Climate Change – status quo

29th April 2019

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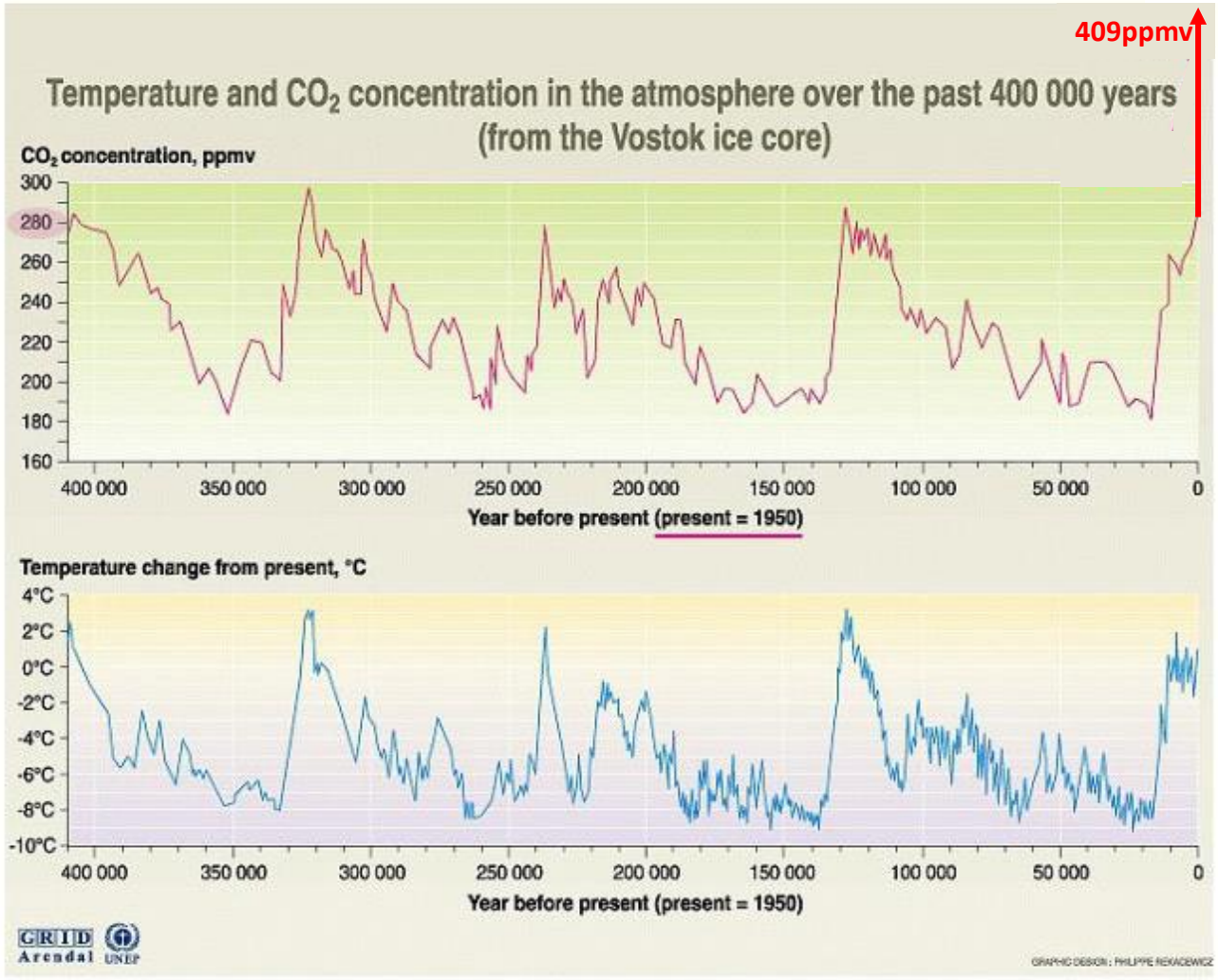
https://youtu.be/idrA1KxbkuM

CO_2 concentrations are now at levels way beyond natural boundaries experienced by the planet and this is due to human activities.

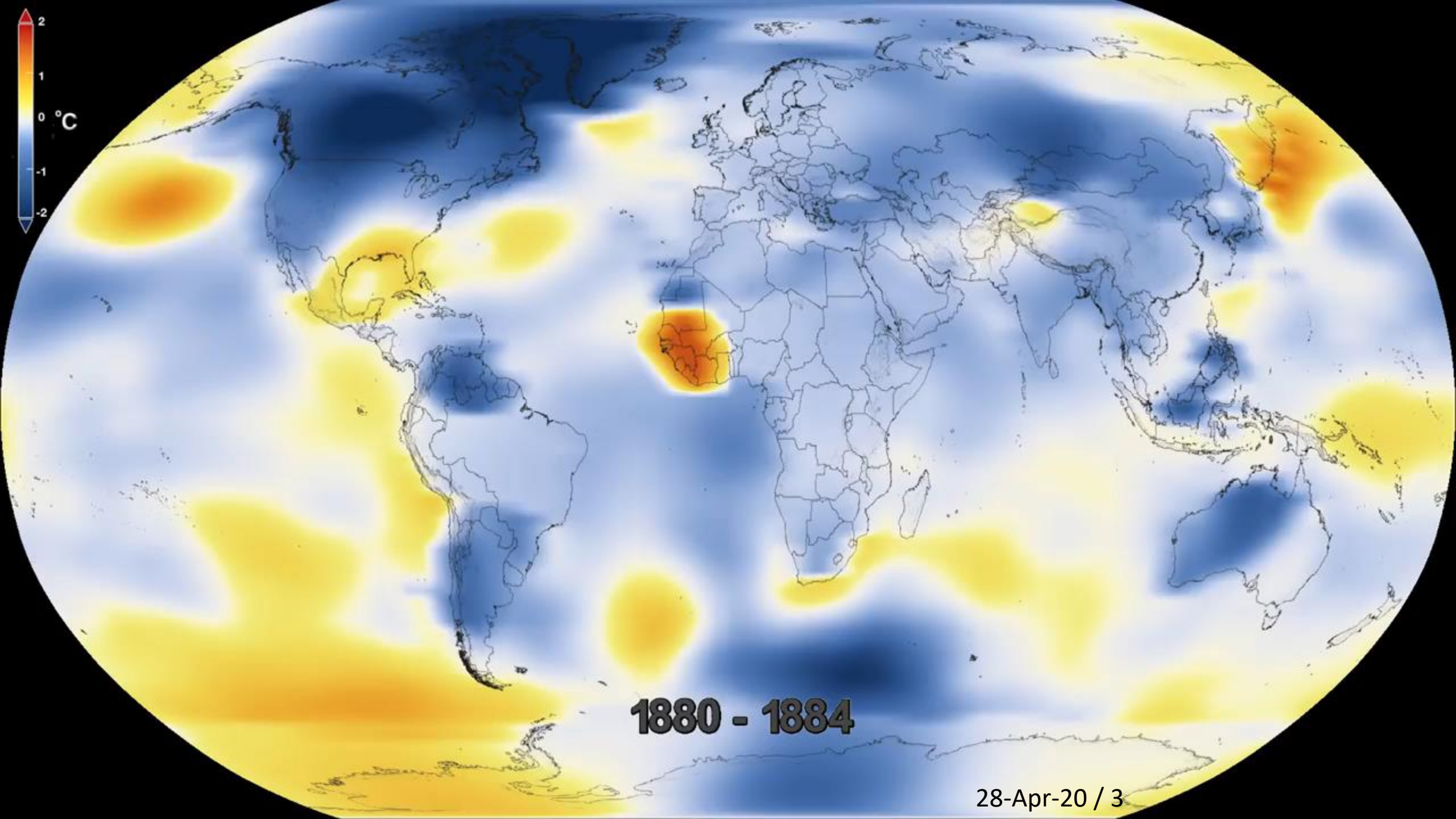


Note: 2019 information added to graph

1. There is a strong relationship between levels of CO_2 in the atmosphere & global temperature increase.

2. This natural relationship and cycle goes back over 800,000 years, a period spanning 8 ice ages.

3. Temperatures are also increasing, with records being set repeatedly.


2
1
0 °C
-1
-2
1880 - 1884

Economic benefits of early action outweigh the costs of climate change and can bring major benefits for economies

Stern Review on the Economics of Climate Change (2006) stated: the costs of avoiding climate change (1-2% of GDP) are much less than the costs of climate change (5-20% of GDP)

Global losses from meteorological and hydrological events are increasing, so taking early action to reduce impacts and adapt are in everyone's economic interests.

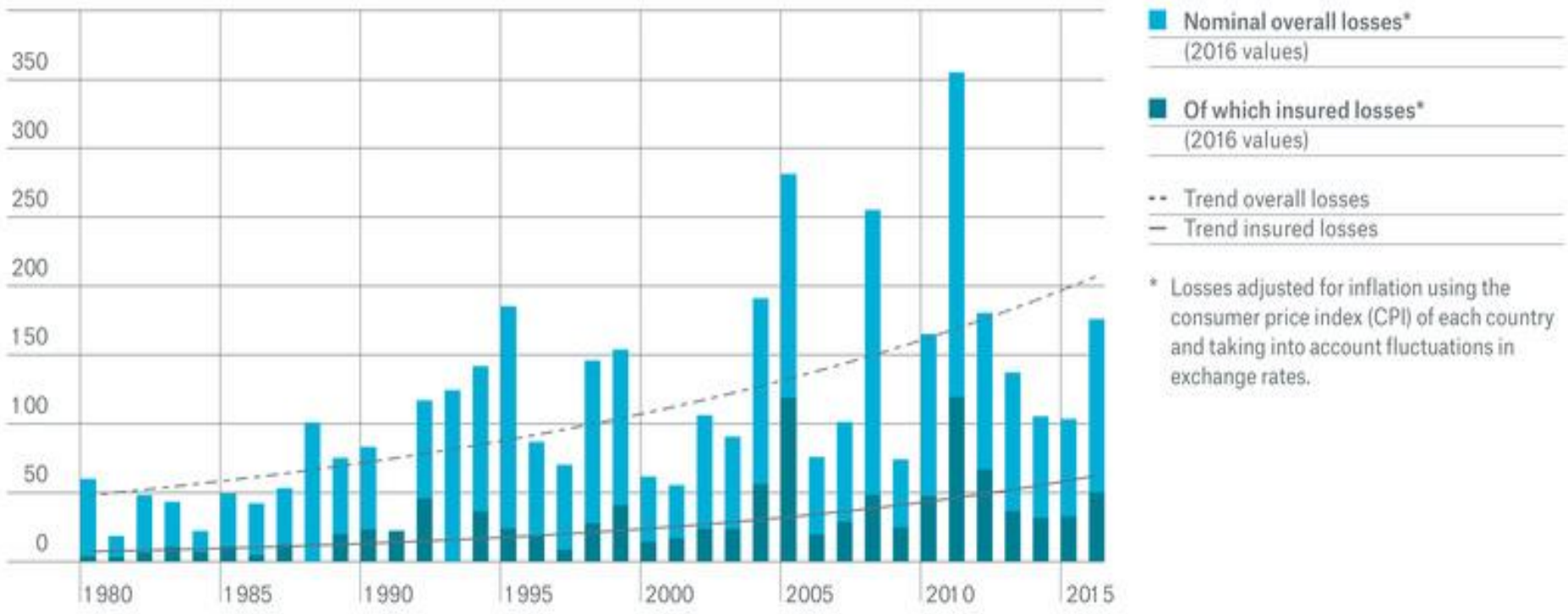
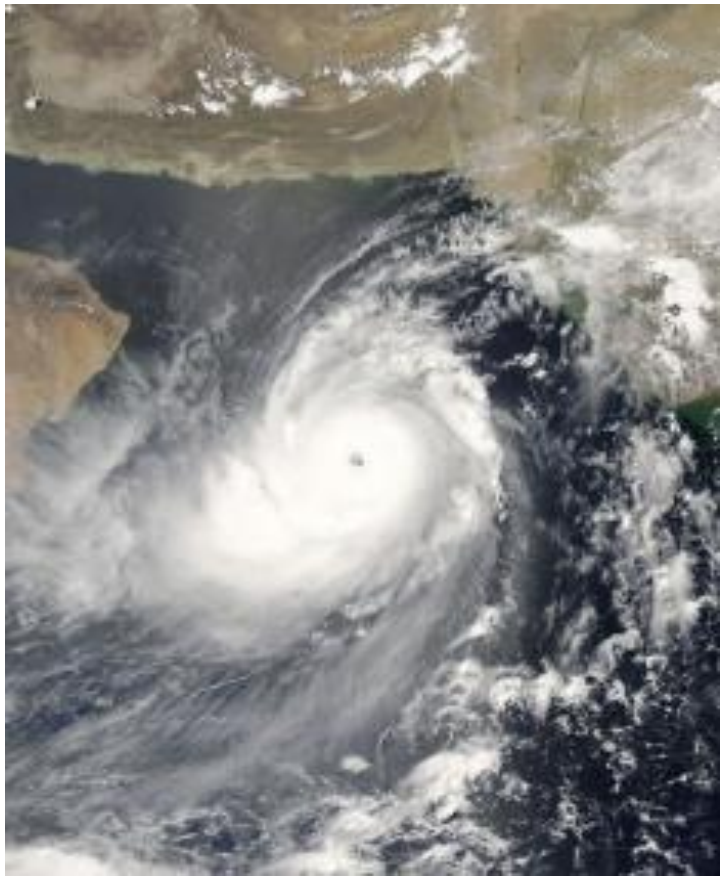


Figure from Munich RE. Natural Disasters. The Year in figures – Global. https://www.munichre.com/topics-online/en/2017/topics-geo/overview-natural-catastrophe-2016

Future temperature, sea salinity, acidity & sea level rise, extreme events in the Arabian Gulf

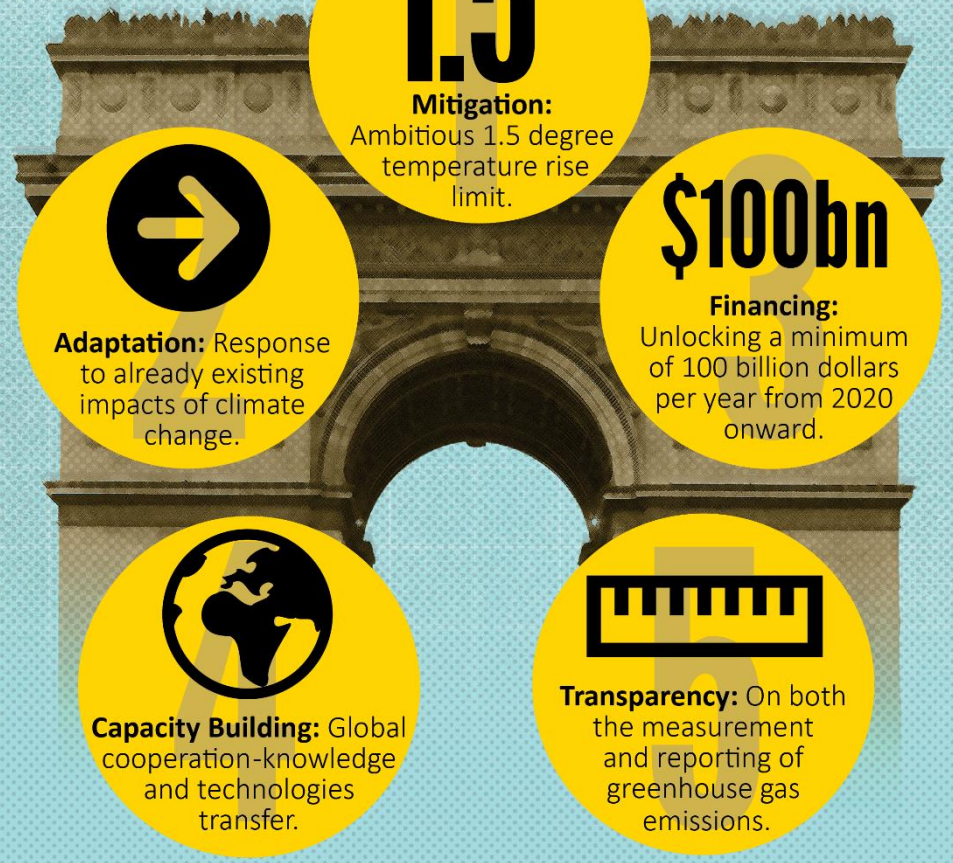
- Strong scientific agreement that future average temperatures in the UAE will increase by around 2°C by the middle of this century (compared to 1986-2005 levels)
- Change in salinity due to changes in precipitation, evaporation and runoff as well as ocean circulation.
- The **Arabian Gulf is already becoming increasingly acidic** at a faster rate than most other oceanic waters around the world and this is likely to increase in the future.
- Sea level rise: 0.26 m and 0.98 m by the end of the century (vs. 1986-2005 baseline), upper estimates of between 1.8 and 9 m SLR by 2100
- Growing **risk for 'grey swan' cyclones to hit the UAE** – a reference to their low-likelihood but high impact – generating storm surges of between 4-7 meters in Dubai.



COP21 KEY OUTCOMES

On December 12th 2015, representatives from 195 countries and the EU, gathered in Paris for the 21st United Nations Climate Change Conference, known simply as COP21, reached a universal agreement on global climate action.

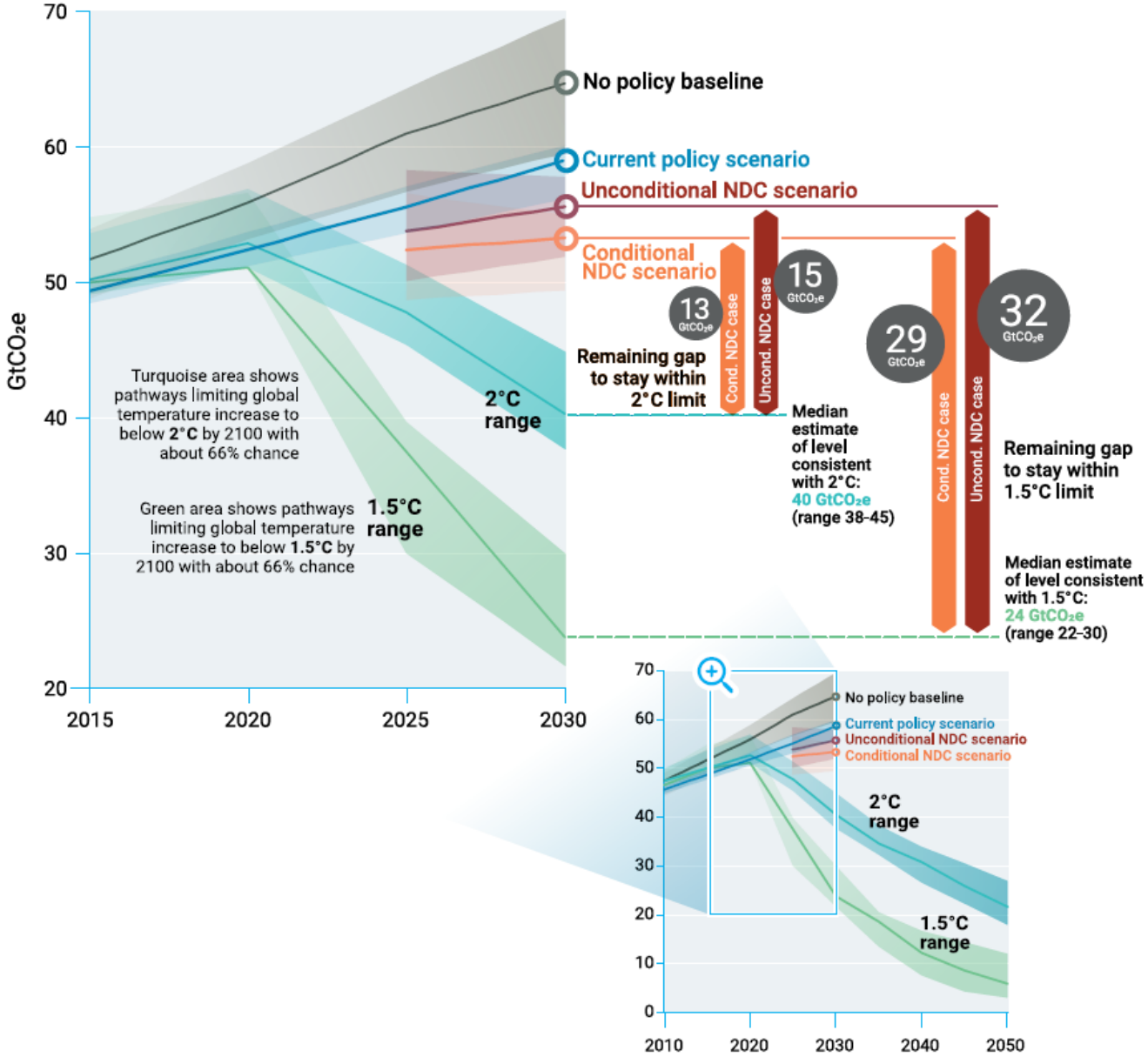
A new Ecometrica paper about the outcomes of COP21 goes into more detail on the full results of the conference - however, the five key elements of the agreement can be found below:



A full version of the paper is available online at:
www.ecometrica.com/blog

ecometrica

Current global commitments mean we are not in line to meet the goals of the Paris Climate Agreement, instead heading for a world that will warm by 3-4oC this century



1. If all NDCs are implemented, we overshoot Paris goals, with 3-4^{o}C warming this century

2. Emissions:

2016 emissions = 50GtCo2e

NDCs (2030) = 53-56GtCO_2e

1.5^{o}C (2030) = 24GtCO_2e

Gap = 29-32GtCO_2e

3. To limit warming to 1.5^{o}C, the latest IPCC report states we need net zero emissions by 2050.

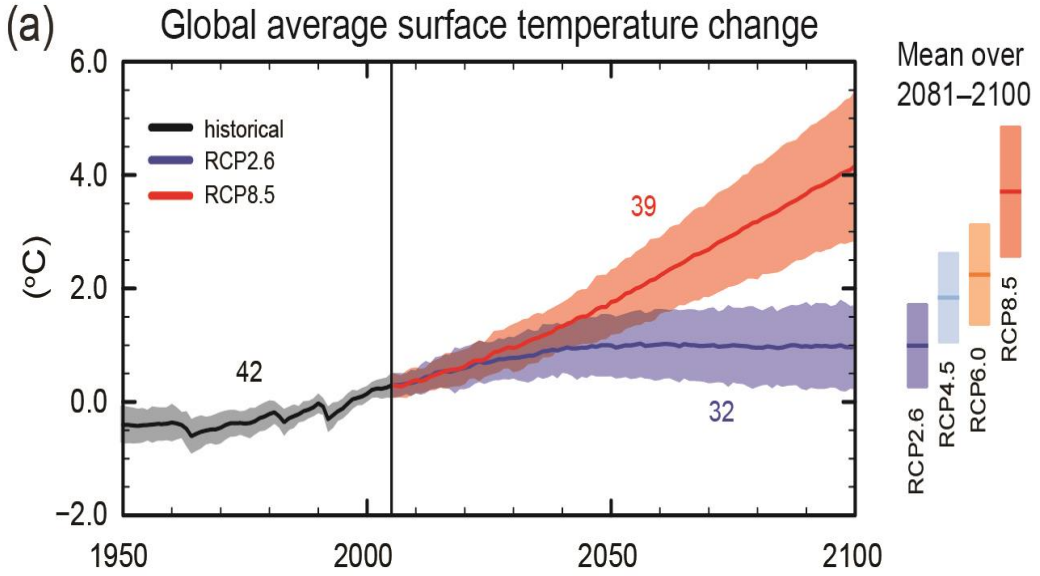
Source:

Figure: UNEP Emissions Gap 2018 report

IPCC 1.5 degrees report (2018)

Manging climate change requires a twin-track approach

- However successful we are with climate change mitigation (reduction of GHG emissions), we are faced with 40+ years of unavoidable climate change and centuries of sea level rise
- We have to reduce emissions (mitigate) AND adapt to inevitable climate change:
  - **Adaptation: The process of adjustment to actual or expected climate and its effects**
  - **Resilience: The capacity of a system to cope with a hazardous event, trend or disturbance, responding to maintain its essential functions**



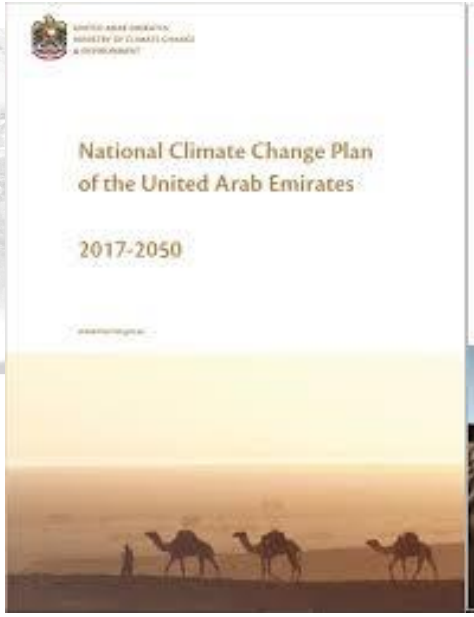
UAE context: government policy and drivers are increasingly geared towards addressing climate change and present a unique opportunity for companies to create new business value

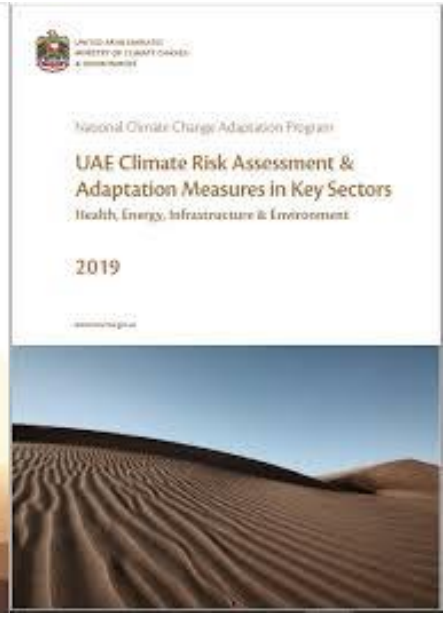
"Setting the year 2030 to achieve the SDGs is only the beginning. The UAE's commitment to achieve sustainable development is at the heart of the country's national plans..."

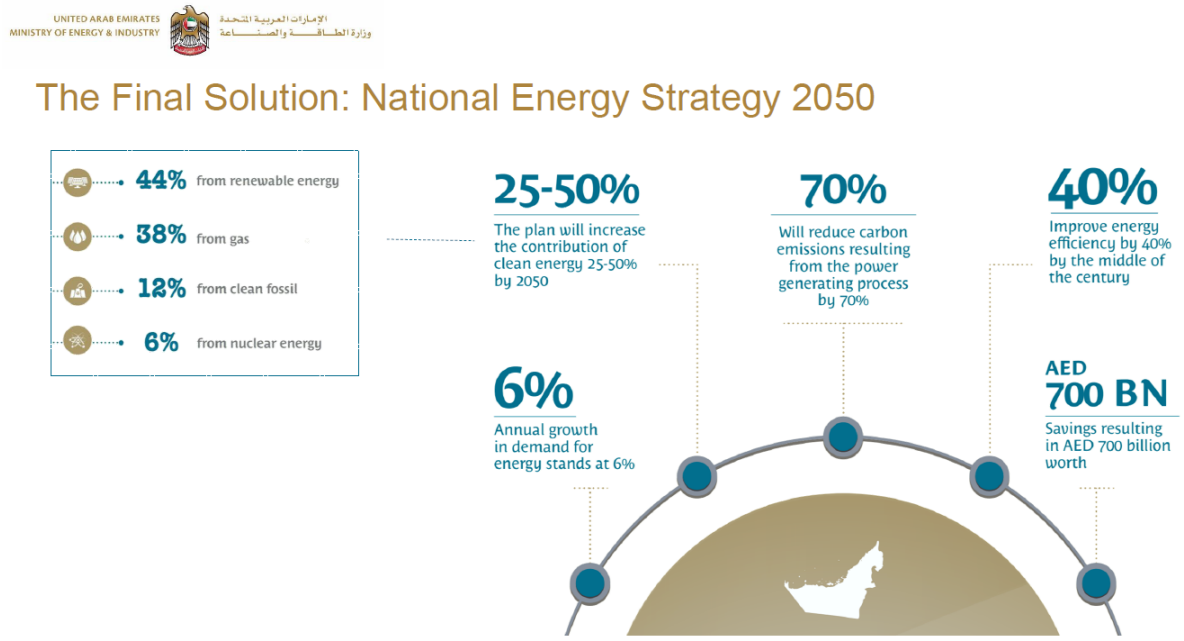
H.E. Reem Al-Hashimy, Minister of State for International Cooperation, Chairwoman of the UAE National Committee on SDGs

"The private sector will play a critical role in advancing the UAE's economic diversification agenda by strengthening the market for environmental goods and services. It is in the best interests of the private sector to tackle climate change as the expected impacts may affect their bottom line."

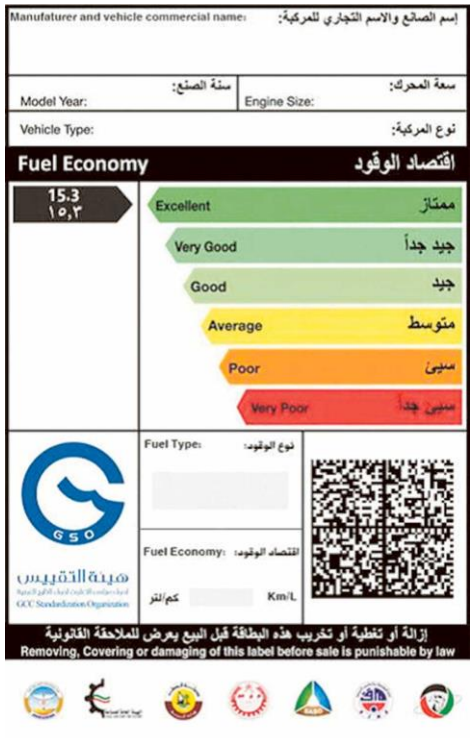
H.E. Dr Thani Al Zeyoudi, Minister of Climate Change & Environment (taken from UAE Climate Change Plan 2017-2050)







UAE context – transportation, oil and gas transformation



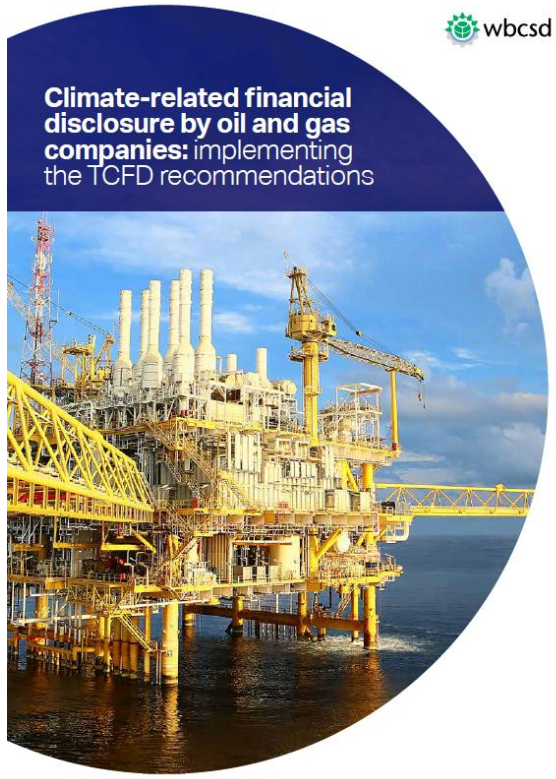
GCC Fuel Economy Label in place

KSA CAFÉ Standard for Light Duty Vehicles (2016-2020) in place – SASO

UAE Electric Vehicles Accelerators Programme (launched 2017)

- 10% govt procurement
- Green loans
- No registration fee years
- Free charging for 2 years
- 42,000 in Dubai by 2030

GCC with cheapest solar in the world with potential to produce green hydrogen for use in transport, estimated to cost as low as $1.75/kg



WBCSD, Eni, Equinor, Shell & Total **(no UAE oil companies)**

Some businesses in the UAE are also increasingly taking action

THE SUSTAINABLE CITY
A PROJECT BY DIAMOND DEVELOPERS

- Developer measuring GHG emissions and reporting on achievements compared to design
- EUI 97kWh/m^3 (39% lower than conventional villas)

UAE Council on Climate Change & Environment

- 26 members from federal and local governments and private sector
- Private sector: top level representation from major local companies (e.g. Al Ghurair, Al Habtoor, Majid Al Futtaim)

ماجد الفطيم
MAJID AL FUTTAIM

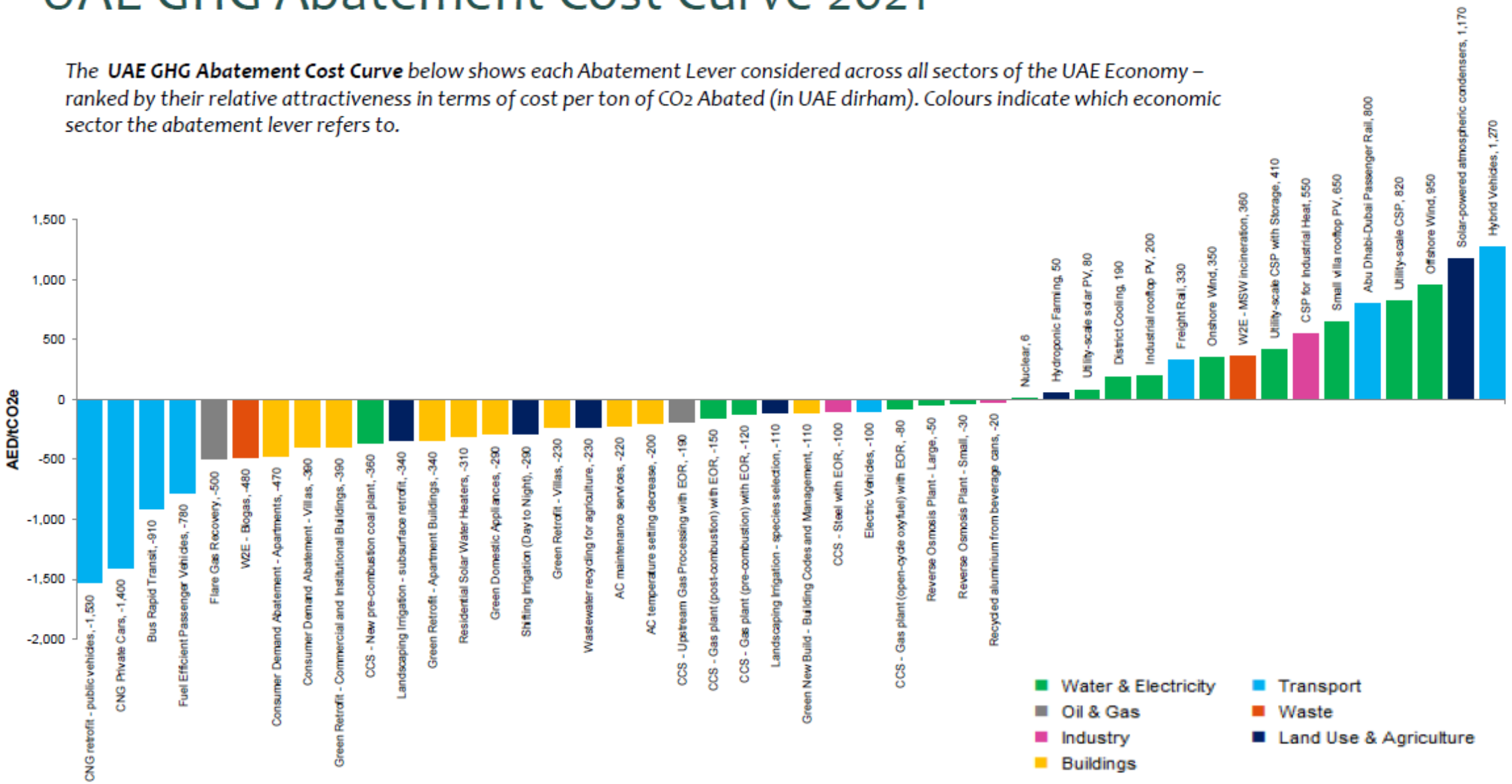
- Renewable energy targets
- 37% absolute operational carbon and water footprint reduction target for each Operating Company by 2022.

بنك أبوظبي الأول
FAB
First Abu Dhabi Bank

- Reporting scopes 1 & 2 GHG emissions to CDP
- Green bonds
- Equator principles

UAE GHG Abatement Cost Curve 2021

*The **UAE GHG Abatement Cost Curve** below shows each Abatement Lever considered across all sectors of the UAE Economy – ranked by their relative attractiveness in terms of cost per ton of CO_2 Abated (in UAE dirham). Colours indicate which economic sector the abatement lever refers to.*



Source: GGGI & UAE Gov (2013) UAE GHG Abatement Cost Analysis – in support of the UAE national strategy for green growth

Transition Risks

Risk	Description	Example
Policy & Regulatory	The risk from emerging regulation aimed at addressing climate change or litigation risk	Carbon pricing (globally 52 programmes) has cost implications for many industries, including car and industrial manufacturing, mining, oil and gas. It also has implications for the demand for carbon-intensive products and services, and sector revenues.
Technology	The risk from emerging technologies aimed at supporting the global low carbon transition	Innovations and technological progress (e.g. in renewable energy or electric vehicles) will have implications for the business models of many companies in related sectors, reducing costs of electricity production or increasing capital or research and development expenditure as companies look to compete and respond.
Market	the risk from shifting supply and demand curves as economies react to climate change	As the costs of renewable energy drop, the world has seen a corresponding increase in its adoption. In 2015, renewables represented 54% of all new capacity installed globally – the first time it has pulled ahead of fossil fuels.
Reputation	The risks of damage to brand value and loss of customer base from shifting public sentiment about climate change	A global movement has seen commitments from investors responsible for $5 trillion to pledge divestment from fossil fuel companies in one way or another. This could contribute to a reduction in capital available for such companies.

Explicit carbon-pricing instruments can raise revenue efficiently because they help overcome a key market failure: the climate externality. This is gathering global momentum…

KEY STATISTICS ON REGIONAL, NATIONAL AND SUBNATIONAL CARBON PRICING INITIATIVE(S)

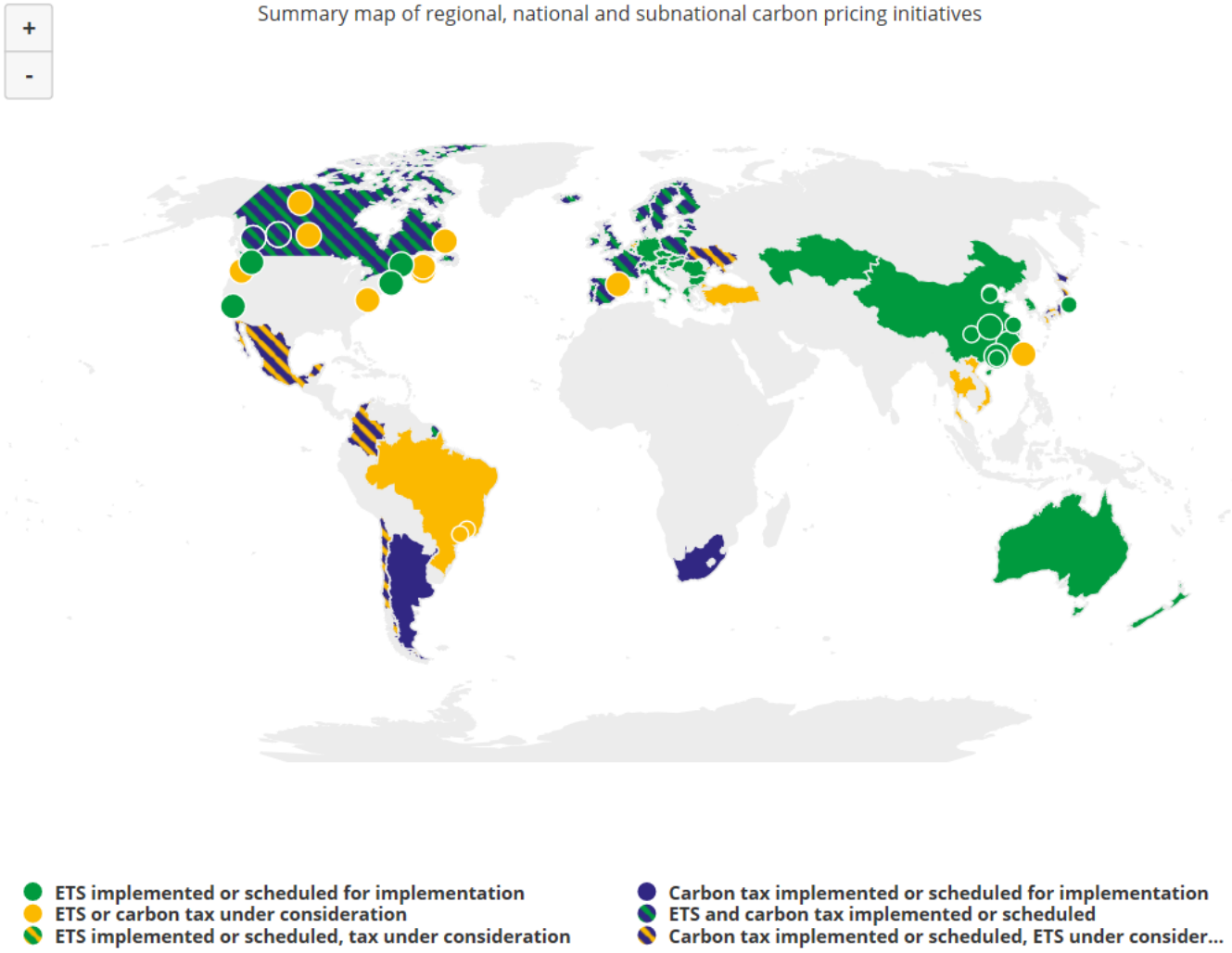
52 Carbon Pricing initiatives implemented or scheduled for implementation

46 National Jurisdictions are covered by the initiatives selected

24 Subnational Jurisdictions are covered by the initiatives selected

In 2018, these initiatives would cover **11 $GtCO_2e$**, representing **19.5%** of global GHG emissions

Total value (US$ Bn) of carbon pricing initiatives in 2018



Carbon-price level consistent with achieving the Paris temperature target needs to be at least US$40–80/tCO2 by 2020 and US$50–100/tCO2 by 2030

Source: High Level Commission on Carbon Pricing report (2017) & website

Sustainable Development Advisory Services

Clients:	Specialist areas:	Specialist geographies:
✧ Private sector companies ✧ Government entities ✧ Non-governmental and social impact organisations	✧ Climate change ✧ Energy & environment ✧ Partnerships for development	✧ Gulf Cooperation Council countries ✧ Middle East region

Strategy, policy and communications advice

Insight and analysis to **support informed decision-making** and policy implementation
Building **consensus around policies**, eliciting feedback from key stakeholders, and raising the profile of priority issues
Advice on **communication methods**, including reports, briefings, presentations and public information materials

Project management

Oversight and coordination of multi-disciplinary teams to ensure the delivery of high-quality projects
Identification, engagement and **influence of major stakeholders**, using in-depth knowledge of key players in the region
Transfer of skills and knowledge to client teams

Designing and facilitating events

Tailoring **coherent and action-oriented agendas**
Sourcing and **briefing speakers, identifying participants, leading discussions** and summarising the outcomes

Capacity building and training

Assessing clients' current capacities to implement their sustainable development strategies
Designing and delivering **bespoke and innovative training activities** to fill any gaps

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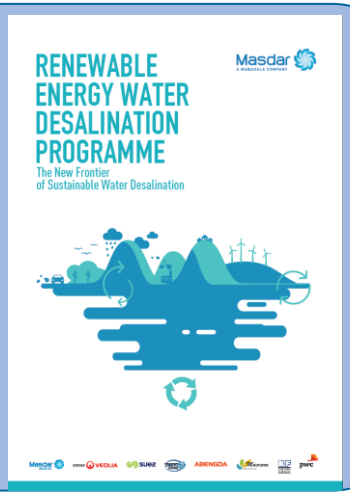
Selected Projects & Clients

Preparing a report on Masdar's renewable energy desalination programme and creation of strategic reports on commercial deployment and how to secure future of the site as an innovation park.

Managing the assessments for the Zayed Sustainability Prize, for Masdar and UAE leaders/sponsors of the prize. Managing delivery team including assessment of entries and providing technical content to facilitate decision-making on prize winners.



Developing Dubai's climate change adaptation strategy, in support of Deltares, Dubai Municipality and the Executive Council of Dubai, as part of Dubai's commitment to the global C40 Cities Network. Leading development of climate change risk and adaptation assessment for energy, food security and financial services for Dubai as well as local stakeholder engagement and capacity building.

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Conducting study ‘Engaging the Private Sector in a Sustainable Blue Economy for the UAE’.

Designing and delivering a climate change research and learning programme for fifty DEWA employees and university students.

Editing and reviewing a major renewable energy report (in press) and a greenhouse gas inventory report for ‘the Sustainable City’, developed by Diamond Developers.

Co-authored a peer reviewed working paper: ‘Engaging Gulf Non-state and Subnational Actors in Implementing the Paris Agreement’. The study puts forward a series of action-oriented recommendations for both GCC non-state and subnational actors and governments.

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Thank you!

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