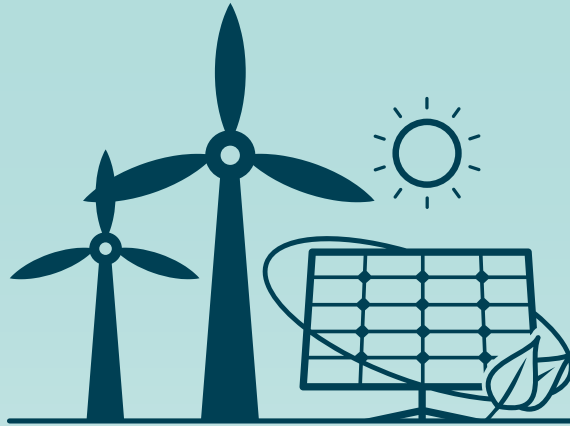


SHORT SUMMARY OF THE IPCC REPORT FROM WORKING GROUP 3



# SAVING OUR CLIMATE

**SPEEDY SHIFT TO RENEWABLES ECONOMY NEEDED!**



**The Greens | European Free Alliance**  
in the European Parliament

# INTRODUCTION

The Intergovernmental Panel on Climate Change's (IPCC) reports are the most comprehensive global overview to date of the science behind climate change. These climate reports are used by governments to help them take the necessary action to prevent catastrophic global warming and adapt to the impacts of climate change.

The IPCC is composed of three working groups (WG) whose findings are brought together in a final synthesis report. Working Group 1 focuses on climate science and trends in extreme weather events; Working Group 2 focuses on impacts - agriculture, disease, infrastructure, and adaptation; Working Group 3 focuses on mitigation. The next IPCC's Fifth Assessment Report (AR5) will be published end of 2014.

**The first report** from the UN scientific panel on climate change (IPCC) on climate science published in September 2013 **confirmed that there is a 95% likelihood that global warming is caused by human activities.** It also showed that most of the emission growth between 2000 and 2010 came from fossil-fuel use in the energy and industry sectors, and took place in emerging economies. **The second report**, published early April 2014, **underlined the climate impacts already happening across the globe as well as risks the world will face if countries do not quickly reduce their greenhouse gases (GHG).**

The Intergovernmental Panel on Climate Change (IPCC)'s third scientific report produced by the Working group III focuses on mitigation - which is defined by the IPCC as "human intervention to reduce the sources or enhance the sinks of greenhouse gases". **The report does not recommend specific goals for mitigation, but "assesses the options available at different levels of governance and in different economic sectors".**

**It confirms once again that governments continue to fall short of what's needed to keep the world under the agreed 2°C limit in average global temperature rise.**

Failing to seriously address climate change for another 15 years could make the problem nearly impossible to solve. **The report confirms that addressing the problem is tough but not impossible, provided that governments act promptly and smartly. For the Greens, ambitious, environmentally safe and sound actions over the current decade are vital.**

The Green leaflet on the IPCC report (WG1) - Change policies not the climate!

The Green leaflet on the IPCC report (WG2) - Climate change has devastating impacts, time to act!

## KEY POINTS OF THE IPCC 3 REPORT



# THE WORLD MUST MAKE FAR TOUGHER CURBS ON GREENHOUSE GASES BY 2030

To date, the political response to the threat has been insufficient. The world has agreed to work out a global U.N. deal by the end of 2015, entering into force from 2020, to fight climate change. This falls short of what is necessary to maintain global warming at safe level, well below 2°C.

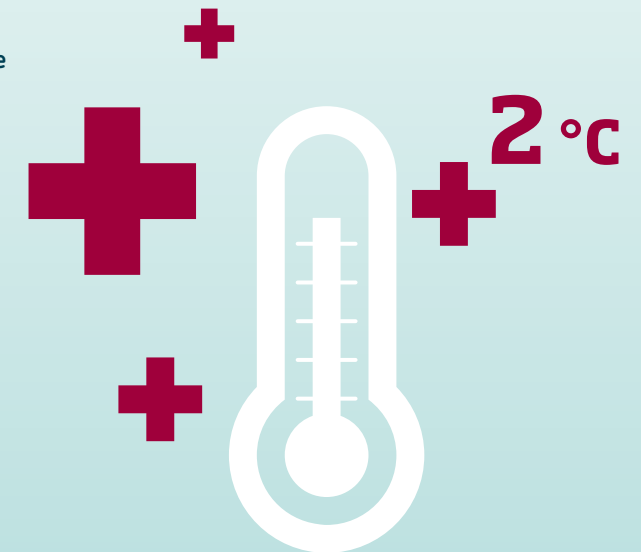
Like the two previous reports from the IPCC Working group I - on climate science - and II - on climate impacts, this third report confirms that governments need to act faster to decrease greenhouse gas emissions.



Temperatures have already risen by 0.8C (1.4F) since the Industrial Revolution. Global greenhouse gases have risen more rapidly between 2000 and 2010, with greater reliance on coal than in previous decades.

The IPCC now projects that atmospheric concentrations of carbon dioxide emissions are unlikely to stabilize at 450 parts per million (ppm), accepted by the international community as the safe limit to ensure that global average temperatures do not exceed the 2 degrees Celsius danger level. Concentrations could well overshoot to around 550 ppm. Therefore, with temperatures on track to exceed the ceiling, **stabilising greenhouse gas concentrations will require large-scale transformations in human societies.**

Given the lack of action so far to limit dangerous climate impacts, **rising global CO2 emissions will have to plunge by between 40 and 70% between 2010 and 2050 depending on scenarios, to have a reasonable chance of staying below the internationally agreed red line of a 2°C rise in average global temperatures** – a danger-threshold beyond which scientists expect already dangerous climate change to spin completely out of control.



# THE WORLD NEEDS A MAJOR SHIFT IN INVESTMENTS FROM FOSSIL FUELS – THE PRINCIPAL SOURCE OF MAN-MADE CARBON EMISSIONS – TO RENEWABLE ENERGY



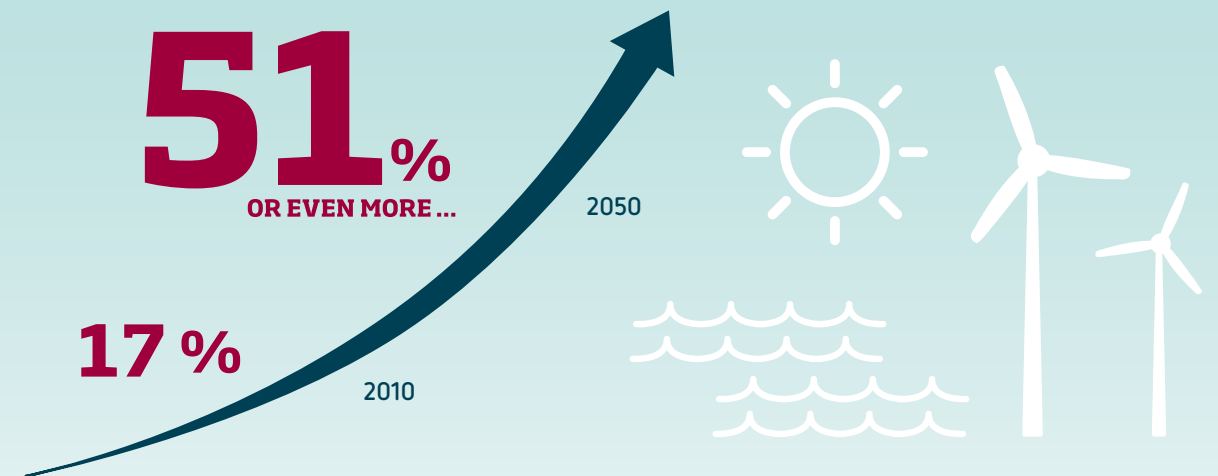
The report from WG3 makes clear that **keeping warming under control will require nothing less than large scale changes in the global energy mix**, combined with deep and fast emissions cuts. **Renewable energies will have to replace fossil fuels fast.**

The third IPCC report recommends investments of US \$147 billion a year in 'low-carbon energies' from 2010 to 2029 in order to ensure a safe, liveable climate future. **Several hundred billion dollars a year would have to go on energy efficiency in major sectors such as transport, buildings and industry.** Global annual investments in the energy system are now about \$1.2 trillion.

For the moment, low-carbon sources account for 17% of the world's total energy supplies in 2010. To displace high-polluting fossil fuels as the world's main energy source by mid-century the report says that the share of low carbon sources would have to triple - to 51 per cent - or quadruple by 2050, according to most scenarios reviewed.

Both nuclear energy and carbon capture and storage technology have been considered 'low-carbon energies'. However, **the report also underlines that nuclear is marred by the many risks involved, and that CCS has not been proven at scale.**

To keep warming below 2 degrees C, the report states that the stabilization of GHG concentrations at low levels will have to include the "phase-out of unabated fossil fuel conversion technologies" as concentrations of CO2 in the atmosphere can only be stabilized if global net CO2 emissions peak and decline toward zero in the longer term.



# DELAY IN CUTTING EMISSIONS WOULD NEED TO BE COMPEN- SATED BY NEGATIVE EMISSIONS TECHNOLOGIES

The report also assesses the potential for carbon dioxide removal - in particular bioenergy with carbon capture and sequestration BECCS. According to research scenarios delay in cutting emissions would need to be compensated by negative emissions technologies.

The report does not assess the economic or environmental viability of such technologies.

The status of geoengineering research is also reviewed by this part of the IPCC 5th assessment report. Effectiveness of such technologies for reducing global warming is highly uncertain and there are many environmental and atmospheric risks involved, not to mention exorbitant costs.

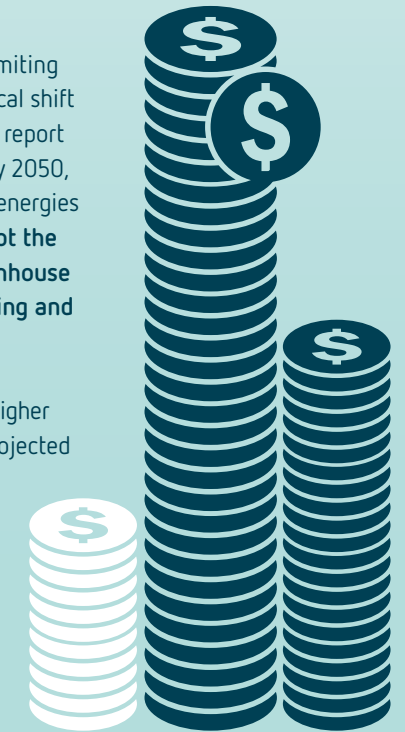


# THE COSTS OF INACTION ON CLIMATE CHANGE FAR OUTWEIGH THE COSTS OF ACTION

The report finds that stopping climate change over the coming decade will still mean major economic and ecological damage — but it's far less severe than what could come down the road if we continue to turn a blind eye to the challenge.

The new draft shows that getting on track to meet the 2C goal would mean limiting greenhouse gas emissions to between 30 and 50 billion tonnes in 2030, a radical shift after a surge to 49 billion tonnes in 2010 from 38 billion in 1990. The IPCC third report shows that this shift would reduce economic output by between 2-6 per cent by 2050, because of the costs of building a cleaner energy system based on low-carbon energies that are more expensive than abundant coal. **But letting temperature overshoot the 2C target while developing technology to cool the planet by extracting greenhouse gases from the atmosphere via CCS for example would add to risks of warming and push up costs.**

There is no time to lose to limit global warming; delaying action will only lead to higher and higher costs. By comparison, extreme weather and the melting Arctic are projected to wipe US \$60 trillion from the global economy in the coming decades.



# SUSTAINABLE SOLUTIONS WILL HAVE POSITIVE IMPACTS

The WG3 also warns about the future challenges facing people and planet and the need to addressing them. One of them is rapid urbanisation. Indeed, **urban areas are expected to triple by 2030**. This is directly relevant to climate change as urban areas account for roughly 70% of global energy use and global energy-related CO2 emissions.

Most of the world's urban areas, as well as their infrastructure, remain to be built. **This means that there are significant emissions intensive infrastructure projects which could be developed in more sustainable ways, thereby reducing future emissions.**

Smart infrastructure choices, combined with low energy building codes in new buildings, retrofits of existing ones and more widespread use of already existing technologies and efficiencies mean, according to the IPCC, that **the next two decades are full of opportunity for mitigation.**



# CONCLUSIONS

The last three IPCC reports have all demonstrated once again the insufficiency of current government action around the world to **secure a safe and liveable future for their citizens, as well as the urgent need to ramp up action.** So far, few nations have outlined plans consistent with staying below 2 degrees.

The challenge is big. If the world does not rapidly cut its emissions, it will soon have to move to “negative emissions”, i.e. **extracting greenhouse gases from the atmosphere**, in order to keep temperature rise below 2°C. **For the Greens this approach is dangerous and too costly. It is also unnecessary as safer and cheaper solutions are already available.** It is dangerous to think action today could be compensated by uncertain and unsafe technologies in the future, without any economic viability or realistic means to be controlled. **Instead of risky side-effects, investments in energy saving and renewable energy sources will have positive co-benefits, reducing energy costs, and the massive costs to society related to air pollution caused by fuel combustion.**

The same goes for geoengineering; The report shows lack of viability of any of such technologies, and the negative environmental side-effects would be enormous or at best unknown.



For the Greens, the only solution to safely and quickly decrease our emissions is to massively invest in renewables, and energy saving NOT fossil fuels, dangerous and costly nuclear energy or very risky geoengineering techniques. We can solve the problems if there is enough political will to apply the right solutions at scale!

The EU has called 2014 the year of climate action. Government leaders must take all these warnings seriously and get their act together in time for Paris 2015!



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**STOP** CLIMATE CHANGE  
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