

# **The role of the IPCC**

**(Intergovernmental Panel on Climate Change)**

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**Twitter: @JPvanYpersele**

**Weather w/o Borders, Bonn (COP23), 16 November 2017**

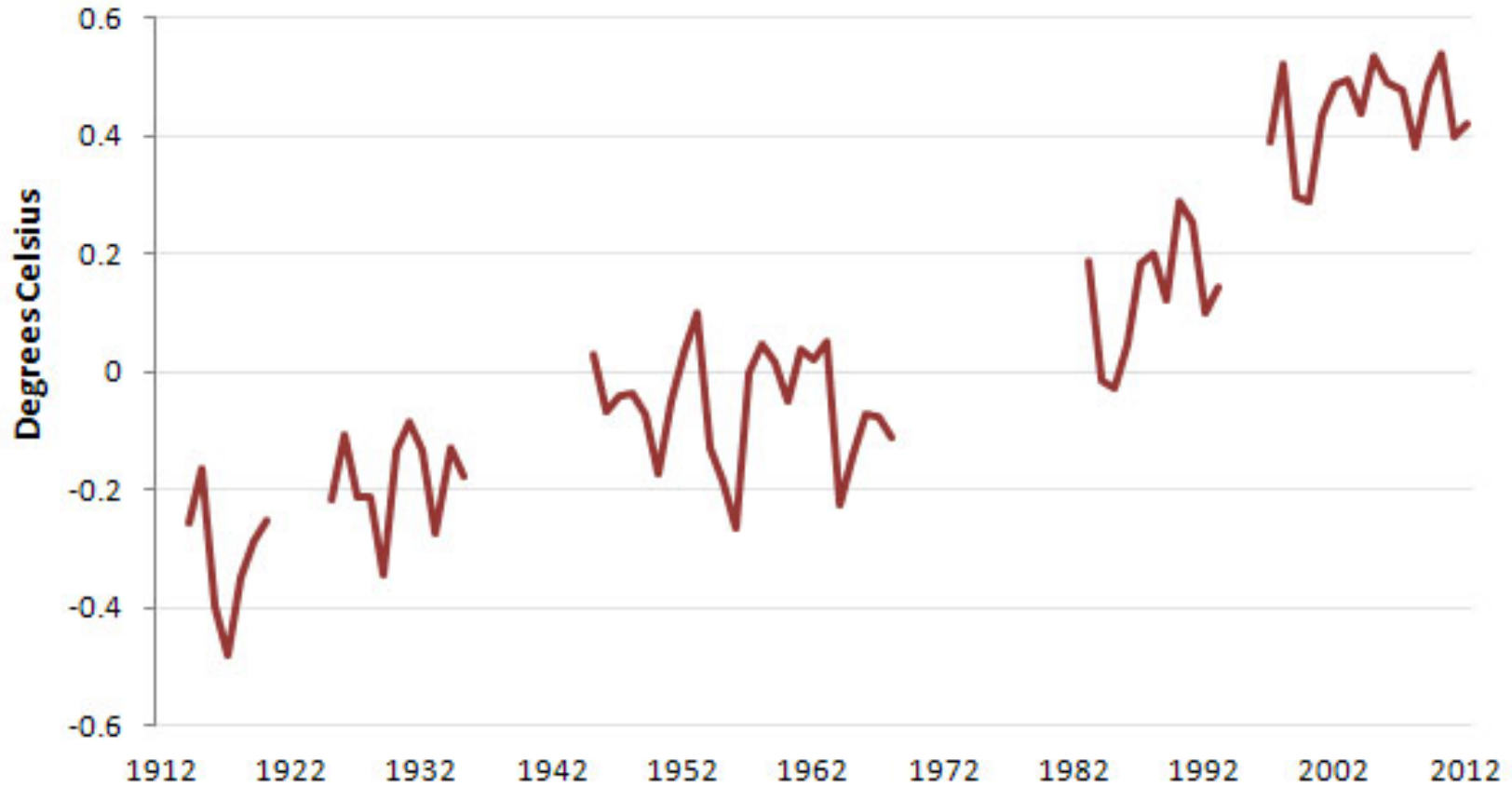
**Thanks to the Walloon government for its support to the  
« Plateforme wallonne pour le GIEC, and to my team at the  
Université catholique de Louvain for their support**

## Temperature Change From 1961-1990 Average



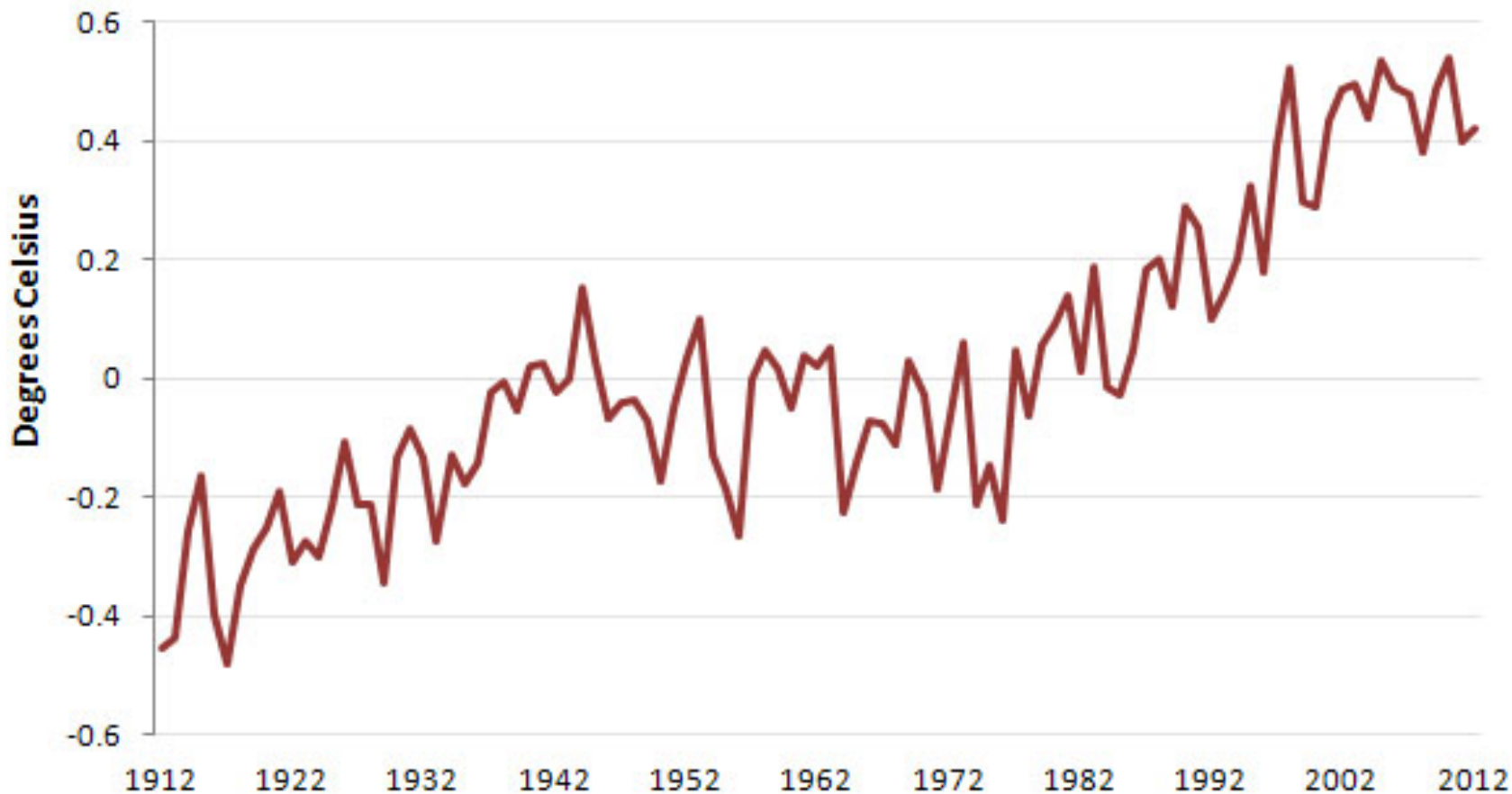
# Lying With Statistics, Global Warming Edition

## Temperature Plateaus — 1912-2012



# Lying With Statistics, Global Warming Edition

## Temperature Change From 1961-1990 Average



# Key messages from the IPCC WG1 Report (1)



## ■ Certain:

- Emissions resulting from **human activities are substantially increasing** the atmospheric concentrations of the **greenhouse gases**: CO<sub>2</sub>, CH<sub>4</sub>, CFC, and N<sub>2</sub>O

## ■ Calculated **with confidence**:

- Under the business as usual scenario, **temperature will increase by about 3°C by 2100** (uncertainty range: **2 to 5°C**), and **sea level will increase by 60 cm** (uncertainty range: **30 to 100 cm**)

# Key messages from the IPCC WG1 Report (2)

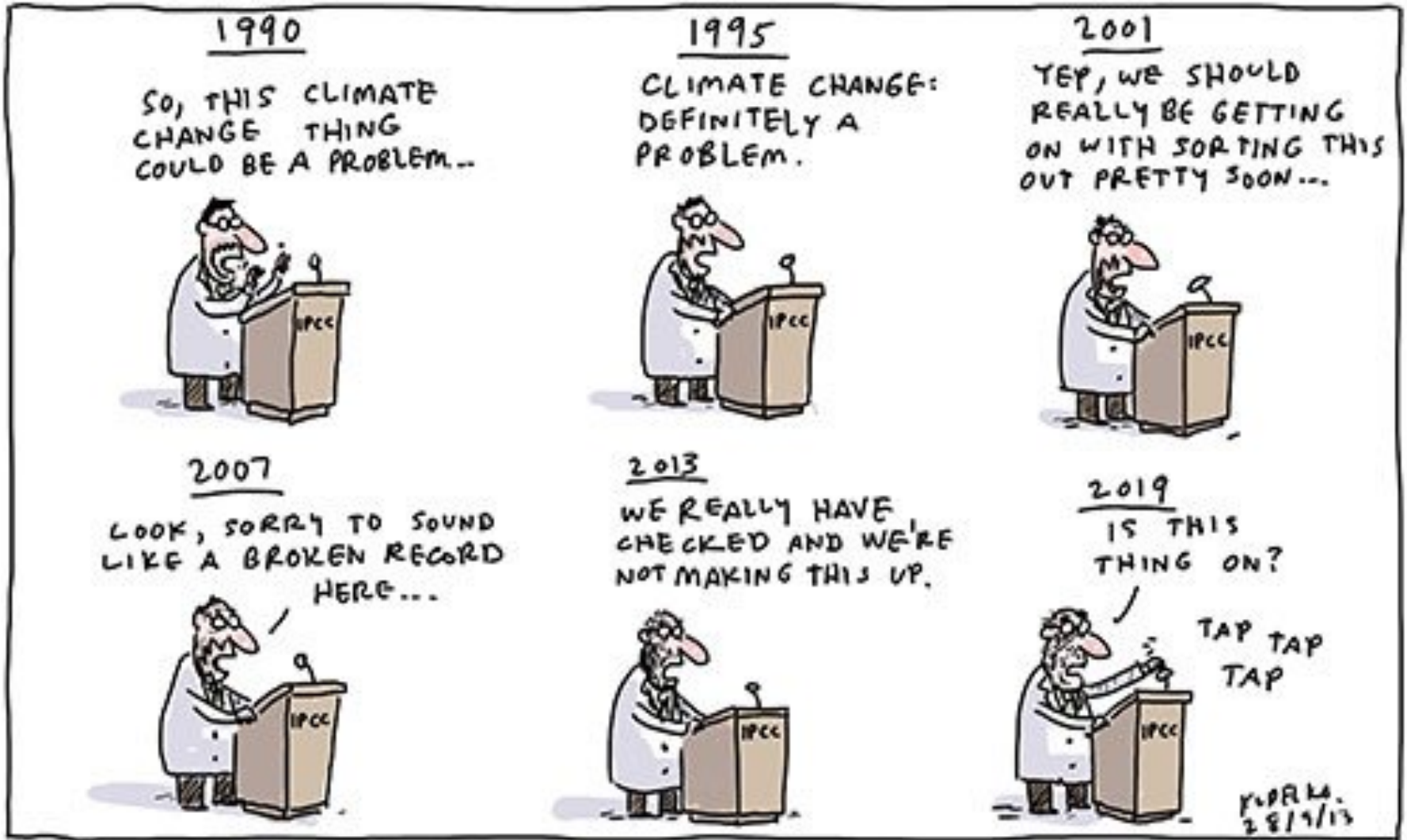
- With an increase in the mean temperature, **episodes of high temperature** will most likely become **more frequent**
- Rapid changes in climate will change the composition of ecosystems; **some species** will be unable to adapt fast enough and **will become extinct**.
- Long-lived gases (**CO<sub>2</sub>**, N<sub>2</sub>O and CFCs) **would require immediate reduction** in emissions from human activities **of over 60% to stabilise their concentration at today's levels**.

# Oops...



- ... this was from the IPCC **first** assessment report, published 27 years ago (1990)
- Was anybody really listening?

# None So Deaf





# Why the IPCC ?

Established by WMO and UNEP in 1988

to provide **policy-makers** with an **objective source of information** about

- causes of climate change,
- potential environmental and socio-economic impacts,
- possible response options (adaptation & mitigation).

WMO=World Meteorological Organization

UNEP= United Nations Environment Programme



# Mandate of the IPCC

“The General Assembly [...] endorses action of the World Meteorological Organisation and the United Nations Environment Programme in jointly establishing an Intergovernmental Panel on Climate Change to provide **international coordinated scientific assessments** of the magnitude, timing and potential environmental and socio-economic impact of climate change and realistic response strategies [...].”

United Nations General Assembly  
43<sup>rd</sup> session resolution, 6<sup>th</sup> December 1988


# Role of IPCC



"The IPCC does not carry out research nor does it monitor climate related data or other relevant parameters. It bases its assessment mainly on peer reviewed and published scientific/technical literature."

(source: [www.ipcc.ch](http://www.ipcc.ch))

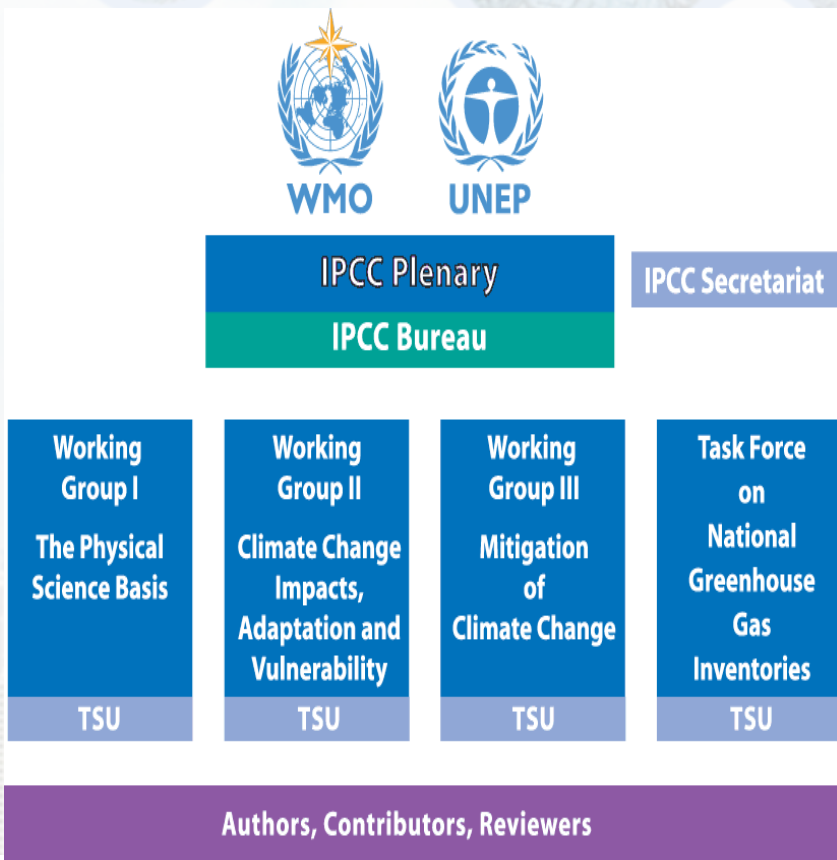
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IPCC Reports are  
policy-relevant,  
**NOT**  
policy-prescriptive

Jean-Pascal van Ypersele  
(vanyp@climate.be)

# Inter-governmental Panel on Climate Change (IPCC): Organization Structure

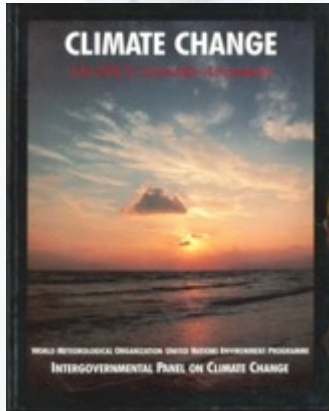


- IPCC plenary comprises of all countries in the world
- IPCC Bureau comprises of 34 elected members; IPCC elects its Bureau every 6-7 years
- 3 Working Groups & a Task Force on National Greenhouse Gas Inventories
- Authors, Contributors, Reviewers, Review Editors

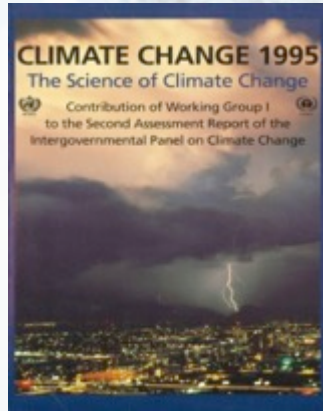
# IPCC writing cycle (4 years, 831 Lead authors)

- Plenary decides table of content of reports
- Bureau appoints world-class scientists as authors, based on publication record
- Authors assess all scientific literature
- *Draft* – Expert review (+ Review editors)
- *Draft 2 (+ Draft 1 Summary for Policy Makers (SPM))* – Combined expert/government review
- *Draft 3 (+ Draft 2 SPM)* – Government review of SPM
- Approval Plenary (interaction authors – governments) – *SPM and full report*
- ***NB: the scientists have the last word!***

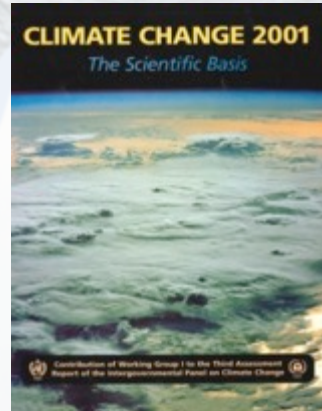
# IPCC Assessment Reports



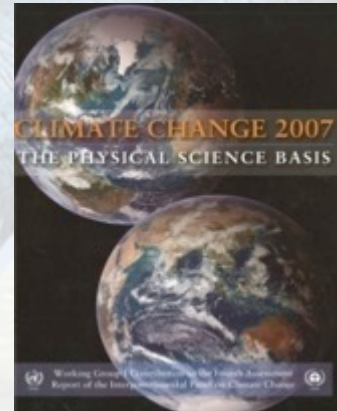
FAR 1990



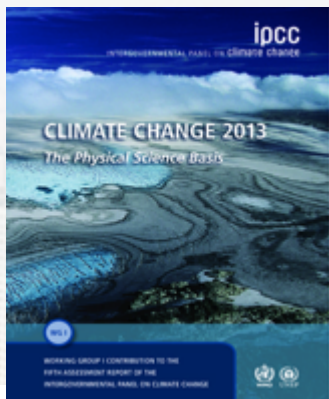
SAR 1995



TAR 2001



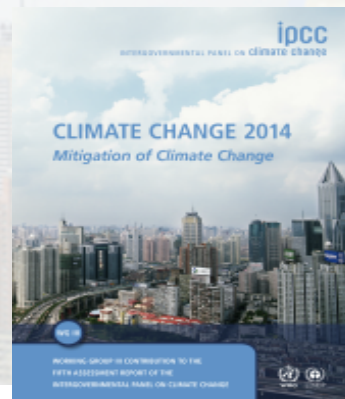
AR4 2007



AR5 WGI 2013



AR5 WGII 2014

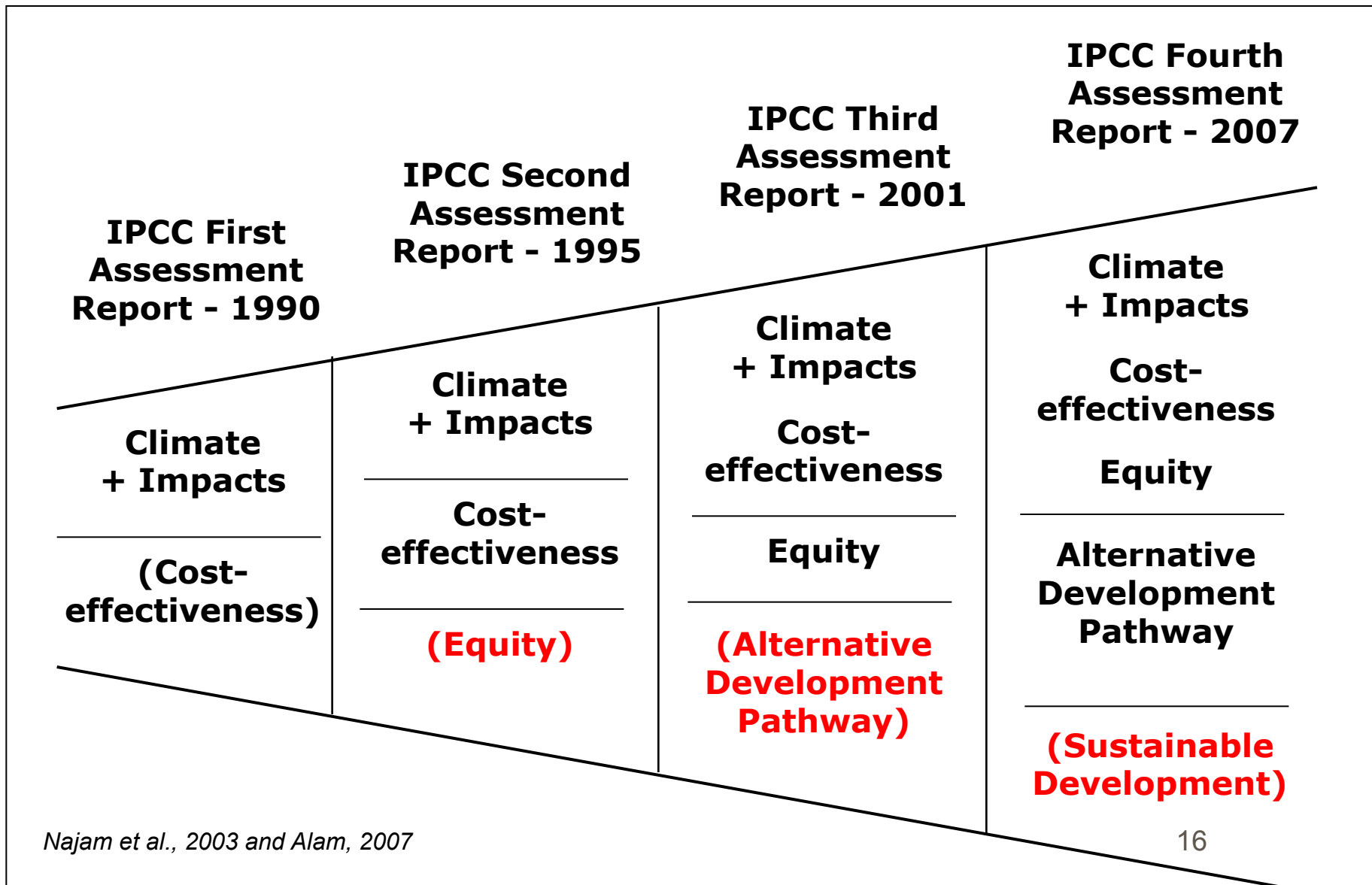


AR5 WGIII 2014



IPCC AR5 Synthesis Report

# Background





# The IPCC assessments have influenced global action on an unprecedented scale

1. The First Assessment Report (FAR, 1990) had a major impact in defining the content of the **UNFCCC**
2. The Second Assessment Report (SAR, 1996) was largely influential in defining the provisions of the **Kyoto Protocol**
3. The Third Assessment Report (TAR, 2001) focused attention on the **impacts** of climate change and the need for **adaptation**
4. The Fourth Assessment Report (AR4, 2007) informed the decision on the ultimate objective (**2°C**) and is creating a strong basis for a **post Kyoto Protocol** agreement
5. The Fifth Assessment Report (AR5, 2013-14) has informed the **review of the 2°C objective**, and the **preparation of the Paris 2015 agreement**

# Strengths of the IPCC

- ✓ **Mobilisation of thousands of multi-disciplinary experts worldwide**
- ✓ **Policy-relevant findings (but not policy-prescriptive)**
- ✓ **Widely used methodological reports**
- ✓ **Assessments relying on peer reviewed literature**
- ✓ **Review process involving experts and Governments**
- ✓ **Media attention and outreach activities**

## **AR5 is the best ever**

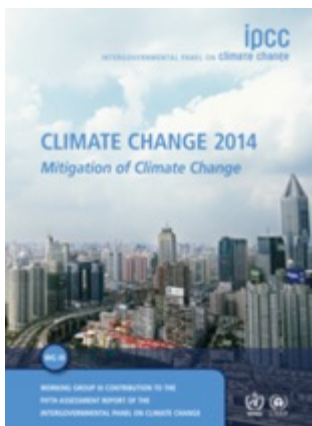
- **Better integration of Mitigation and Adaptation**
- **Improved risk-management approach**
- **Evolving away from the non-mitigation SRES scenarios** (SRES= Special Report on Emission Scenarios, 2000)
- **Special effort to provide regional information when available**
- **Sustainable development & equity aspects**
- **More comprehensive treatment of economic aspects, and of cross-cutting issues**
- **Emerging issues handled (acidification, ...)**
- **Better handling & communication of uncertainties**



**What is happening in the climate system?**



**What are the risks?**



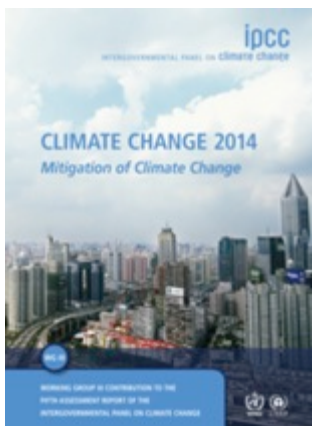
**What can be done?**



**WG I (Physical science basis): 209 lead authors, 2014 pages, 54.677 review comments**



**WG II (Impacts, Adaptation and Vulnerability): 243 lead authors, 2000 pages, 50.492 review comments**



**WG III (Mitigation of Climate Change): 235 coordinating and lead authors, 2000 pages, 38.315 review comments**

# Key messages from IPCC AR5

- **Human influence on the climate system is clear**
- **Continued emissions of greenhouse gases will increase the likelihood of severe, pervasive and irreversible impacts for people and ecosystems**
- **While climate change is a threat to sustainable development, there are many opportunities to integrate mitigation, adaptation, and the pursuit of other societal objectives**
- **Humanity has the means to limit climate change and build a more sustainable and resilient future**

# Keep the IPCC mandate

“When manoeuvring a vehicle in limited space, one **must be very well informed** about both the surrounding **risks and the available options**.

This is what the IPCC must do, and continue to do, in a scientifically rigorous, but policy-neutral, way: assess the risks, the options and the processes for reaching decisions.”

@JPvanYpersele for The Guardian, 16 March 2015

## **Conclusion (1):**

**Science has a lot to offer to understand better this un-named “Party” of UNFCCC, with whom one cannot negotiate:**

**The Climate System, governed by the laws of Nature**



## **Conclusion (2):**

**IPCC is eager to continue serving the climate and sustainable development process, with policy relevance, without being policy-prescriptive**

# Walking the talk...

- Energy audit of our home
- Strong external insulation (wood fibre)
- Ultra-efficient windows
- Airtightness inspecting + heat-recovery mechanical ventilation
- Oil furnace replaced by geothermal heat pump principally fed with PV pannels
- Non-tropical wood
- Small, used electric car
- Electric bicycles

# Trying to be coherent (external insulation)



Trying to be coherent...



Please go and see the  
latest movie with Al Gore

# An Inconvenient Sequel: Truth to Power

FIGHT LIKE YOUR WORLD DEPENDS ON IT



an **inconvenient** sequel  
**TRUTH TO POWER**

TRUTH TO POWER is BASED UPON THE WORK OF AL GORE AND THE NATIONAL SCIENCE FOUNDATION'S CLIMATE SCIENCE PANEL  
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IN THEATRES JULY 28

# Useful links:



- [www.ipcc.ch](http://www.ipcc.ch) : IPCC (reports and videos)
- [www.climate.be/vanyp](http://www.climate.be/vanyp) : my slides and other documents
- [www.skepticalscience.com](http://www.skepticalscience.com): excellent responses to contrarians arguments
- **On Twitter: @JPvanYpersele  
and @IPCC\_CH**