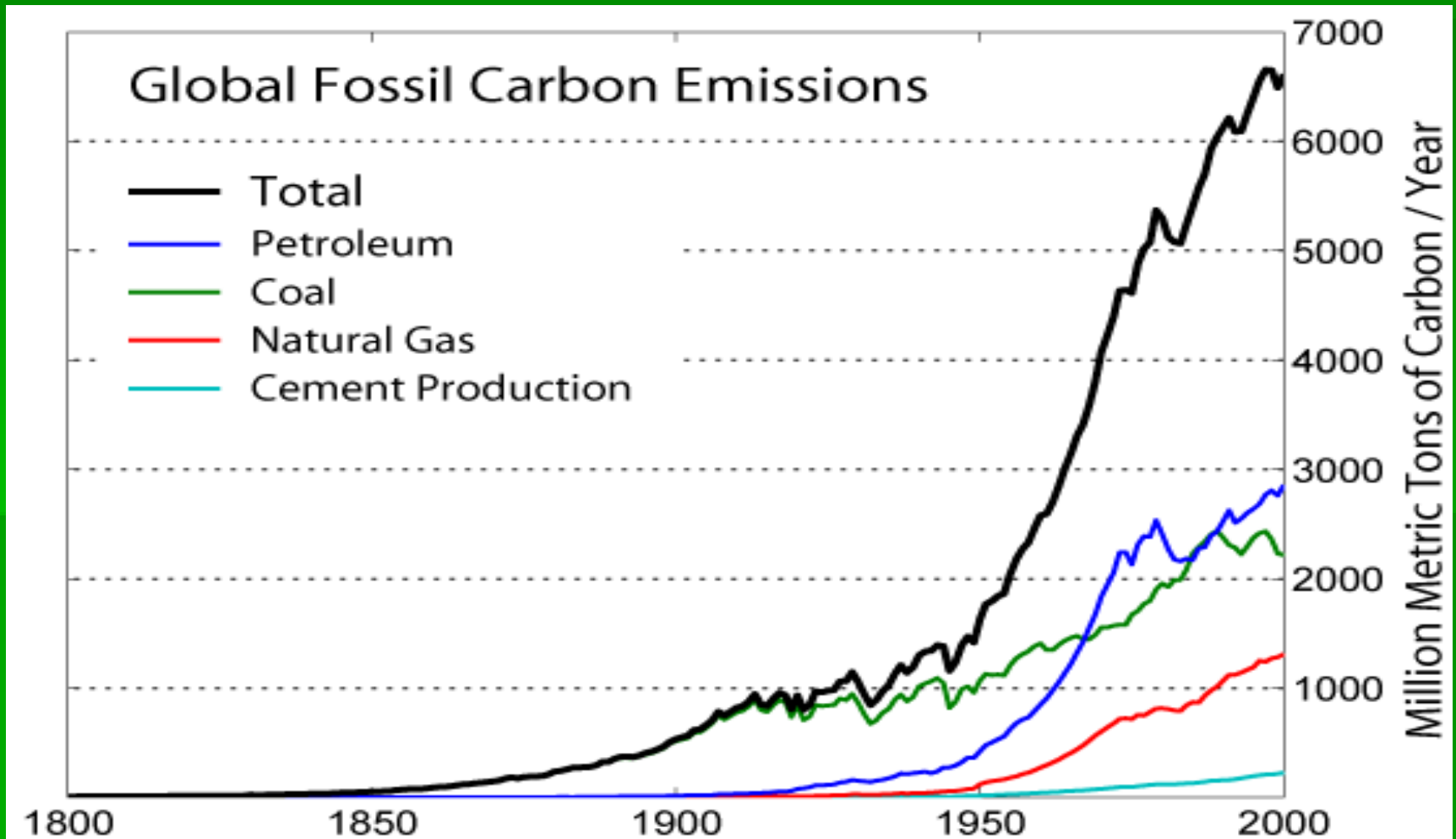
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- Decomposition
- Forest fires
- Volcanic activities
- Changes of the Sun
- Water vapor

# AVERAGE TEMPERATURE



# SOURCES OF CO<sub>2</sub>



# CONSEQUENCES ....



# CONSEQUENCES ....





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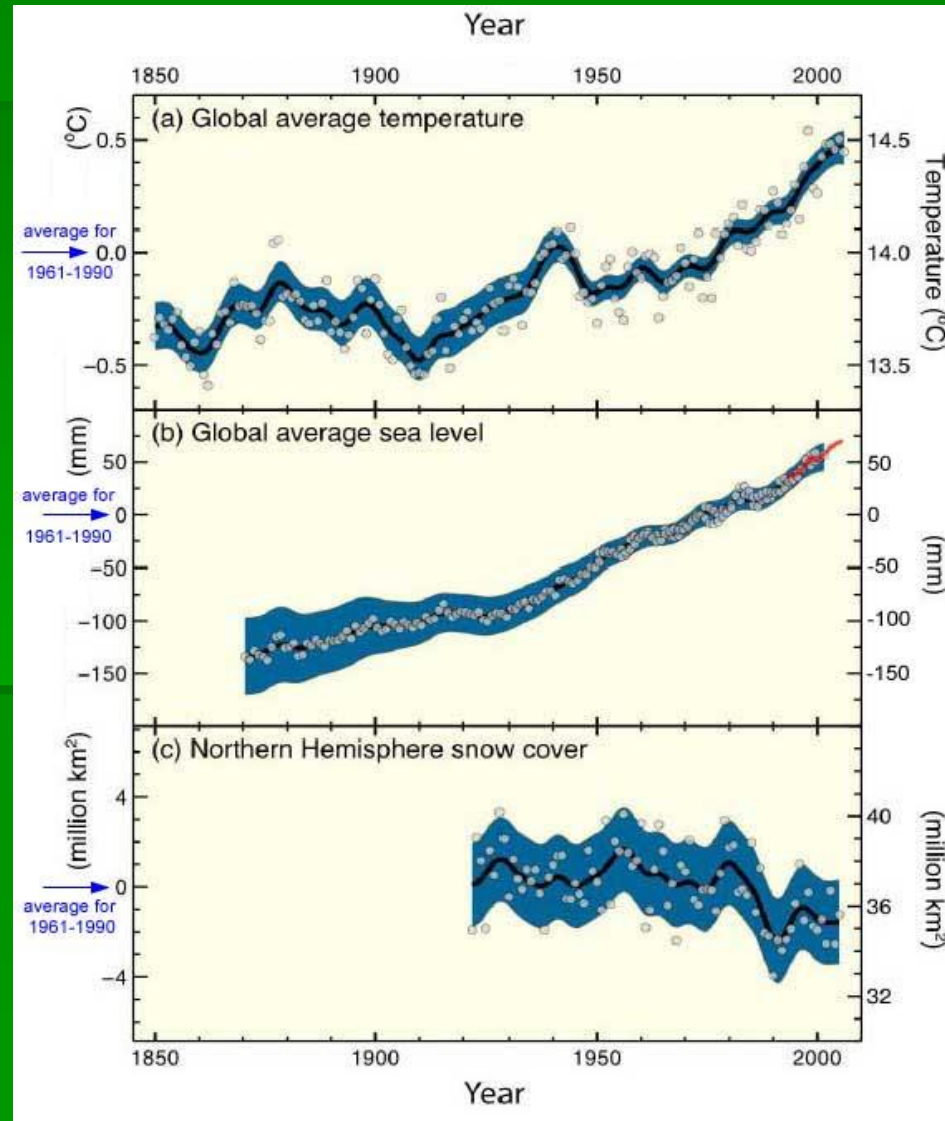


# CONSEQUENCES ....



photo by USGS

# CONSEQUENCES ...





## Donald Trump On climate change

**On November 6, 2012, Donald Trump tweeted: "The concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive."**

**On October 19, 2015, he then tweeted: "It's really cold outside, they are calling it a major freeze, weeks ahead of normal. Man, we could use a big fat dose of global warming!"**

# INTERNATIONAL BACKGROUND

- **CONVENTION ON CLIMATE CHANGE**  
(Rio de Janeiro 1992)
- Protokol (Kyoto 1997) - 5% reductions



- European - wide GG emission reduction target:  
8% during the period 2008 - 2012 comparing to  
1990 levels
- (burden sharing for EU MS)

# INTERNATIONAL BACKGROUND

## Doha Amendment 2012

- new obligations for MS in Annex I for the 2nd period (2013-2020)
  - 18% reductions
- revision of the list of GG

## COP 21- Paris 2015

- new global Climate Change Convention
- new obligations for the period 2020 ....
- voluntary national reductions – EU 40% ➡ 2030

# EU LEGISLATION ON CLIMATE CHANGE

1. Legislation on emission reductions
2. Legislation on energy efficiency
3. Legislation on renewable sources of energy



## Energy and climate package:

- 20% GG abatement target
  - 20% renewable energy target
  - 20% energy efficiency target
- 
- by 2020

# Implementing the Kyoto Protocol in the EU


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20% GG reduction target:

- Emission trading
- Joint implementation of obligation to reduce GG emissions
- Clean Development Mechanisms



# The emissions trading system (EU ETS)

- Emission limit values  levels allocated to the Community and each of its Member States
- Monitoring mechanism
  - monitoring anthropogenic GG emissions
  - evaluating the progress made by MS and the EU
  - setting up the national and European registries and programs
  - ensuring timely, transparent and correct reporting

# The emissions trading system (EU ETS)

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- **Directive 2003/87/EC** establishing a scheme for greenhouse gas emission allowance trading within the Community
- **Commission Regulation (EU) No 1031/2010** on the timing, administration and other aspects of **auctioning** of greenhouse gas emission allowances pursuant to Directive 2003/87/EC

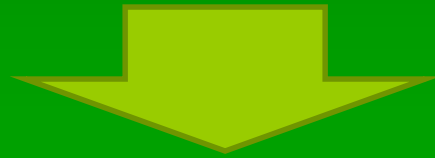
# The emissions trading system (EU ETS)

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- Commission Regulation (EU) No 389/2013 establishing a **Union Registry** pursuant to Directive 2003/87/EC
- Commission Regulation (EU) No 601/2012 on the **monitoring and reporting of greenhouse gas emissions** pursuant to Directive 2003/87/EC

# Energy and climate package - renewables

- 20% renewable energy target to be attained in 2020
- **Directive 2009/28/EC on the promotion of the use of energy from renewable sources**



- target to be reached by 2020 for the EU is a share of 20% energy from renewable sources in gross final consumption of energy.
- each MS has its own 2020 binding target

# Energy and climate package - energy efficiency

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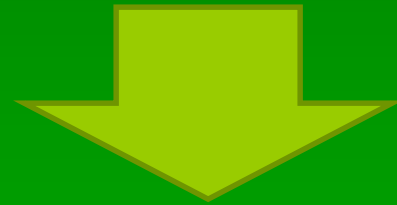
## Directive 2012/27/EU on energy efficiency



- To enhance cost-effective improvements in energy efficiency
- Applies to companies involved in the distribution and sale of energy and final consumers of energy. It does not apply to companies subject to the EU ETS (ET Directive)

# Energy and climate package - energy efficiency

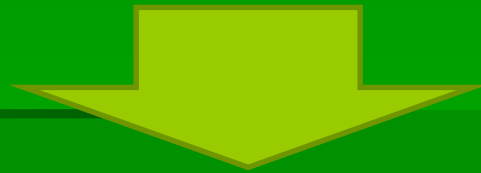
Directive 2010/31/EU on the energy performance of buildings



- Calculation of energy efficiency
- Minimum energy efficiency requirements
- Energy performance certificate

# Legislation on other activities

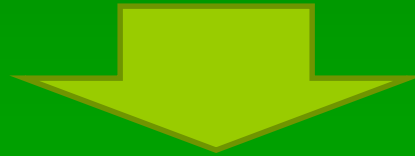
- Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide



- 3 phases – capture, transportation, permanent storage

# Legislation on other activities

Directive 2009/30/EC (amending Directive 98/70/EC) as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions

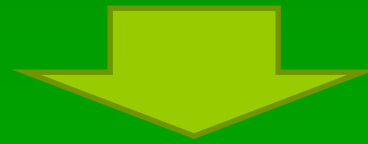


- Rules on the specification various fuels have to meet so that they can be marketed throughout the EU



# Legislation on other activities

Regulation (EU) No 517/2014 of the European Parliament and of the Council of 16 April 2014 on **fluorinated greenhouse gases** (F- gases)



- Rules on use, containment, recovery and destruction of F- gases

# Literature:

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**YOU CONTROL  
CLIMATE CHANGE.**



TURN DOWN. SWITCH OFF. RECYCLE. WALK. **CHANGE**