



**A2EP – 2xEP Energy Productivity Summit**  
**04-05 April, 2017**  
**Australian National Maritime Museum**  
**Darling Harbour, Sydney**

**Session 01**

**The 2xEP imperative: Why? How?**

*Benoit Lebot > Presentation follows*

Denise Swink

Christoph Spesshardt

Peter Burn

*Chair: Jonathan Jutsen*



*Doing more. Using less.*



# Doubling Energy Productivity: An Imparative for addressing Climate Change

**Benoit LEBOT, Executive Director**  
**A2EP – 2xEP Energy Productivity Summit, 4 April 2017**





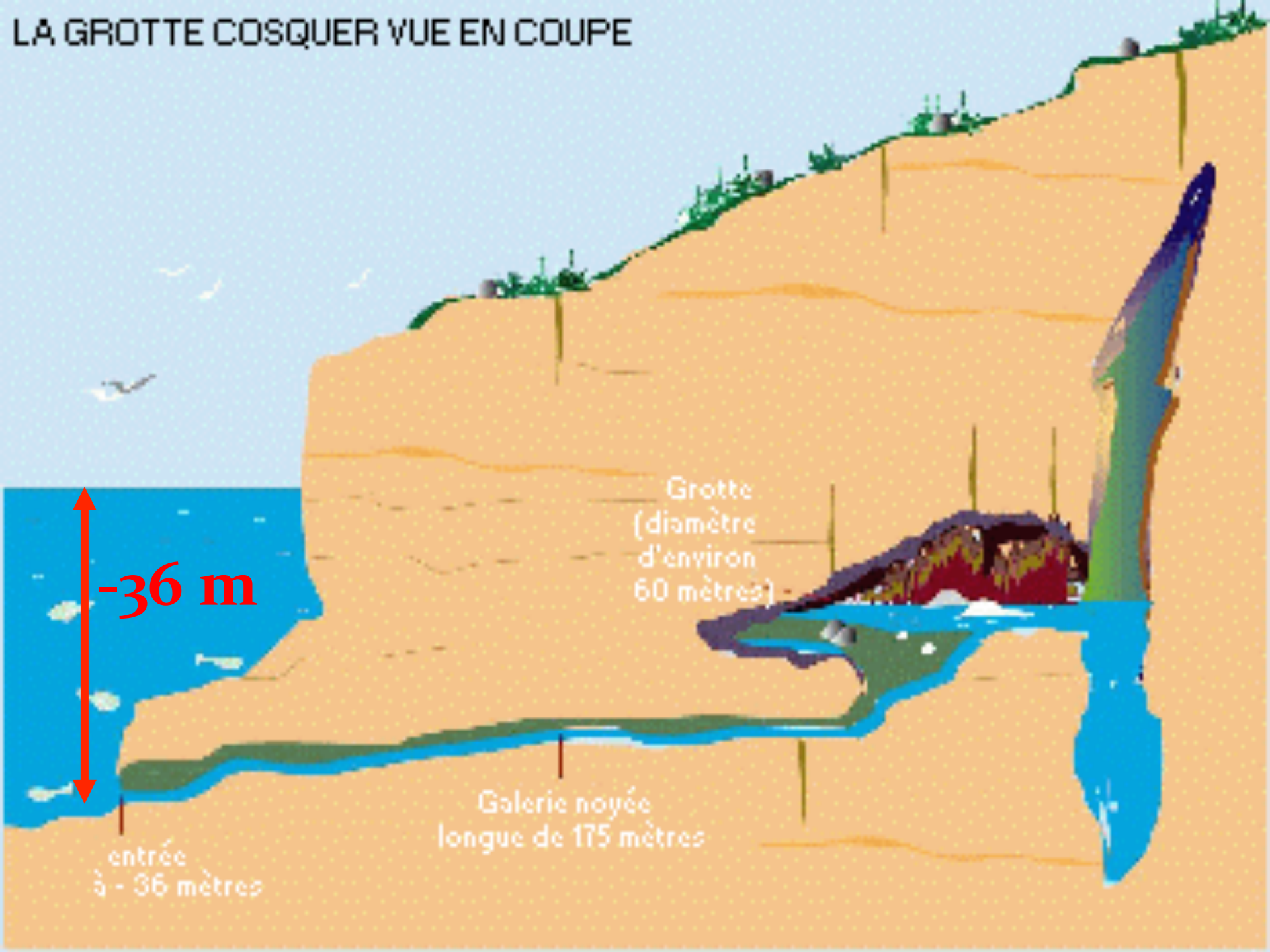
**6 000 years ago Sahara was green**

**Today is is a desert**





# LA GROTTE COSQUER VUE EN COUPE



# The Mediterranean Sea Today



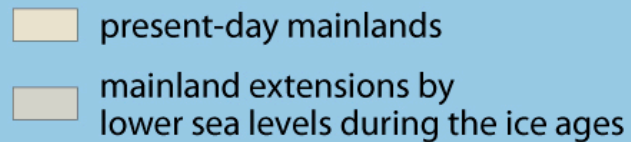
# The Mediterranean Sea 15 000 years ago

**-5 °C**

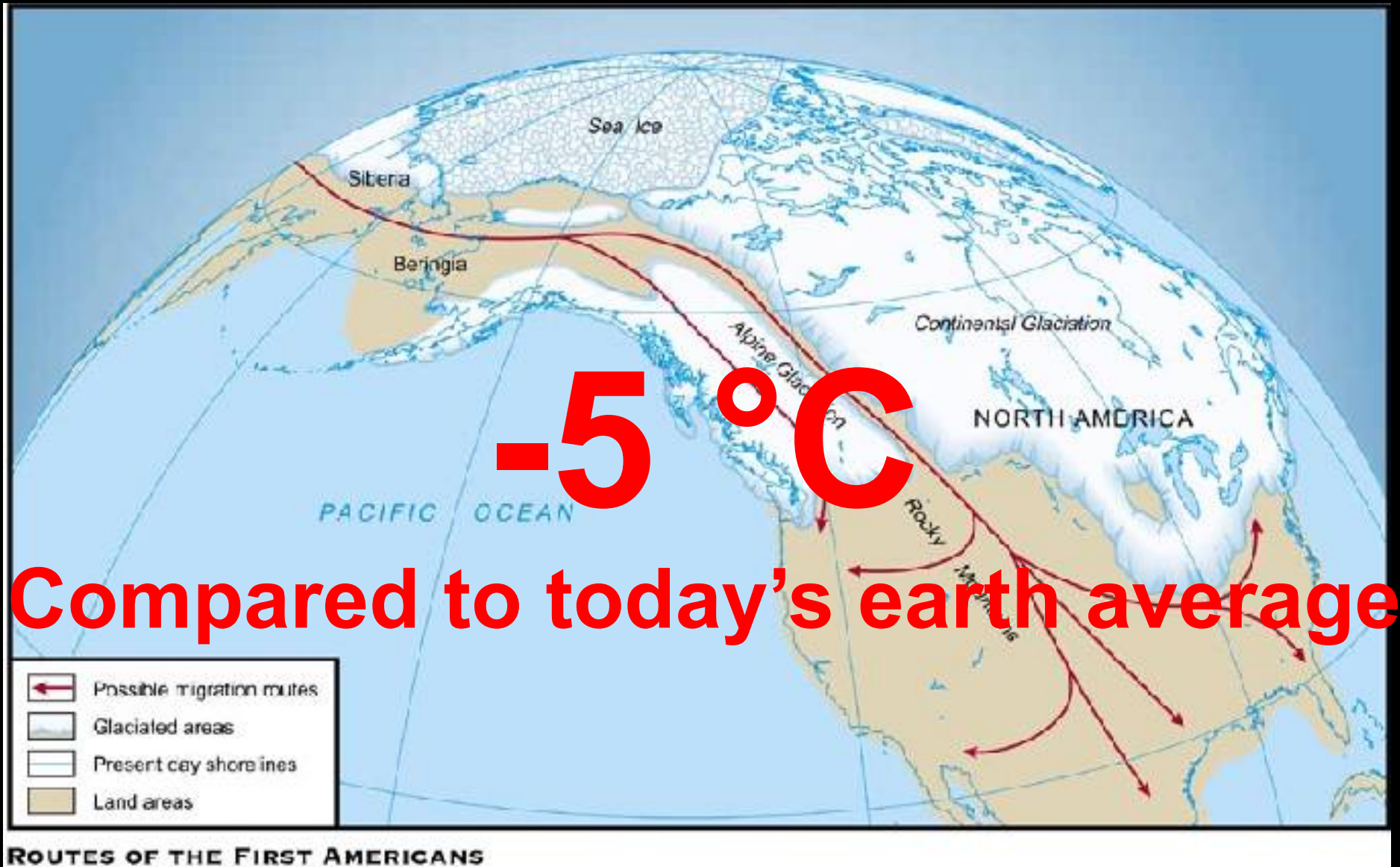
Compared to today's average temperature

**-5 °C**

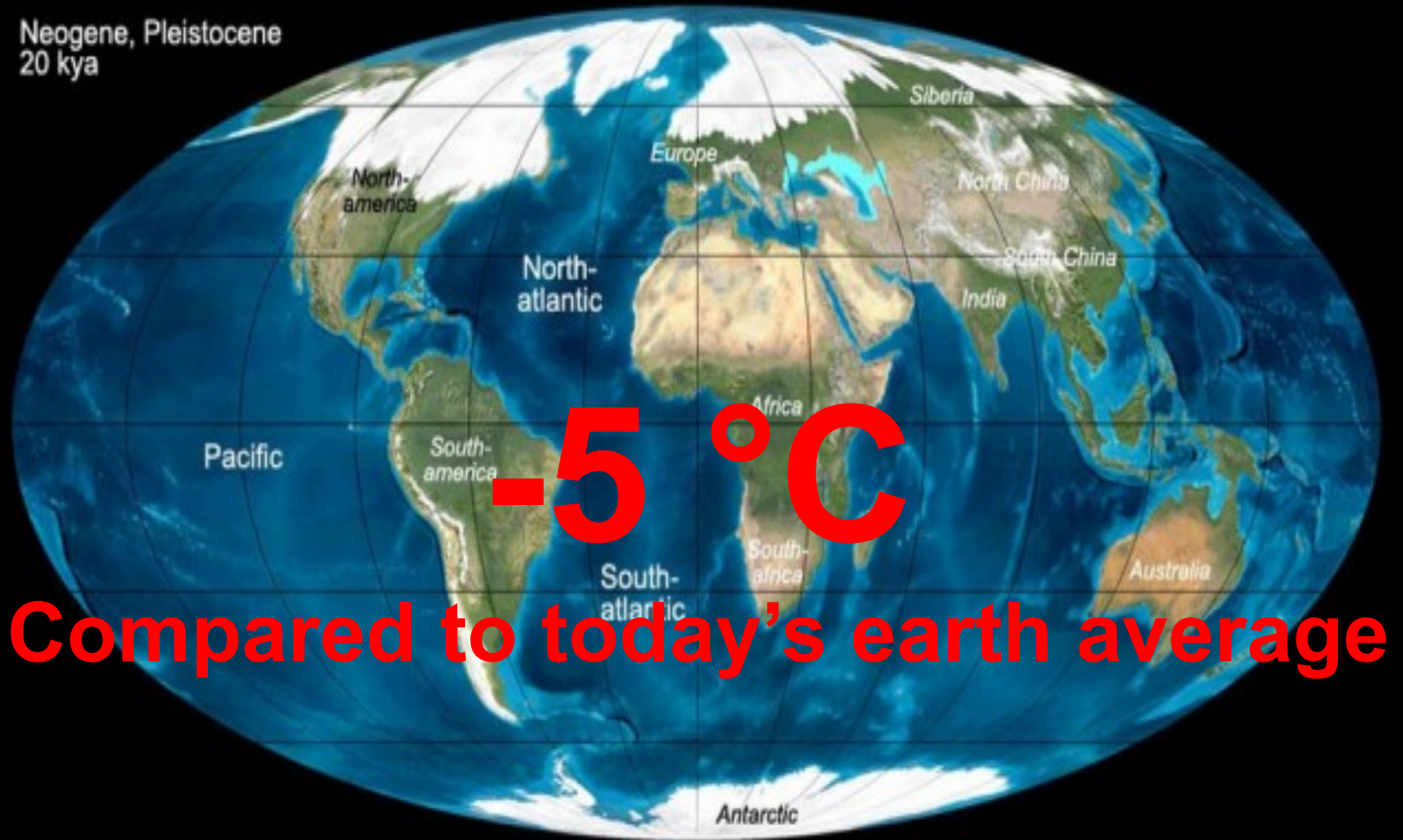
Compared to today's average temperature

- 
- The map displays the region of Southeast Asia and Australia. Light yellow areas represent the present-day mainlands, while darker yellow areas represent the extensions of these landmasses during ice ages when sea levels were lower. The text '-5 °C' is centered over the Malay Peninsula and Sumatra, indicating a temperature difference compared to today's average. The text 'Compared to today's average temperature' is positioned below the temperature reading. A legend in the bottom left corner explains the color coding for the landmasses.
- present-day mainlands
  - mainland extensions by lower sea levels during the ice ages

# The Bering Strait 15 000 years ago



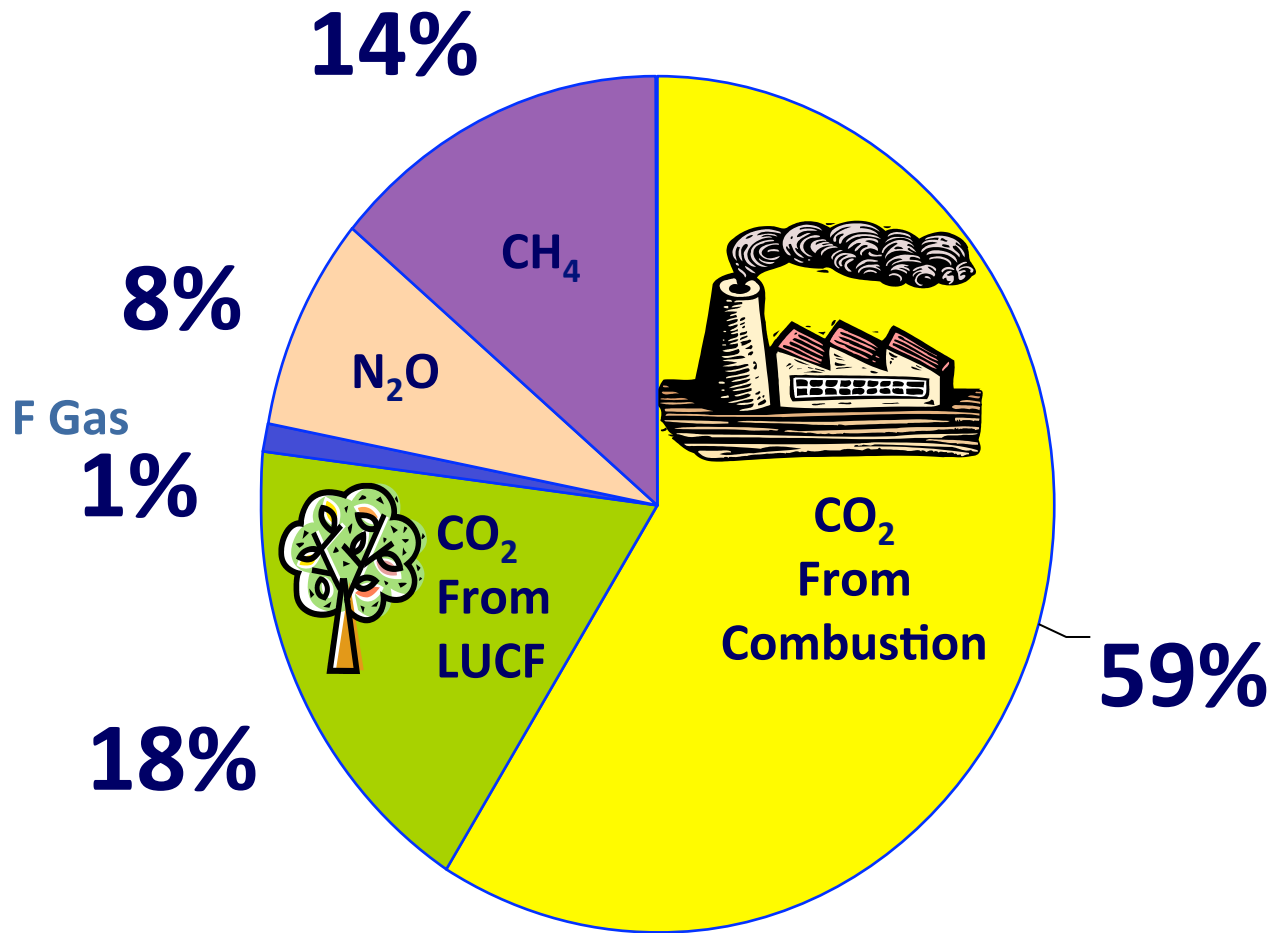
Neogene, Pleistocene  
20 kya



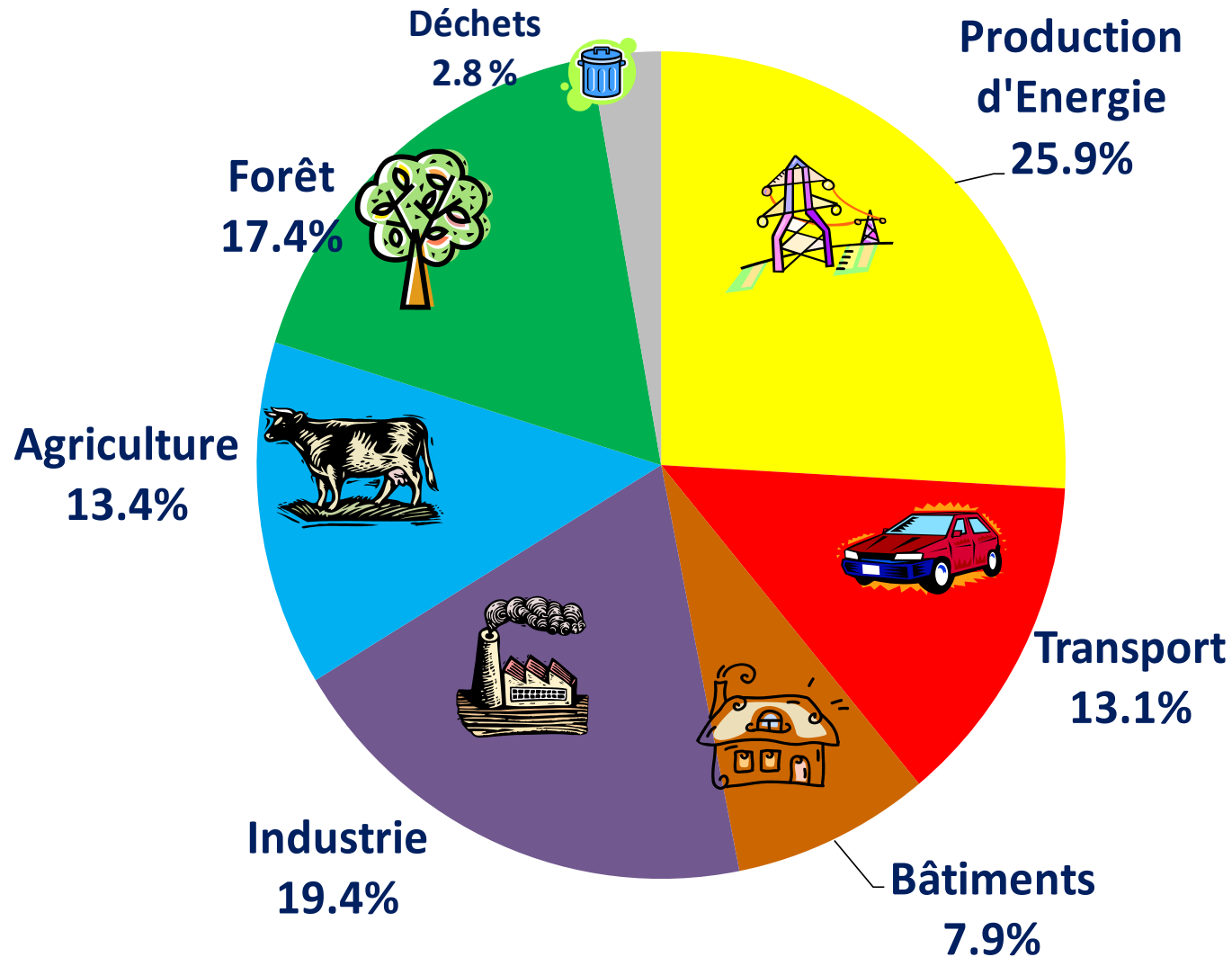
**-5 °C**

**Compared to today's earth average**

# Global Greenhouse Gas Emissions



# World Greenhouse Gas Emissions



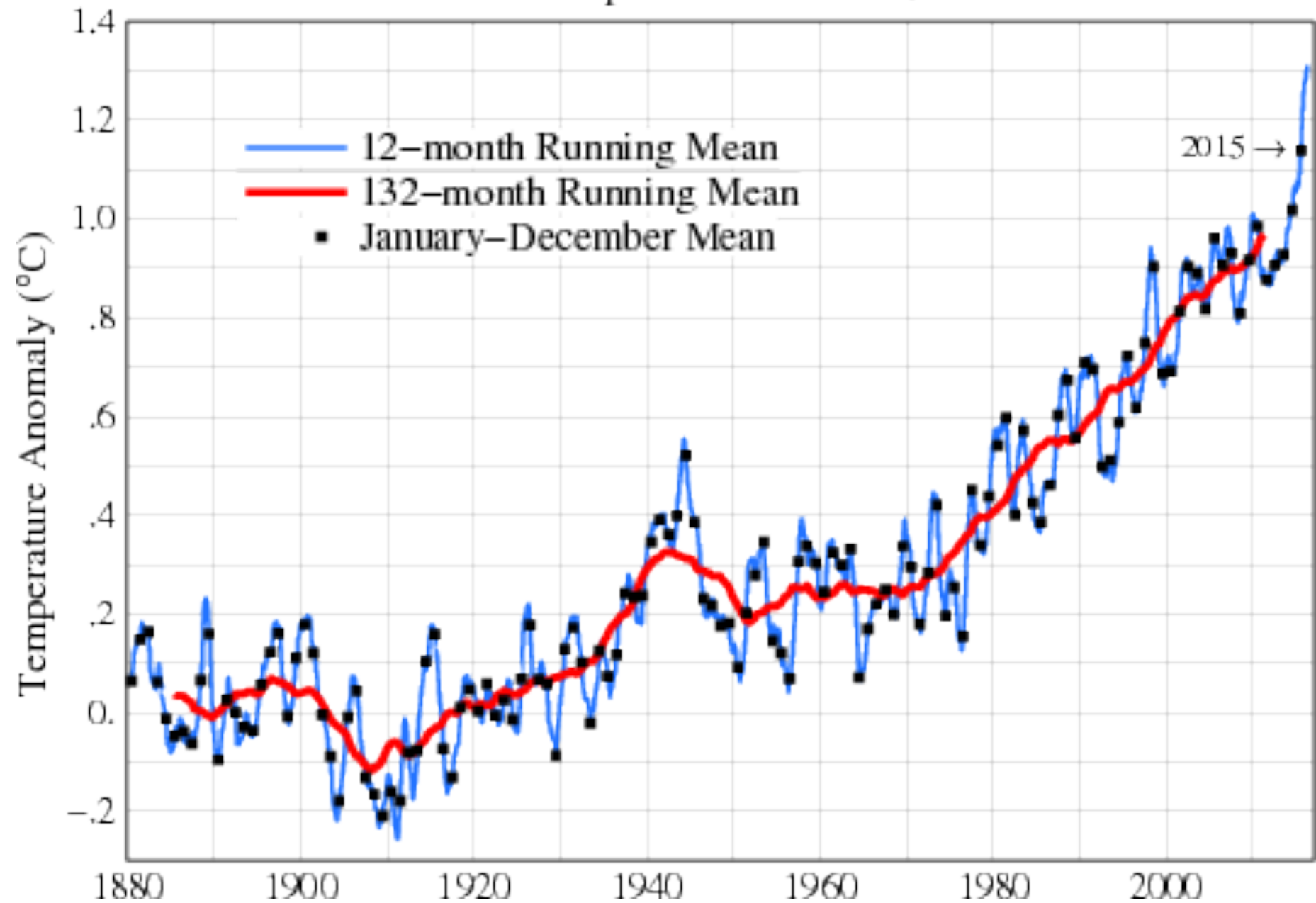
Source: IPCC AR4, Synthesis Report (shares are for 2004)

# Ranking of the Warmest Years observed since 1880

(Ranked from the hottest record)

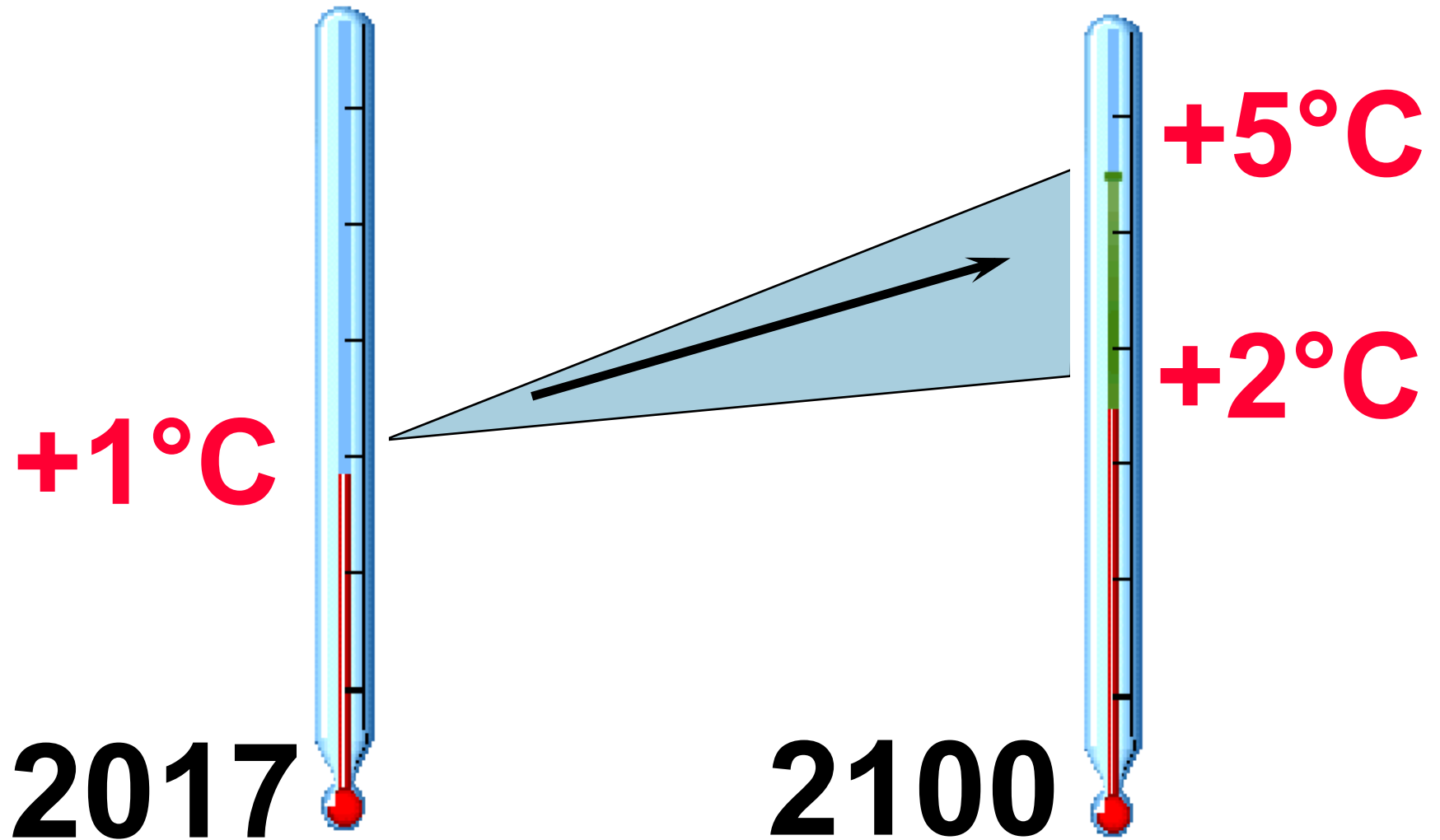
<b>1</b>	<b>2016</b>	<b>11</b>	<b>2009</b>
<b>2</b>	<b>2015</b>	<b>12</b>	<b>2007</b>
<b>3</b>	<b>2014</b>	<b>13</b>	<b>2004</b>
<b>3</b>	<b>2010</b>	<b>14</b>	<b>2012</b>
<b>5</b>	<b>2005</b>	<b>15</b>	<b>2011</b>
<b>5</b>	<b>1998</b>	<b>16</b>	<b>2006</b>
<b>7</b>	<b>2013</b>	<b>17</b>	<b>2001</b>
<b>8</b>	<b>2003</b>	<b>18</b>	<b>2008</b>
<b>9</b>	<b>2002</b>	<b>19</b>	<b>1997</b>
<b>10</b>	<b>2006</b>	<b>20</b>	<b>1990</b>

# Global Surface Temperature: 1880–1920 Base Period



**Source:** James Hansen & al « A better Graph » September 2016

# Possible Evolution of Earth Average Temperature over the next century



**GHG Emissions**

**32.6 Gtons CO<sub>2eq</sub> /year**

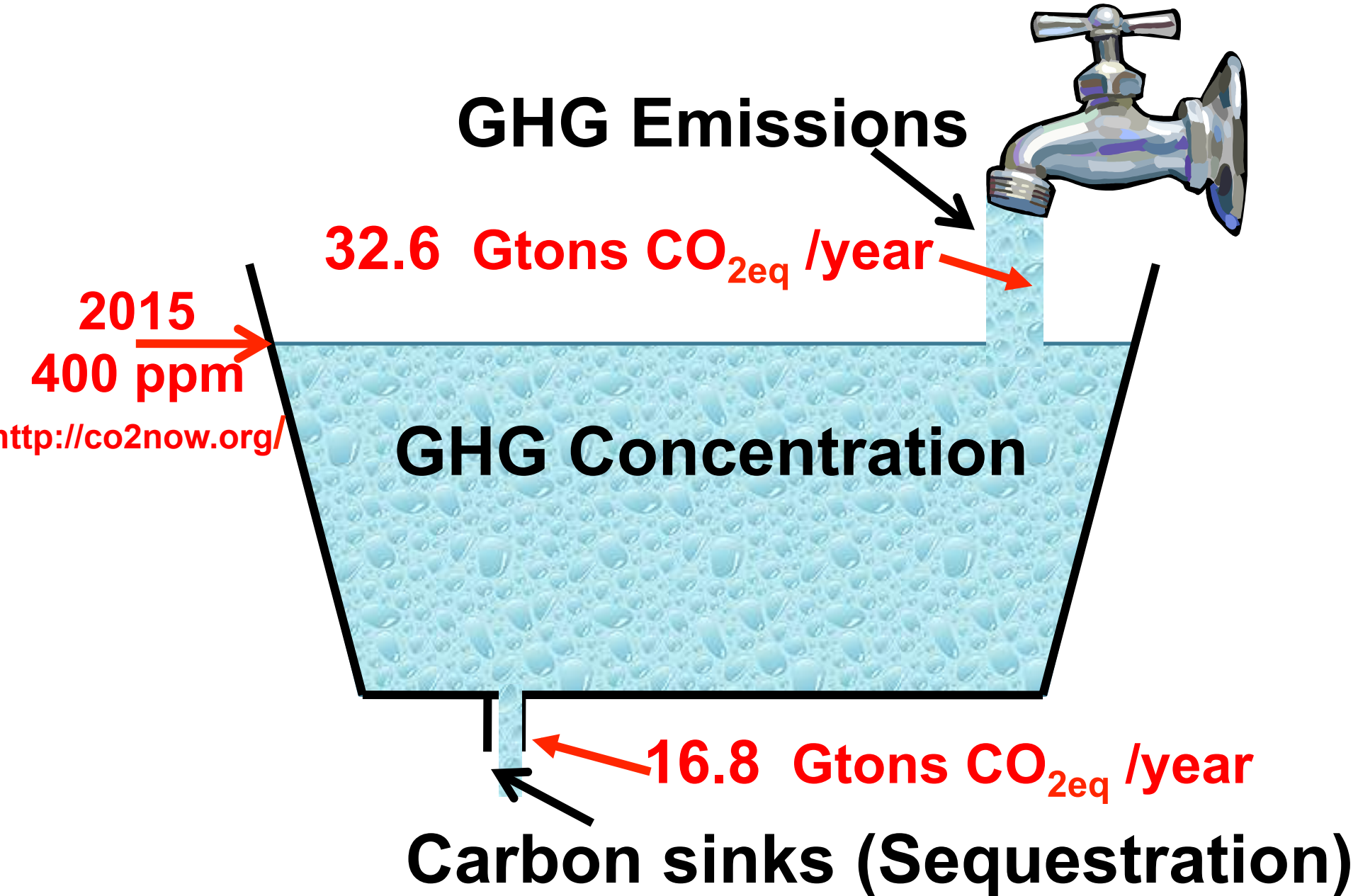


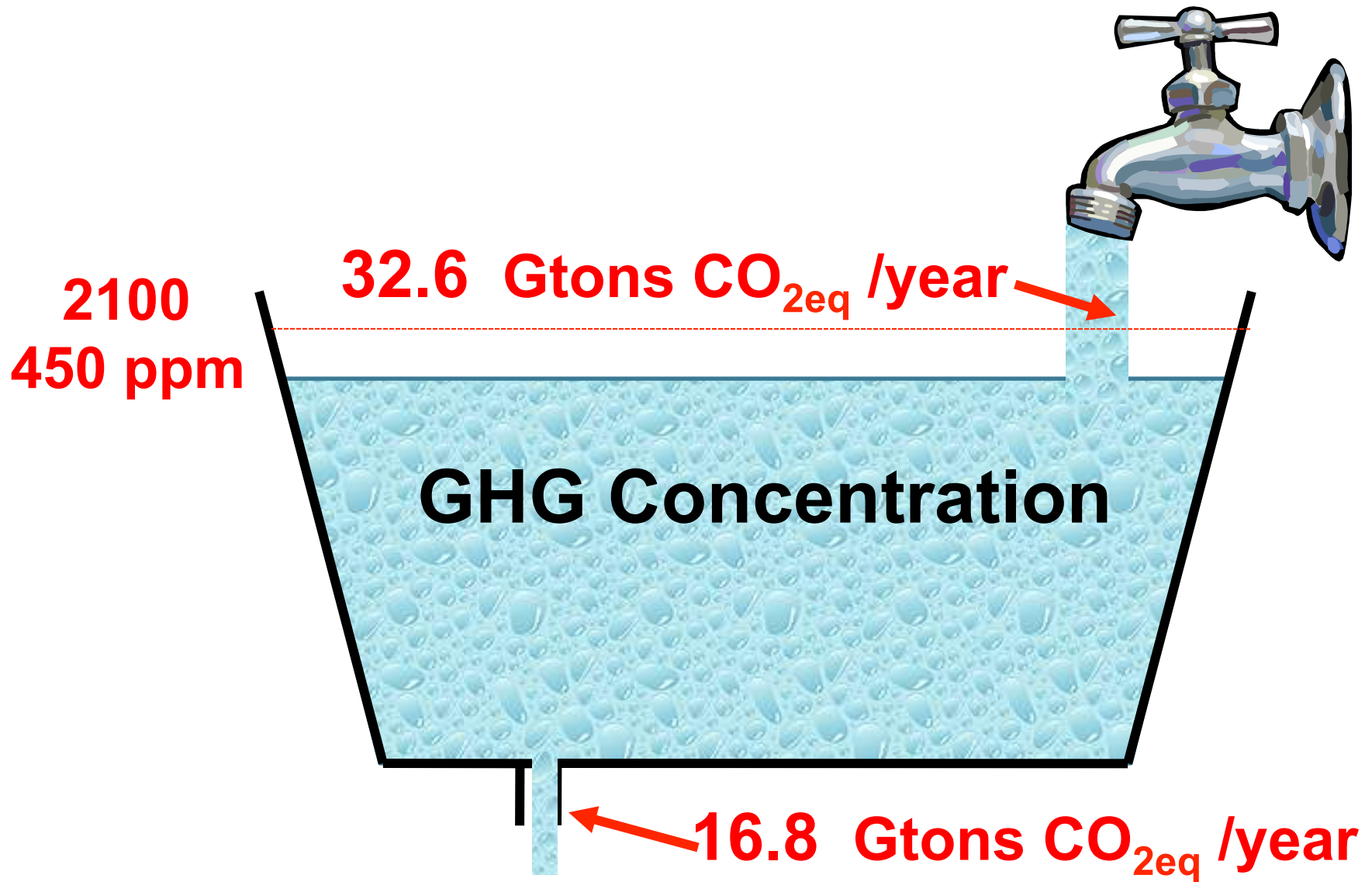
**2015**  
**400 ppm**  
<http://co2now.org/>

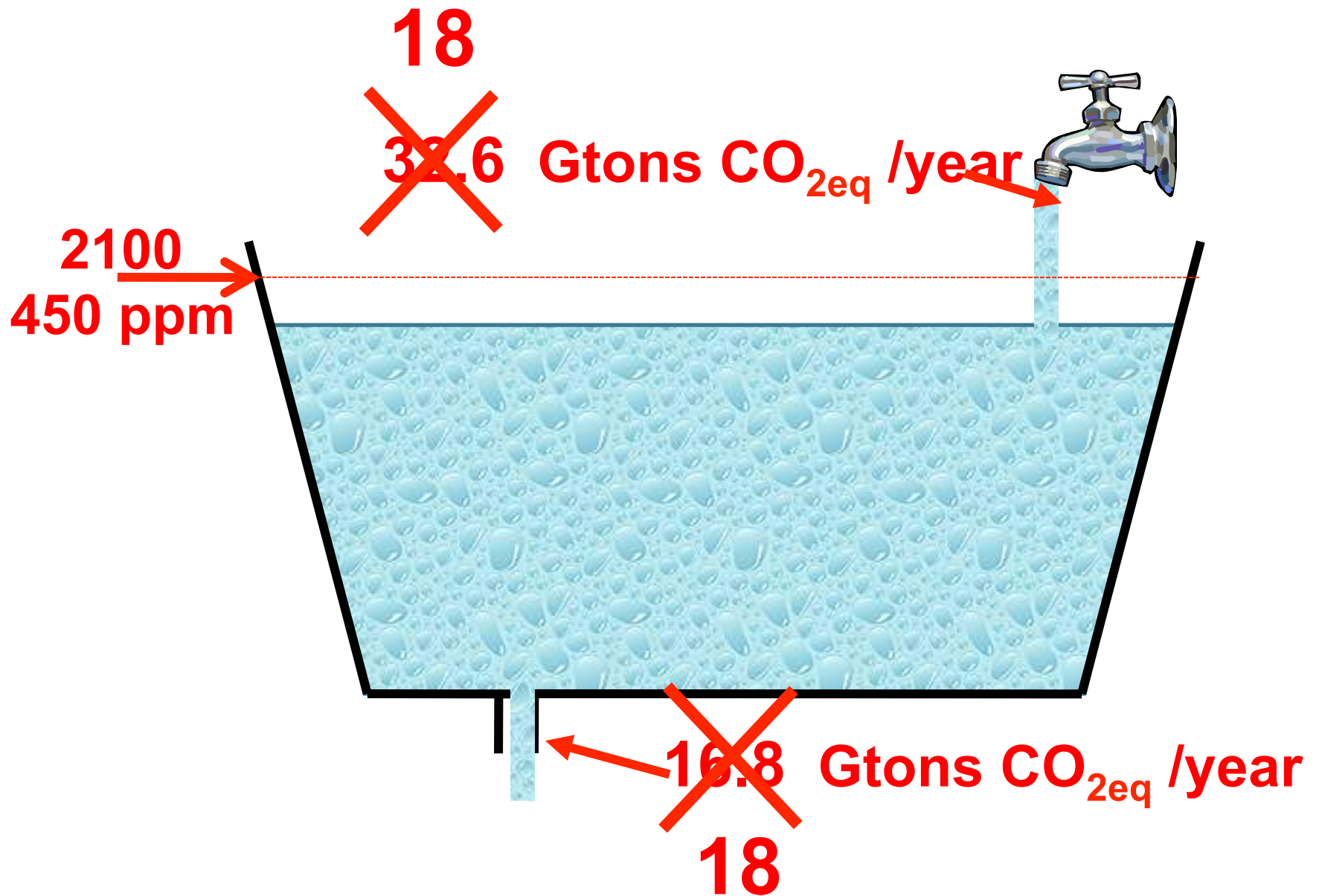
**GHG Concentration**

**16.8 Gtons CO<sub>2eq</sub> /year**

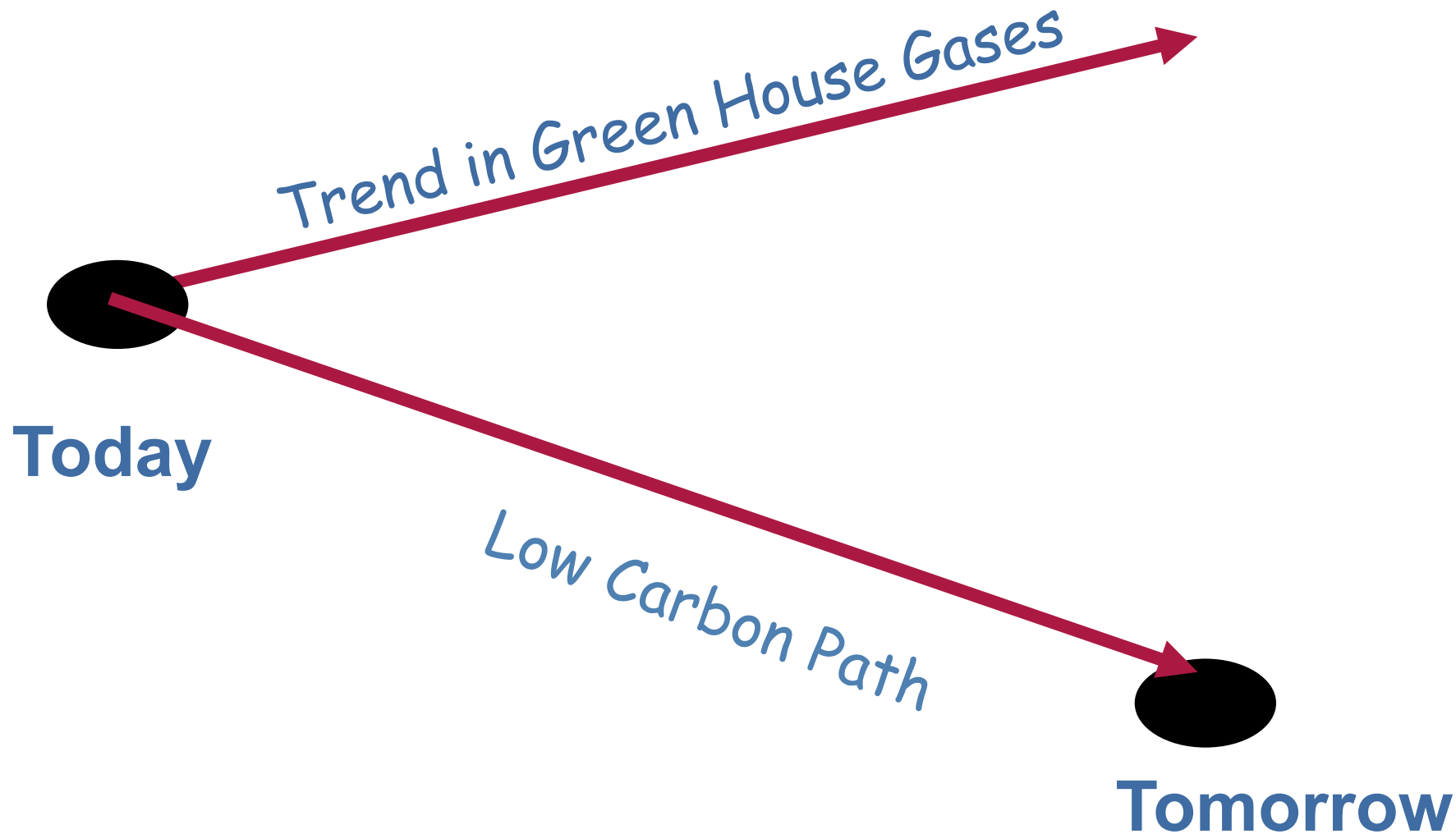
**Carbon sinks (Sequestration)**



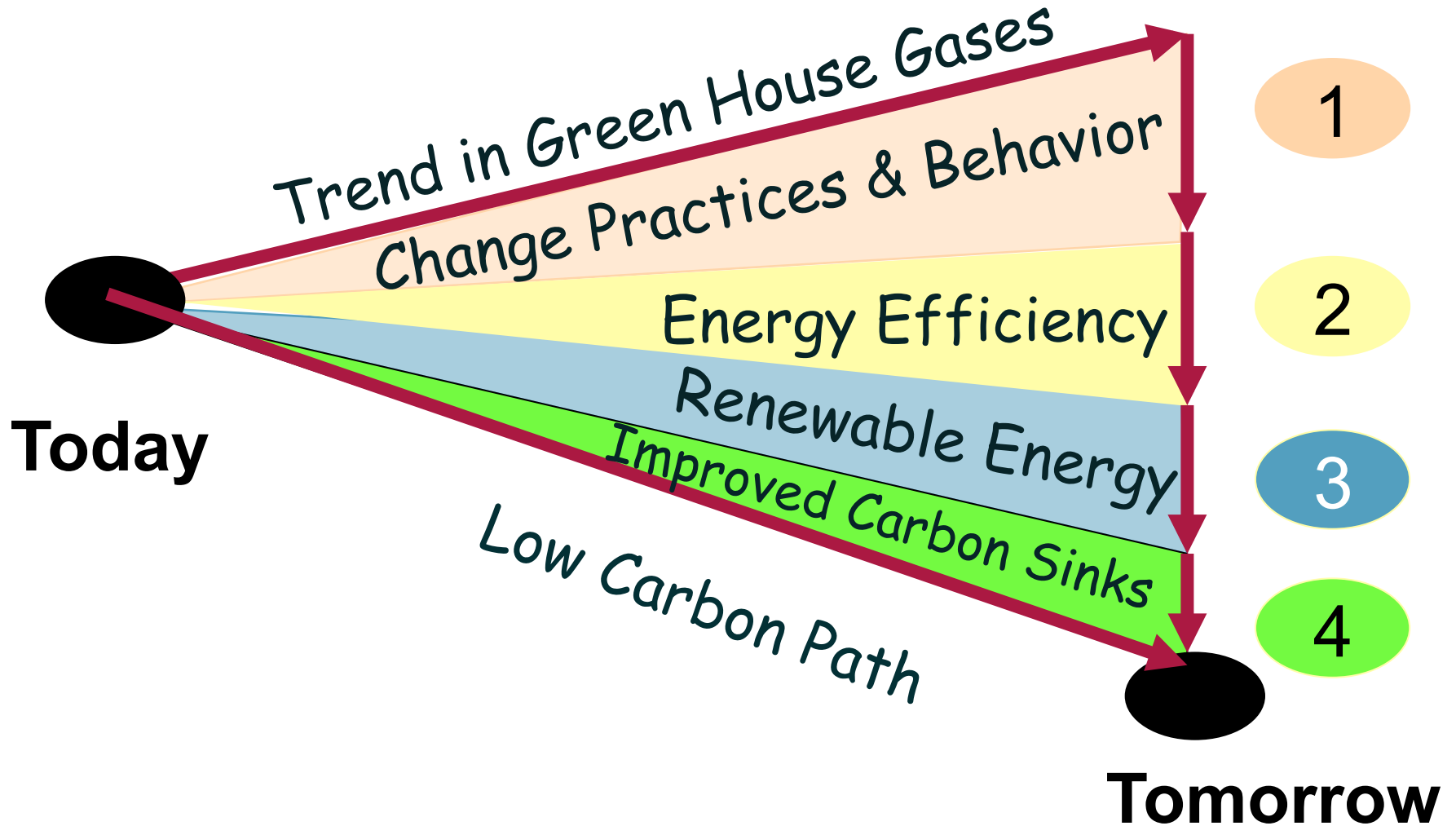








# Four wedges for a low carbon development



# Mitigation Measures



## More efficient use of energy



## Greater use of low-carbon and no-carbon energy

- Many of these technologies exist today



## Improved carbon sinks

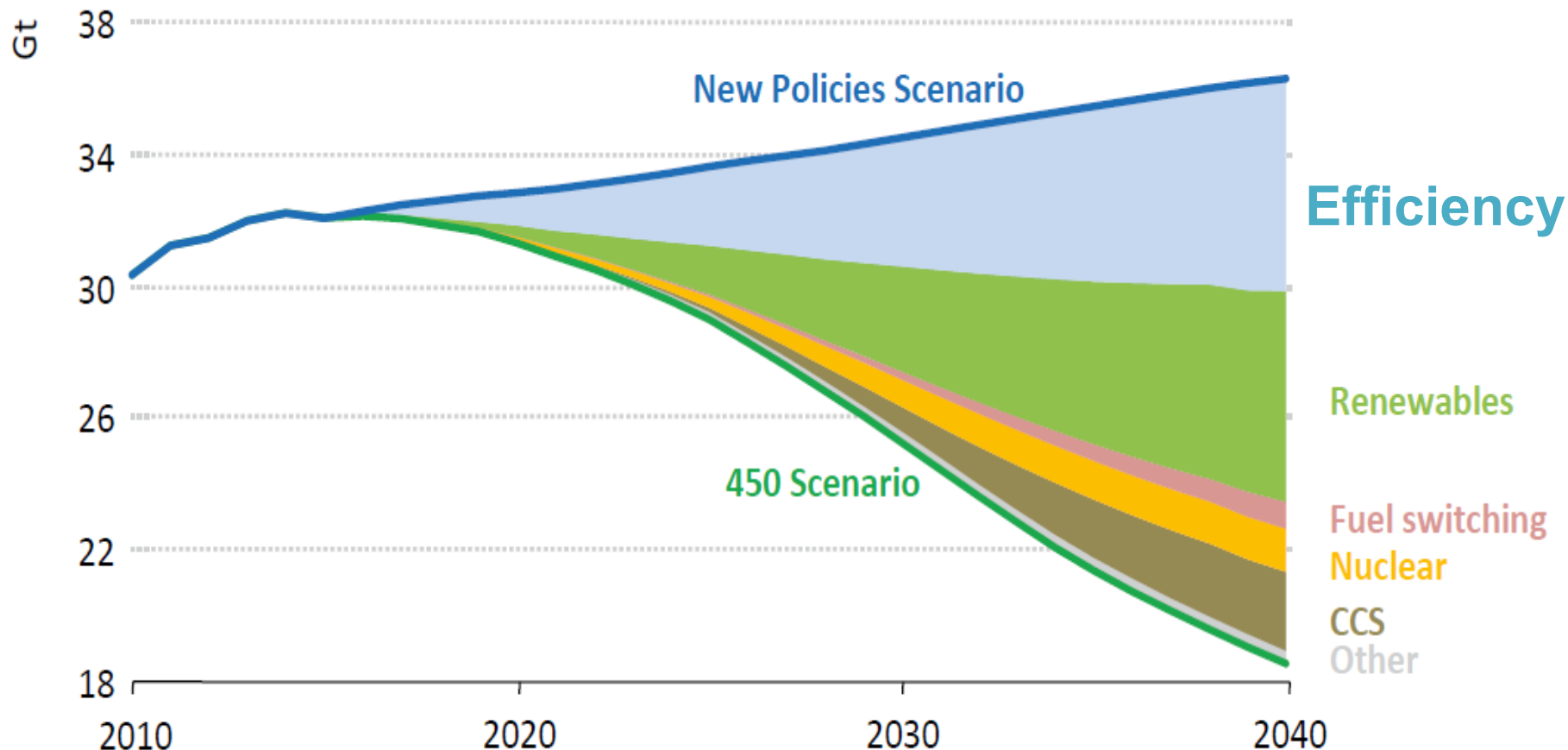
- Reduced deforestation and improved forest management and planting of new forests
- Bio-energy with carbon capture and storage



## Lifestyle and behavioural changes

AR5 WGIII SPM

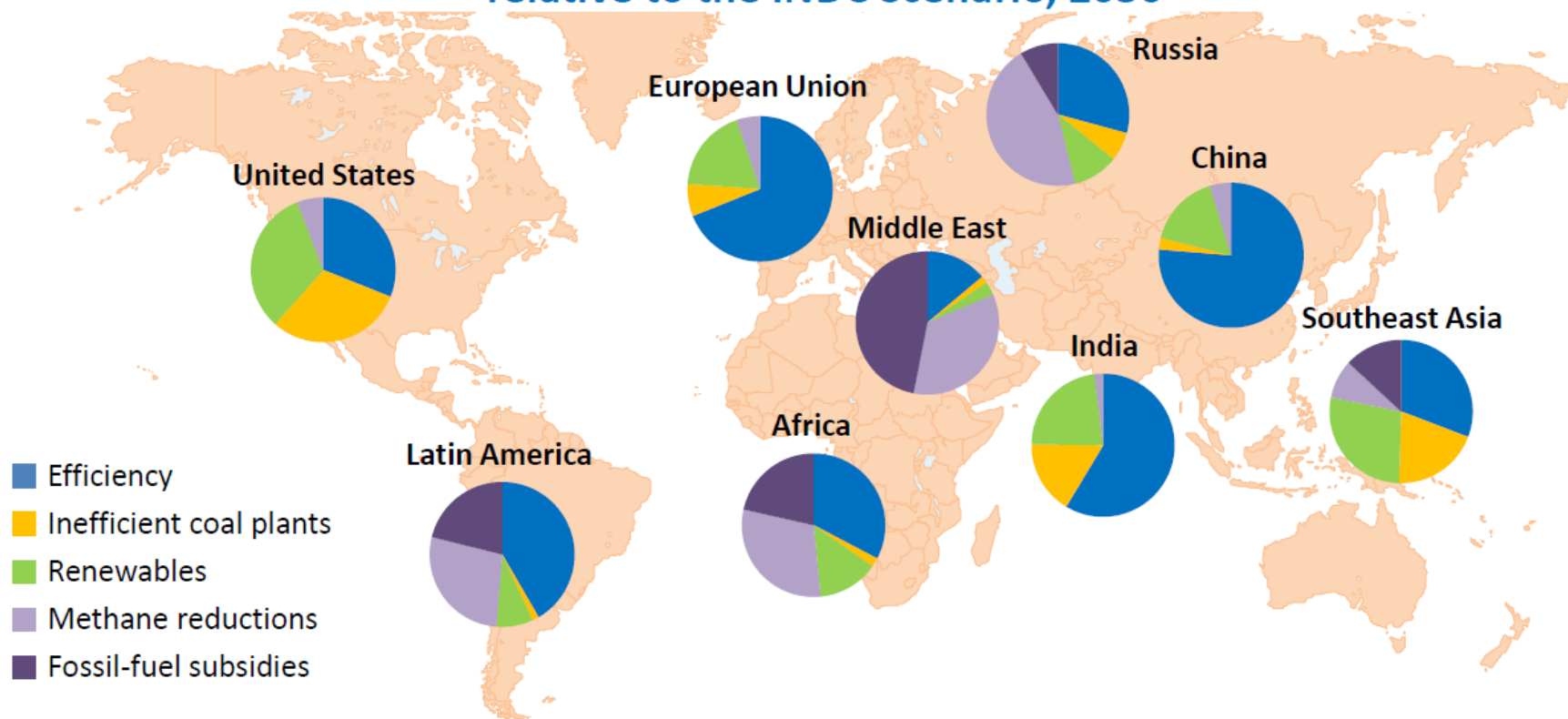
## Global CO<sub>2</sub> emissions savings in 450 Scenario relative to the New Policies Scenario



The New Policies Scenario including all the NDCs from the Paris agreement still leaves a significant amount of efficiency potential untapped.

# Energy Efficiency #1 in GHG Mitigation

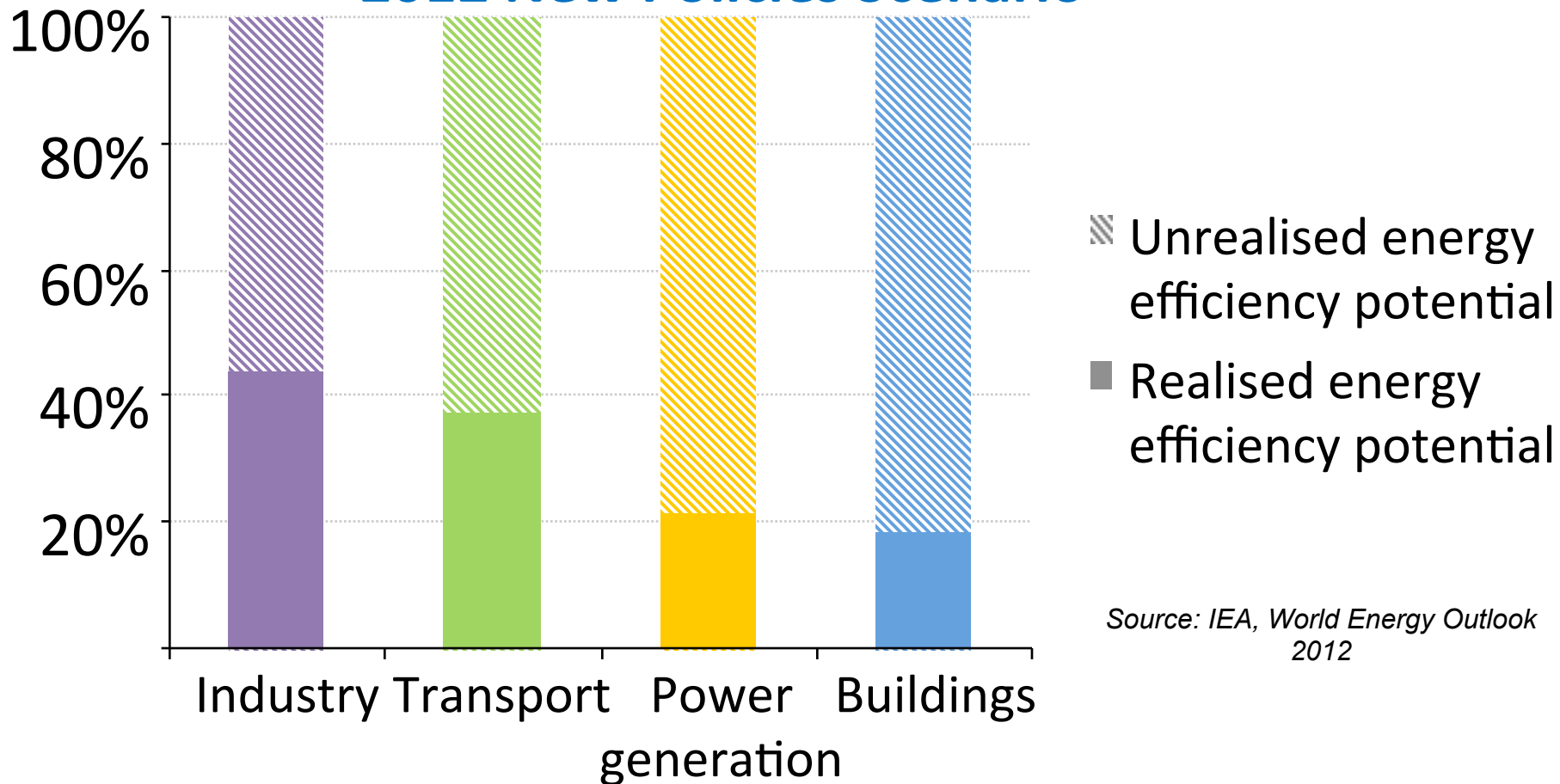
GHG emissions reduction by measure in the Bridge Scenario,  
relative to the INDC Scenario, 2030



*The measures in the Bridge Scenario apply flexibly across regions, with energy efficiency and renewables as key measures worldwide*

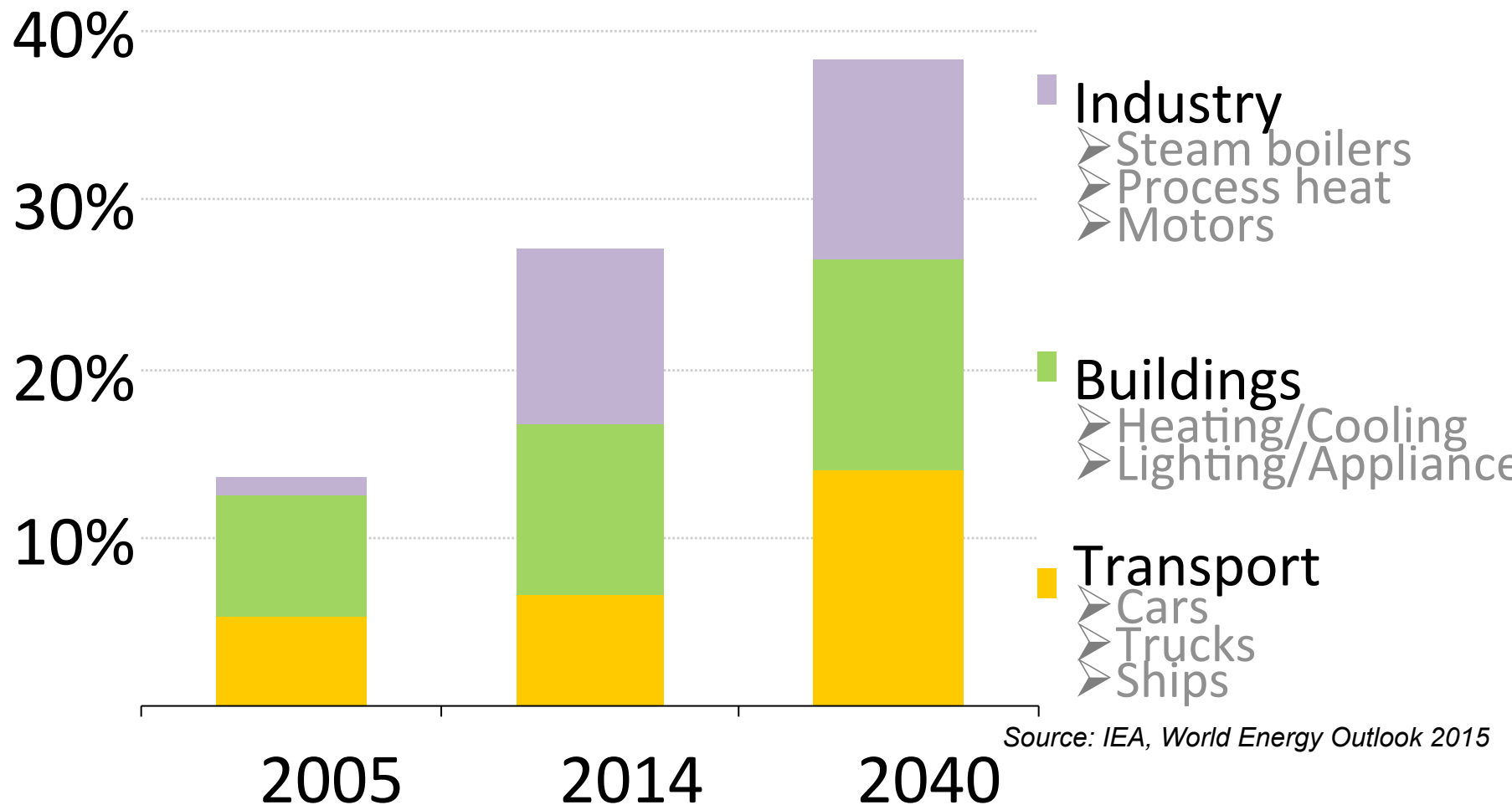
# Energy efficiency potential remains untapped

## Energy efficiency potential used by sector in the WEO 2012 New Policies Scenario



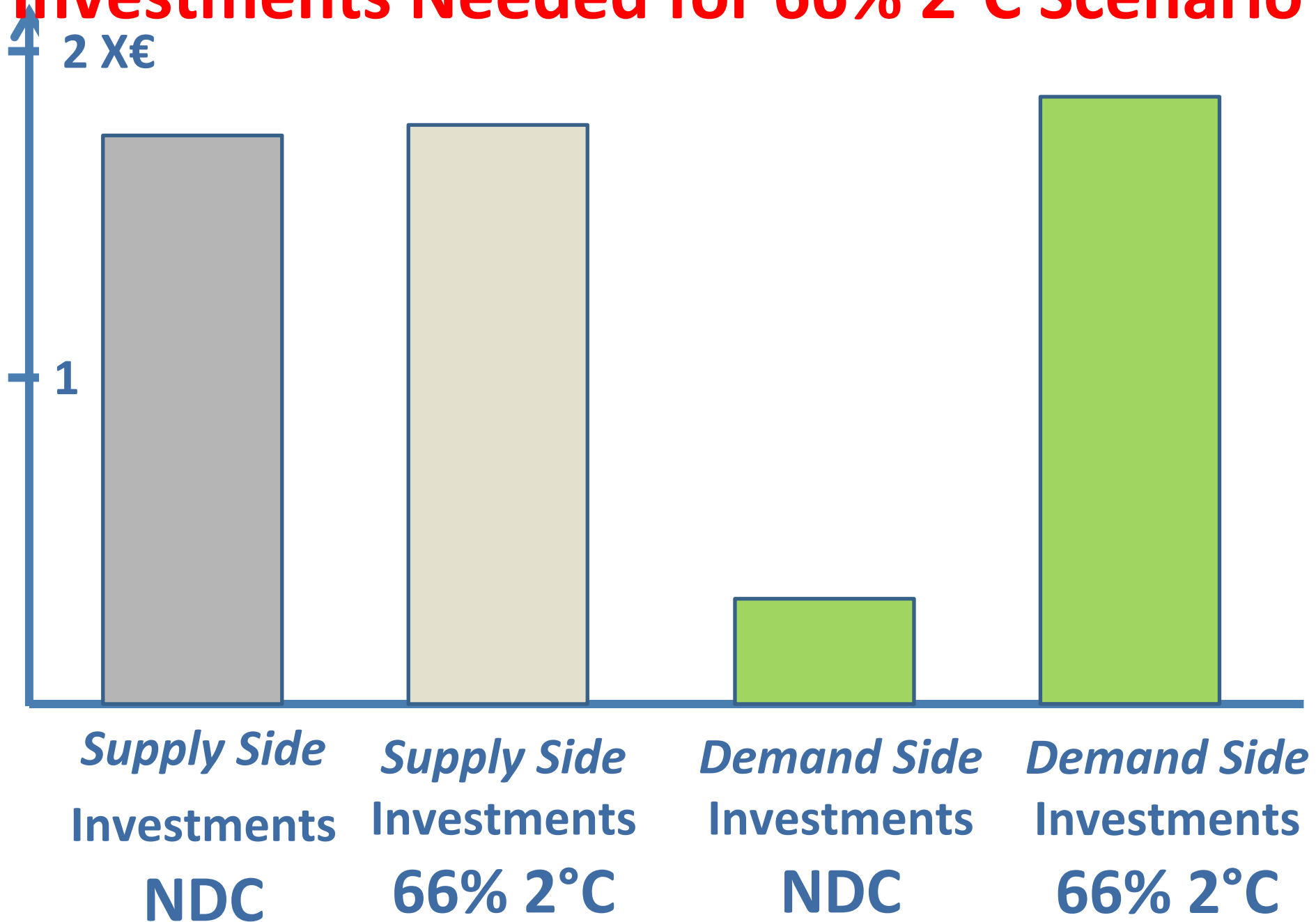
***Two-thirds of the profitable investments to improve energy efficiency remain untapped in the period to 2035***

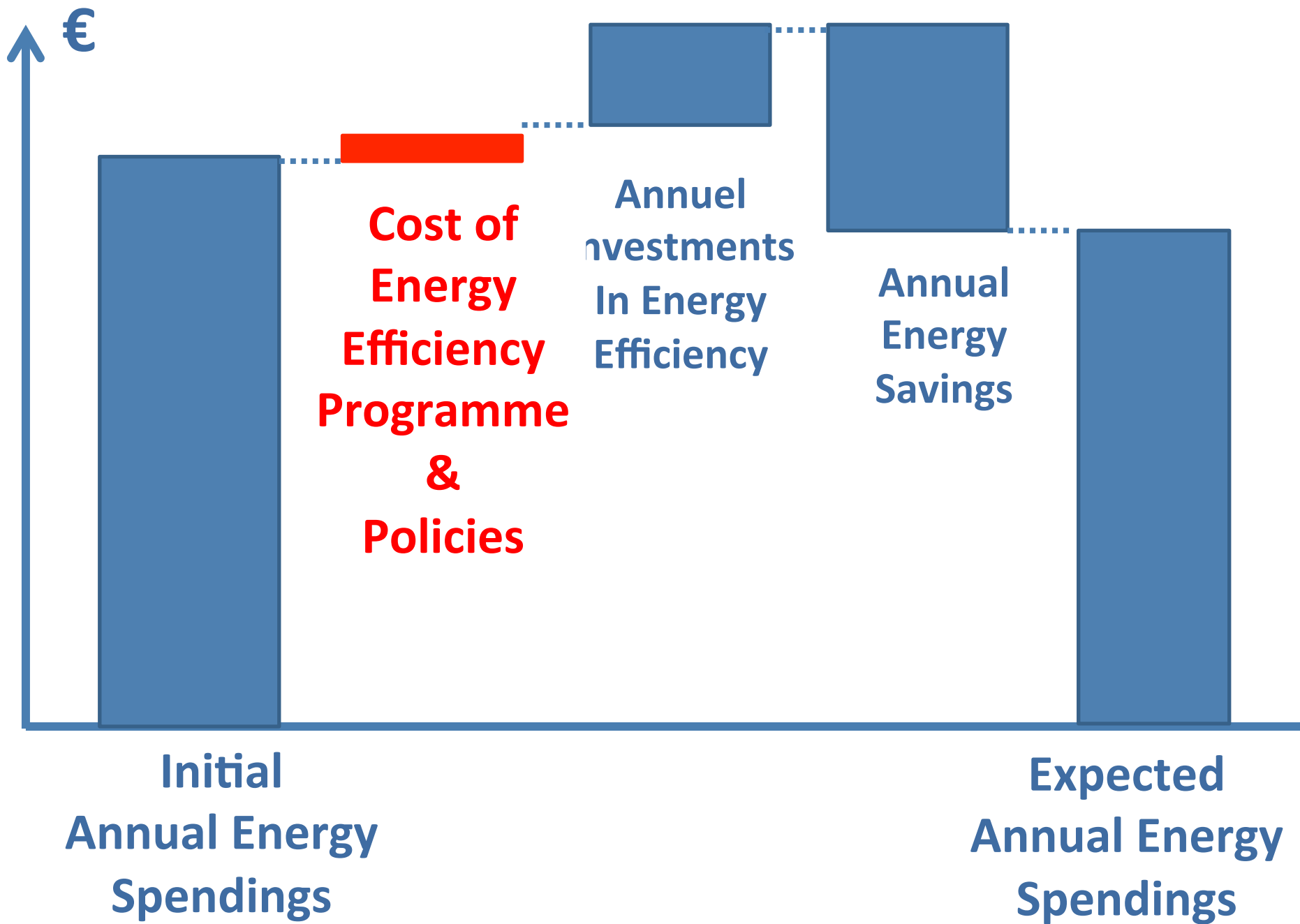
# Share of global mandatory efficiency regulation of final energy consumption

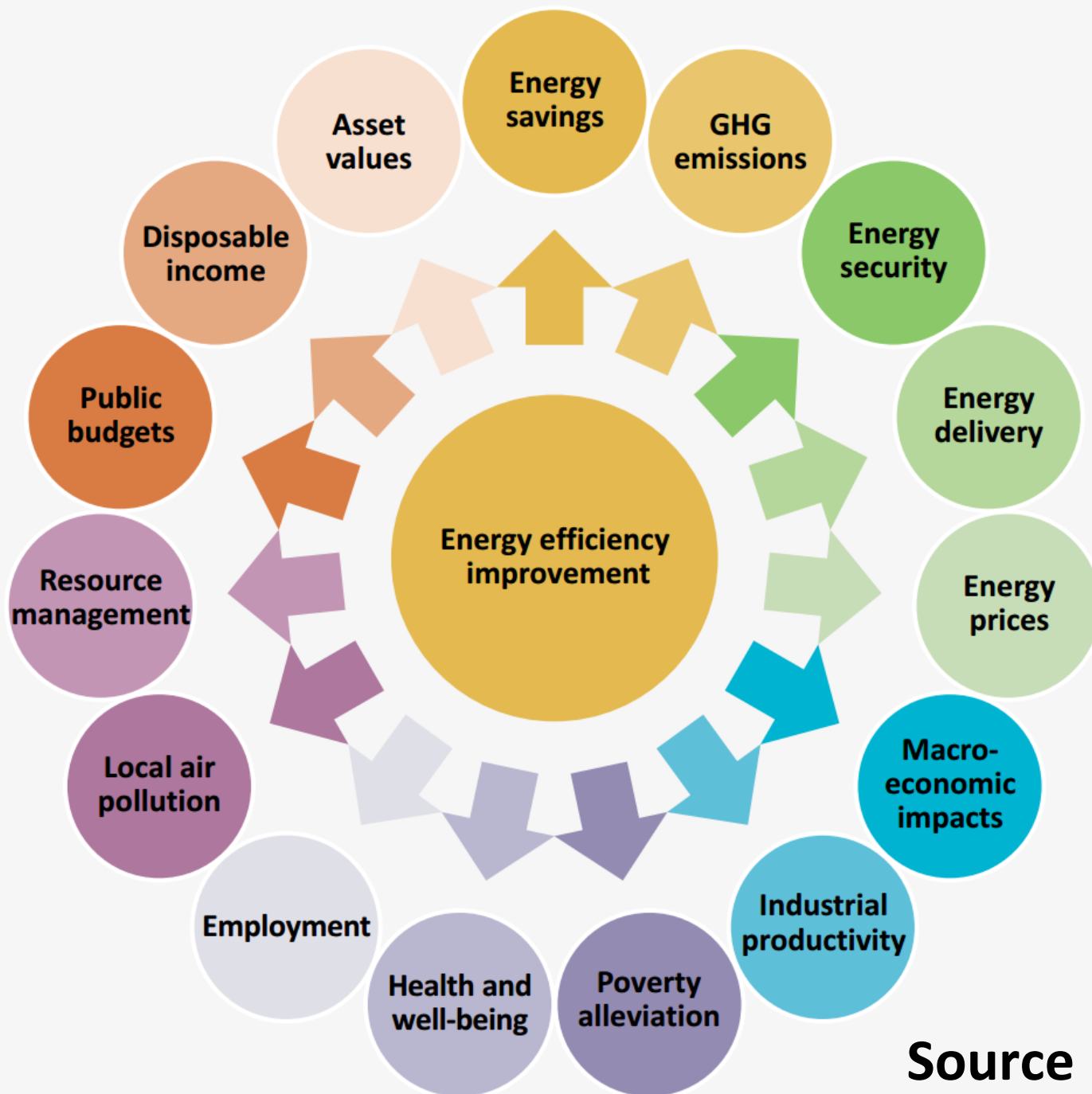


*Energy efficiency policies are introduced in more countries and sectors;  
they continue to slow demand growth but more can be done*

# Investments Needed for 66% 2°C Scenario







Source IEA 2014

# Energy Productivity is gaining attention

- In Germany
- In the USA
- In the Kingdom of Saudia Arabia
- Among a growing number of NGOs and partners....





<http://www.ipeec.org/>

# IPEEC Members are Major Economies



# IPEEC's Vision

**A world where key national policy makers view energy efficiency (EE) as a resource and implement cost effective policies to promote it.**

# The G20 Energy Efficiency Action Plan



G20 ENERGY EFFICIENCY ACTION PLAN  
VOLUNTARY COLLABORATION ON ENERGY EFFICIENCY

16 NOVEMBER 2014



**Our **Air** is changing**

**GHG are changing the world climate**

**Our **Era** is changing**

**We now live in the **Anthropocene****

**Our **Area** is changing**

**International Solidarity is indispensable**

# Conclusion: EE no longer an option

- All levels to be mobilized, in all economies;
- Significant public \$ is necessary on EE fundamentals, but returns are high
- Climate Finance to support EP
- National versus local: experiment, validate, raise EE ambition
- International Cooperation can enhance the deployment of Energy Efficiency.

# Thank You

E-mail: [benoit.lebot@ipeec.org](mailto:benoit.lebot@ipeec.org)

Tel: +33 (0)1 40 57 67 89

[www.ipeec.org/EEFTG](http://www.ipeec.org/EEFTG)

Follow IPEEC on:

