

# Paris Agreement - The Threat



Dominica Sept 2017 “With the sheer scale of the devastation hampering relief efforts, officials believe the recovery process will take several years and billions of dollars”

<https://www.theguardian.com/global-development/gallery/2017/sep/30/hurricane-maria-the-slow-road-to-rebuilding-stricken-dominica-in-pictures>



The Thames at Staines  
10<sup>th</sup> Feb 2014

<http://www.bbc.co.uk/news/uk-26111598>

## The Paris Agreement of 12<sup>th</sup> December 2015 (p1) Why?

Full document at: <http://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>

**The Threat** – an urgent and potentially irreversible threat to human societies and the planet  
“Recognizing that climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires the widest possible cooperation by all countries, and their participation in an effective and appropriate international response, with a view to accelerating the reduction of global greenhouse gas emission.”

Threats to the UK  
Committee on Climate Change  
Risk Assessment 2017  
CCC Video on UK Risks:

<https://www.youtube.com/watch?v=SDxmlvGiV9k>

Flooding and coastal change risks to communities, businesses and infrastructure (Ch3, Ch4 Ch5, Ch6)	MORE ACTION NEEDED
Risks to health, wellbeing and productivity from high temperatures (Ch5, Ch6)	
Risk of shortages in the public water supply, and for agriculture, energy generation and industry (Ch3, Ch4, Ch5, Ch6)	
Risks to natural capital, including terrestrial, coastal, marine and freshwater ecosystems, soils and biodiversity (Ch3)	
Risks to domestic and international food production and trade (Ch3, Ch6, Ch7)	
New and emerging pests and diseases, and invasive non-native species, affecting people, plants and animals (Ch3, Ch5, Ch7)	RESEARCH PRIORITY
NOW -----> FUTURE	
RISK MAGNITUDE: LOW MEDIUM HIGH	

# Paris Agreement - The Urgency

## The gamble



“If we continue to send CO<sub>2</sub> into our atmosphere reaching a concentration of 450ppm CO<sub>2</sub>eq there is just a **50% chance** that global warming can be kept to 2°C and therefore only **a chance** that the consequences shown below will be *less severe*. ”

source: the International Energy Authority's [Redrawing the Energy Climate Map – World Energy Outlook Special](#) (p13)

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### The Urgency – emphasizing the need for urgency in addressing climate change

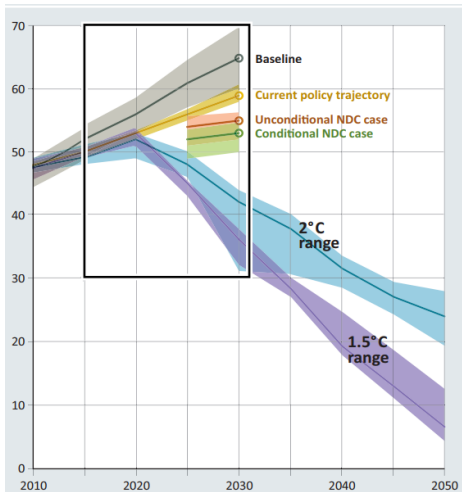
Also recognizing that deep reductions in global emissions will be required in order to achieve the ultimate objective of the Convention and emphasizing the need for urgency in addressing climate change.”



“The window of opportunity to meet the 2-degree target may close in 20 years or less. And we may have only five years to bend the emissions curve towards 1.5 degrees. We need at least a further 25 per cent cut in emissions by 2020.” **Antonio Guterres , the Secretary General of the United Nations** 15<sup>th</sup> Nov 2017

[http://unfccc.int/files/meetings/bonn\\_nov\\_2017/statements/application/pdf/opening\\_hls\\_cop23\\_guterres.pdf](http://unfccc.int/files/meetings/bonn_nov_2017/statements/application/pdf/opening_hls_cop23_guterres.pdf)

# Paris Agreement - The Shortfall



**The Shortfall** – By Nov 2017 Nationally Determined Contributions (NDCs) added up to **no more than a third** of the reductions needed to avoid 2C of global warming. A UN Environmental Program (UNEP) report warned that the 2020 NDC revisions must be more ambitious.

**The Emissions Gap Report 2017 UNEP – Executive summary**

[https://wedocs.unep.org/bitstream/handle/20.500.11822/22070/EGR\\_2017.pdf?sequence=1&isAllowed=y](https://wedocs.unep.org/bitstream/handle/20.500.11822/22070/EGR_2017.pdf?sequence=1&isAllowed=y)

## The Paris Agreement of 12<sup>th</sup> December 2015 (p2) *Why?*

Full document at: <http://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>

### The Shortfall – the urgent need to address the significant gap

“Emphasizing with serious concern the urgent need to address the significant gap between the aggregate effect of Parties’ mitigation pledges in terms of global annual emissions of greenhouse gases by 2020 and aggregate emission pathways consistent with holding the increase in the global average temperature to **well below 2 °C** above pre-industrial levels and pursuing **efforts to limit the temperature increase to 1.5 °C** above pre-industrial levels”



Whilst Germany opens new coal fields in Nov 2017

<https://www.ecowatch.com/german-coalfields-2507051369.html>



Whilst the UK continues to subsidise high carbon fuel and obstruct low carbon eg tidal lagoons, solar and on-shore wind.

<https://www.carbonbrief.org/autumn-budget-2017>

# Paris Agreement - The Status



Vice President John Kerry signs the Paris Agreement at UN April 2017 – with granddaughter

the earliest possible effective withdrawal date by the United States is Nov 4, 2020 the day after the next President is elected.



KING DONALD COMMANDS THE OCEAN to BACK OFF

President Donald Trump gives notice to leave the Paris Agreement

[https://en.wikipedia.org/wiki/United\\_States\\_withdrawal\\_from\\_the\\_Paris\\_Agreement](https://en.wikipedia.org/wiki/United_States_withdrawal_from_the_Paris_Agreement)

## The Paris Agreement

Every country has signed or ratified and submitted **Nationally Determined Contribution** (NDC) documents to be found at: <http://www4.unfccc.int/ndcregistry/Pages/Home.aspx>

21 Governments inc UK '**Mission Innovation**' partners will seek to double budgets, providing around \$30 billion per year in governmental investment by 2021 <http://mission-innovation.net/2016/06/02/inaugural-mission-innovation-ministerial-pledges-unprecedented-support-for-clean-energy-research-and-development/>

UK is a 'Party' in its own right, and will need to submit a UK NDC to replace the EU wide one.

# Paris Agreement - The Opportunities



'London has breached its annual air pollution limits just five days into 2017.' Guardian 6<sup>th</sup> Jan 2018

- **Clean Air**
- **Local Jobs**



Local jobs in renewables and retrofit  
(Brixton Energy pic)

## The Paris Agreement of 12<sup>th</sup> December 2015 (p15 109) *Why?*

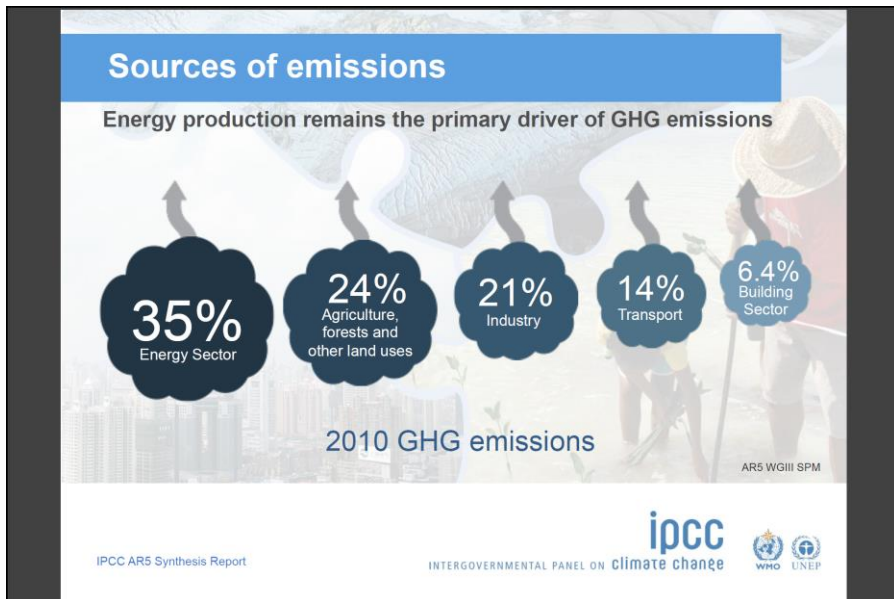
Full document at: <http://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>

### **"The Opportunities – co-benefits for adaptation, health and sustainable development**

"Recognizes the social, economic and environmental value of voluntary mitigation actions and their co-benefits for adaptation, health and sustainable development..."

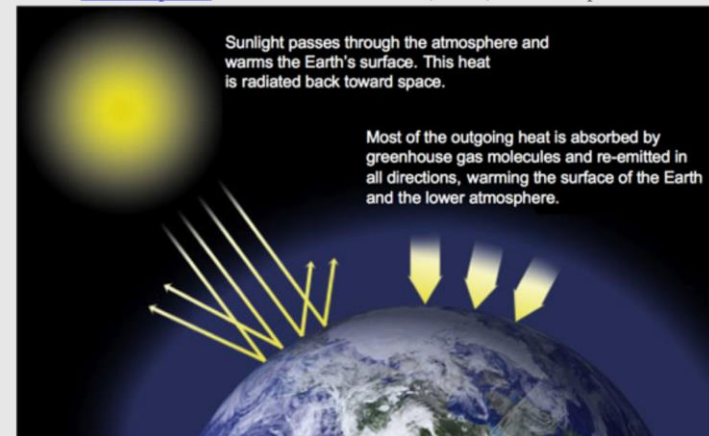
- After installation renewables have minimal production costs - no continual rises
- Local people and businesses owning power - not global profit driven businesses
- No more reason to fight over access to fossil fuels

# Climate change - the causes



## *Too many Gigatonnes of Greenhouse Gases in the atmosphere*

[NASA explains](#) how Greenhouse Gases (GHGs) warm the planet:



*"A layer of greenhouse gases.....acts as a thermal blanket for the Earth, absorbing heat and warming the surface to a life-supporting average of 59 degrees Fahrenheit (15 degrees Celsius)." We release greenhouse gases every time we use electricity or heat from coal, gas or oil, every time we travel using diesel or petrol and every time we use products created in factories.*

The [IPCC AR5 Synthesis report](#) for 2010 (p7)

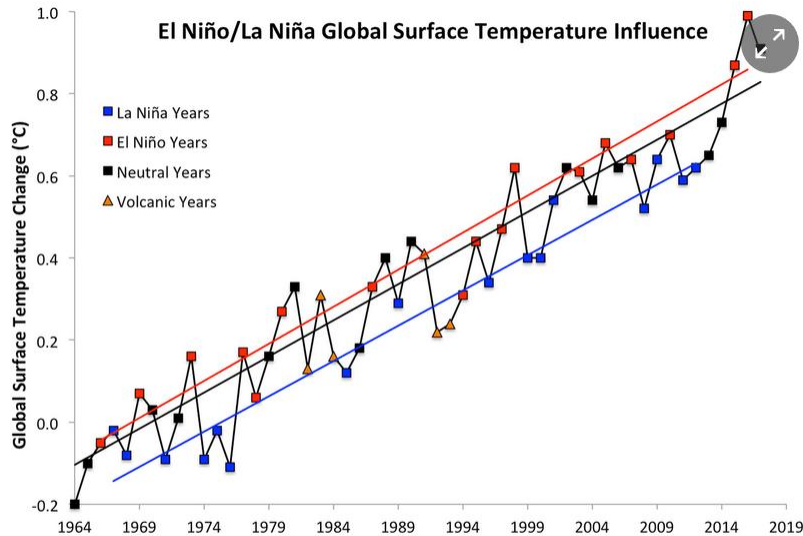
<https://climate.nasa.gov/causes/>

Greenhouse Gas (GHG) emitted

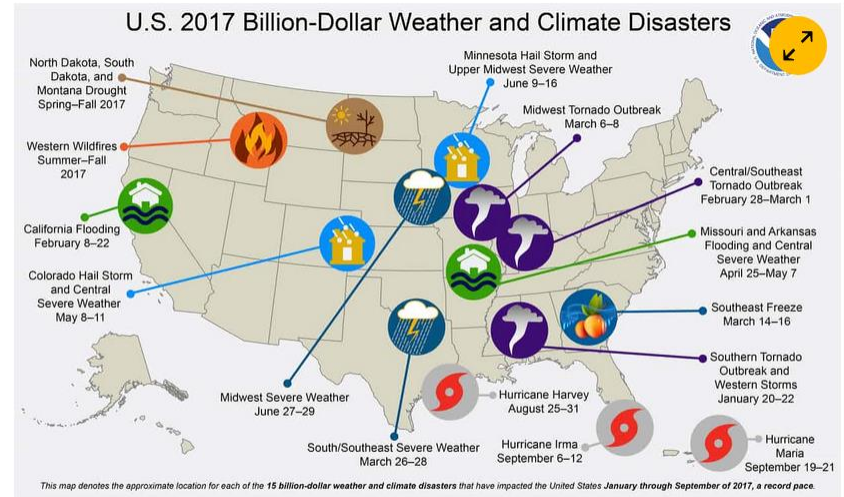


Warms the planet, changing the Climate

# Climate change - the effects



1964-2017 global surface temperature data from Nasa, divided into El Niño (red), La Niña (blue), and neutral (black) years, with linear trends added. Illustration: Dana Nuccitelli



Billion-dollar weather and climate disasters in the US in 2017. Illustration: National Oceanic and Atmospheric Administration



<https://www.theguardian.com/environment/climate-consensus-97-per-cent/2018/jan/02/2017-was-the-hottest-year-on-record-without-an-el-nino-thanks-to-global-warming>

America was also battered by climate fuelled extreme weather events in 2017. Research has already shown that global warming boosted Hurricane Harvey's record rainfall (and associated flooding) by about 38%. California's record wildfire season was similarly fuelled by the state's hot summer. The southwestern states were cooked by record hot summer temperatures this year, and global warming is making droughts in America and Europe worse. America was hit by 15 billion dollar weather and climate disasters in 2017, and it will likely be the costliest such year on record once all of the hurricane damages are tallied.

# Climate change - global 'mitigations'

Solutions involving energy

CO<sub>2</sub> equivalent reductions

Rank	Solution	Sector	TOTAL ATMOSPHERIC CO <sub>2</sub> -EQ REDUCTION (GT)	NET COST (BILLIONS US \$)	SAVINGS (BILLIONS US \$)
1	Refrigerant Management	Materials	89.74	N/A	\$-902.77
2	Wind Turbines (Onshore)	Electricity Generation	84.60	\$1,225.37	\$7,425.00
3	Reduced Food Waste	Food	70.53	N/A	N/A
4	Plant-Rich Diet	Food	66.11	N/A	N/A
5	Tropical Forests	Land Use	61.23	N/A	N/A
6	Educating Girls	Women and Girls	59.60	N/A	N/A
7	Family Planning	Women and Girls	59.60	N/A	N/A
8	Solar Farms	Electricity Generation	36.90	\$-80.60	\$5,023.84
9	Silvopasture	Food	31.19	\$41.59	\$699.37
10	Rooftop Solar	Electricity Generation	24.60	\$453.14	\$3,457.63

From Drawdown <http://www.drawdown.org/solutions/>

# Major players for global 'mitigations'

## - big business

### Business

**Innovation** - Members of the Breakthrough Energy Coalition (BEC) have committed to invest more than **\$1 billion in new technologies**. There are 21 investors located around the world, including Bill Gates, MarkZuckerman, Richard Branson [http://www.b-t.energy/wp-content/uploads/2016/11/BreakthroughEnergyCoalition\\_Landscape.pdf](http://www.b-t.energy/wp-content/uploads/2016/11/BreakthroughEnergyCoalition_Landscape.pdf)  
Businesses with game changing products include Tesla with solar roofs, batteries and electric cars combinations. [https://www.tesla.com/en\\_GB/solarroof?redirect=no](https://www.tesla.com/en_GB/solarroof?redirect=no)

**Business Reporting and disclosure of Climate Risk** -More than 300 companies signed up to using science based targets in their reporting <http://sciencebasedtargets.org/>  
The Task Force on Climate Change Financial Disclosures will recommend “consistent, comparable, reliable, clear and efficient climate-related disclosures.” <https://www.fsb-tcfd.org/about/#>

[Breakthrough Energy Ventures](#) have identified five areas that are especially promising but also underfunded. This is where we will focus our investments:

- Grid-scale storage. For example storing energy as heat or in flywheels for when it's dark or the wind isn't blowing
- Liquid fuels. sunlight to create fuels that could power airplanes, trucks, and other big polluters without adding more carbon to the atmosphere.
- Mini-grids. especially useful in poor regions, like parts of Africa and India, where larger grids aren't practical.
- Alternative building materials. To construct all the buildings we'll need by 2050, we need new carbon-neutral building materials for homes and offices.
- Geothermal power. There is a phenomenal amount of energy stored up as heat under the Earth's surface

# Major players for global 'mitigations' -cities

## Copenhagen's ambitious push to be carbon-neutral by 2025

<https://www.theguardian.com/environment/2013/apr/12/copenhagen-push-carbon-neutral-2025>



## Cities

C40 is a global network of cities committed to addressing climate change in order to improve the health of our people, our cities, and our planet. The C40 Cities Climate Leadership Group connect more than 90 of the world's greatest cities, representing over 650 million people and one quarter of the global economy. In Sept 2016 the C40 Mayors wrote to the G20 National leaders, meeting at that time in Hangzhou *"we, mayors of the major cities within the G20, call on our national leaders to work with us to build a low carbon, climate safe world."*

<http://www.c40.org/networks>

## Backlash from the Trump line on Climate Change



At the **U.S. Climate Action Pavilion at COP23**, America's Pledge co-chairs Michael Bloomberg and California Governor Jerry Brown released a new report, "America's Pledge Phase 1: **States, Cities, and Businesses in the United States Are Stepping Up on Climate Action**," and presented it to UNFCCC Executive Secretary Patricia Espinosa <https://www.americaspledgeonclimate.com/>

# Major players for global 'mitigations' - faith groups

## Faith Groups

Muslims, Catholics, Protestants, Buddhists and Jews signed an Interfaith statement on Climate Change in Nov 2016 “...*We thus ask our own faith communities for more commitments to divest from fossil fuels and invest into renewable energy and targeted engagement with companies on climate change....*”

<http://www.interfaithstatement2016.org/>



## Leaders of UK Jewish, Muslim, Church of England and Catholic Faiths

in a letter to the Daily  
Telegraph on 16th June 2015  
(behind paywall):

“SIR – We write as faith leaders representing communities across the UK, united by our shared concern about climate change. Thousands of us will be lobbying our elected officials tomorrow in Westminster. We welcome people of all faiths and none to join us. We urge the newly elected Government to take the necessary action to tackle climate change: we will support them every step of the way.

Our faith calls us to care for creation and respect the environment created by God. It is our duty to care for our planet so that our children and our grandchildren can enjoy it as we have done, and because it is the world’s poorest people who are already suffering the impacts of a changing climate.

Ban Ki-moon, the UN Secretary General, was right when he recently said: “Science and religion are not at odds on climate change. Indeed, they are fully aligned.”

**Rt Rev Nicholas Holtam**

Bishop of Salisbury

**Rabbi Laura Janner-Klausner**

Senior Rabbi to Reform Judaism

**Shaykh Ibrahim Mogra**

Assistant Secretary General, Muslim Council of Britain

**Rt Rev John Arnold**

Catholic Bishop of Salford”