هـــيـئـة الـبـيـئـــة - أبـوظـبـــي
Environment Agency - ABU DHABI

Climate Action Post-Paris

The importance of Energy Efficiency to meet the goals of the Paris Agreement

Eva Ramos, Director, Environmental Analysis and Economics, Integrated Environmental Policy and Planning

Dubai Solar Show Seminar Week 2017

23rd October 2017, Dubai World Trade Centre

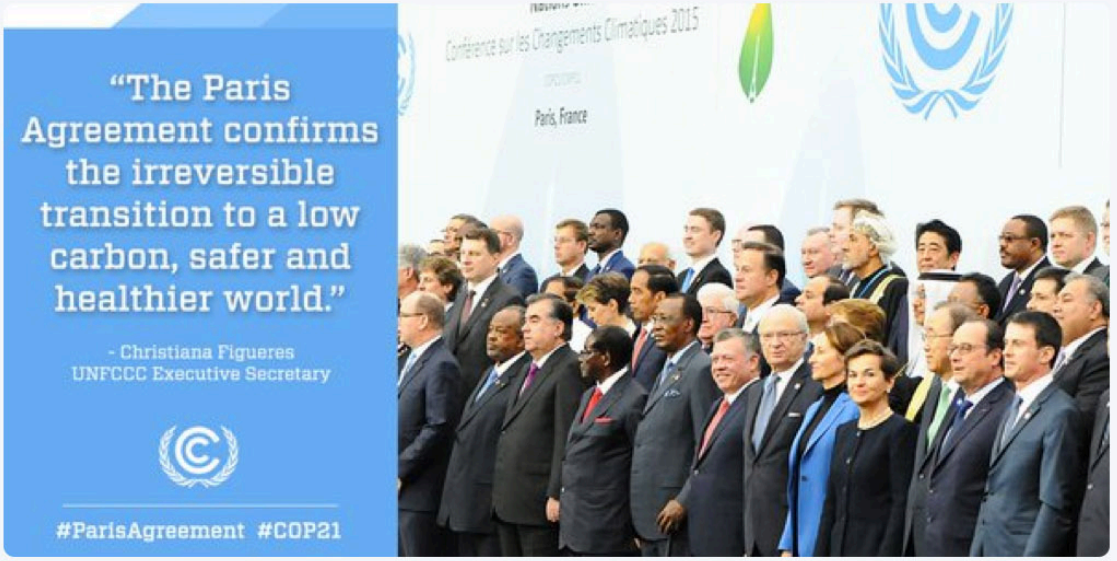
PART I - THE PARIS AGREEMENT

Pinned Tweet

UN Climate Action @UNFCCC · 8m

195 nations have risen to the challenge of climate change: bit.ly/1QlgyI2 #ParisAgreement #COP21

UN Climate Action



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THE PARIS AGREEMENT

Entered into force on 4 Nov 2017

Entry Into Force of the Paris Agreement

This page tracks entry into force and ratification status of the Paris Agreement.
Adoption: 12 Dec 2015
Entry Into Force: 4 Nov 2016

Updated with data until 6 Oct 2017, see below.

Sources:

United Nations Treaty Collection
Table with communicated amounts of shares
Combined dataset availabe as a Data Package on Github and as a CSV file

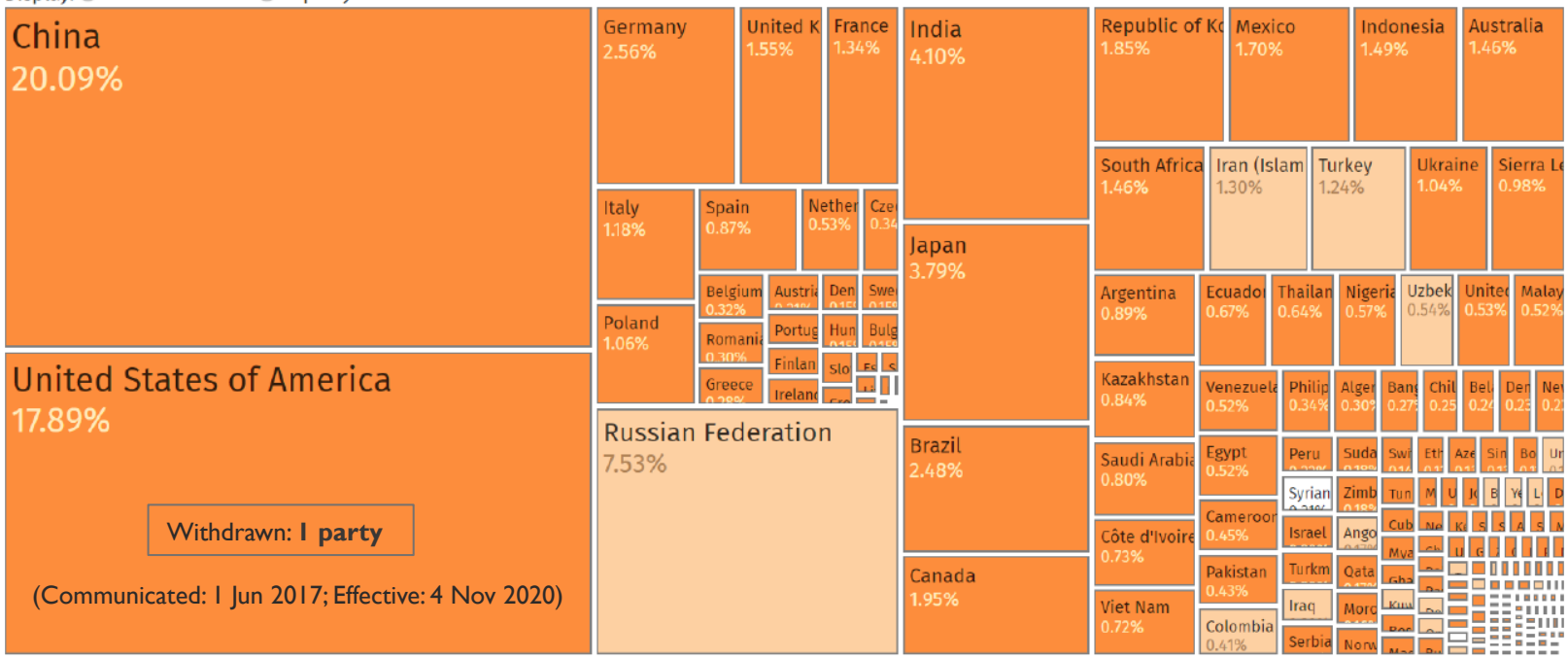
Ratified: **168 parties / 87.64%**

Signed: **195 parties**

Unsigned: **2 parties**

Syria and Nicaragua

Display: Emissions Share Equally sized

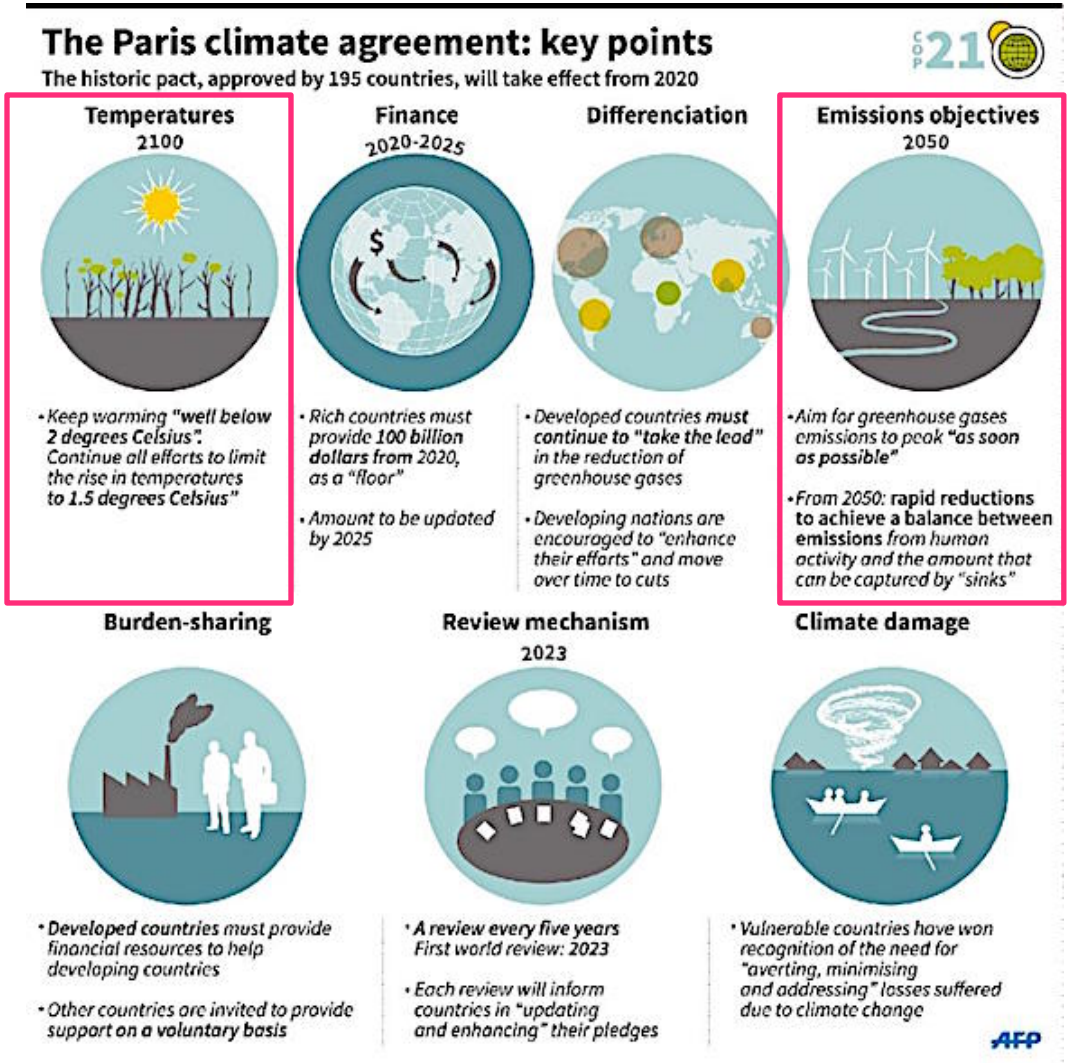


https://www.pik-potsdam.de/primap-live/entry-into-force/

THE PARIS AGREEMENT

A key goal is to keep warming below 2 °C & Peak and ▼ GHG emissions asap

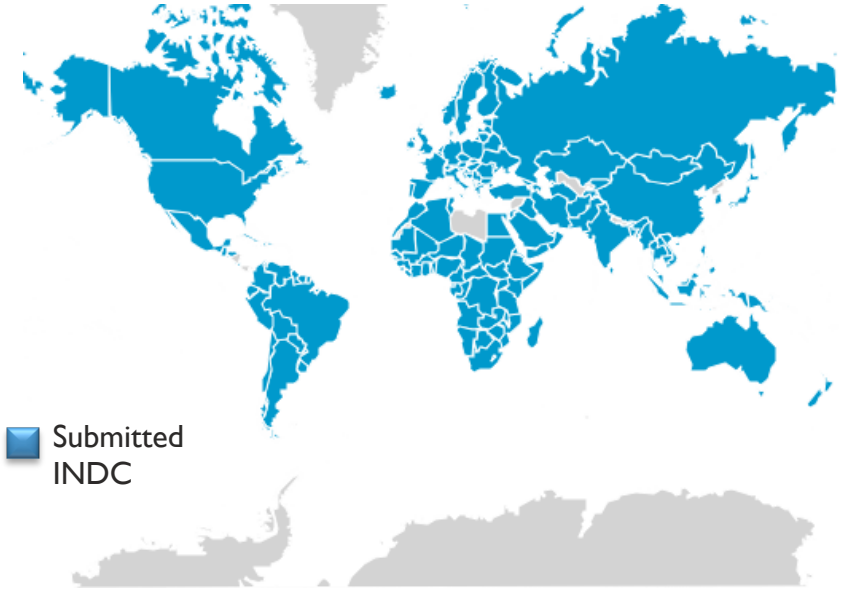
- Adopted by 195 nations on December 2015, entered into force in November 2016, well before expected.
- Provides a framework for climate action post-2020. All countries are required to:
  - Submit Nationally Determined Contributions (NDCs) to the global response to climate change every five years from 2020, progressively more ambitious,
  - Report on progress.

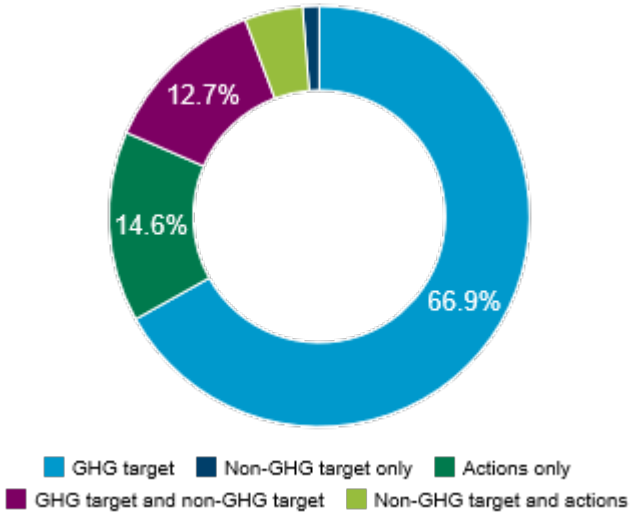


INTENDED NATIONALLY DETERMINED CONTRIBUTIONS

Submitted INDCs will lead to an ▲ in warming of 2.7-3.5 °C

- 160 INDCs submitted as of 12th December 2015, representing 187 countries that contribute to 99% of global emissions.





- INDCs submitted as of 1st October 2015 lead to an increase in global average temperature of 2.7-3.5°C above pre-industrial levels, which is above the limits of 2°C and 1.5°C stated in the Paris Agreement.

UAE INTENDED NATIONALLY DETERMINED CONTRIBUTION

Submitted INDC is focused on clean energy and energy efficiency

- UAE's INDC was prepared through an INDC Task Force
  (MoFA, MoEW, MoEN, PMO, EAD, EAA, ADNOC, Dubai SCE, DCCE, DEWA, Masdar)
- The UAE's INDC consists of existing approved actions, mostly at Federal level.

"….the UAE will pursue a portfolio of actions, including an increase of clean energy to 24% of the total energy mix by 2021."

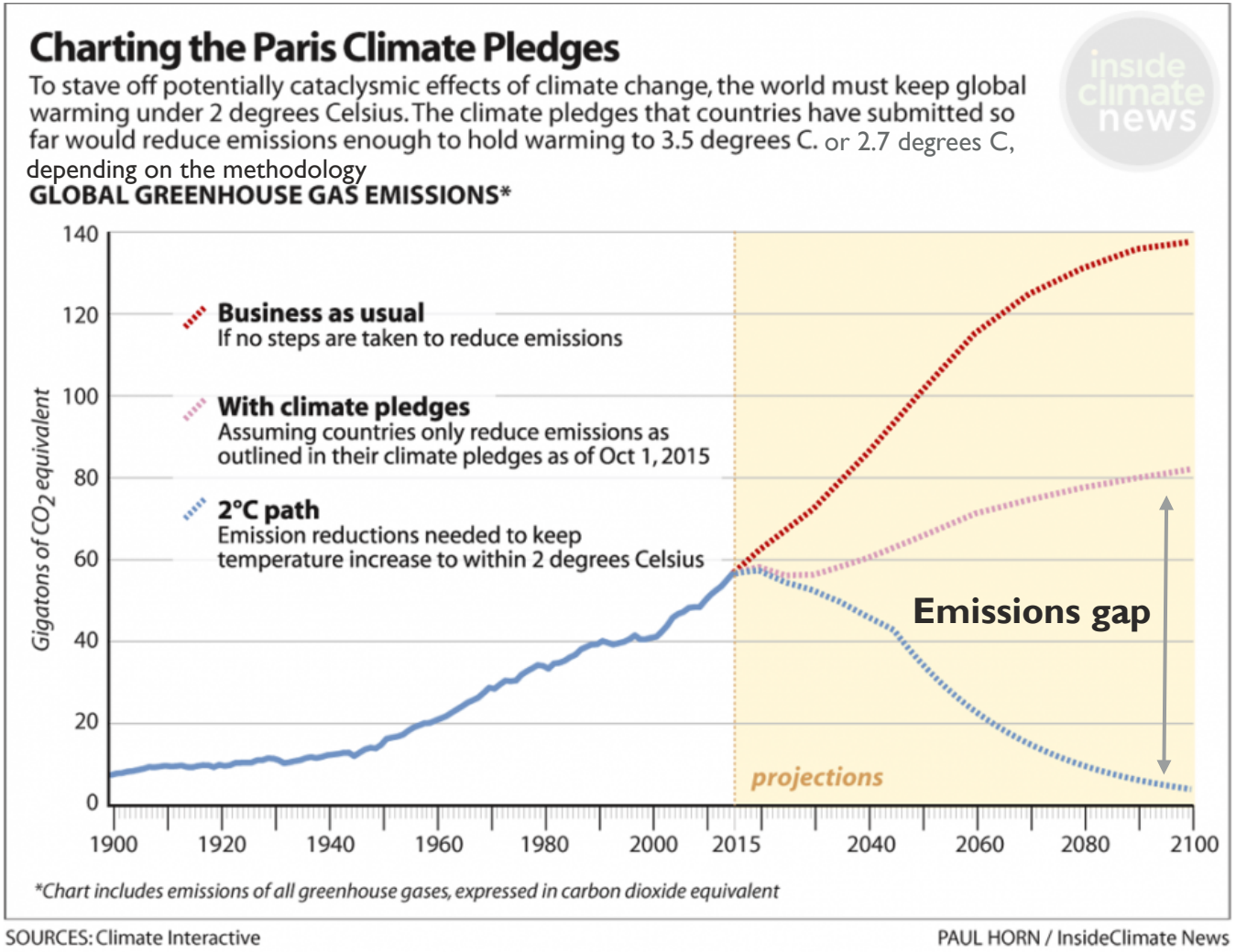
Accompanying Information:

1) First commercial scale CCS
2) Energy and water tariff reform
3) Building and appliance efficiency standards
4) New fuel pricing policy
5) 25% government fleet using CNG
6) Freight rail, LRT and metro
7) Vehicle standards
8) Solar Parks, Zayed Future Energy Prize
9) National GHG Emissions Inventory
8) National Biodiversity Strategies and Action Plans
9) UAE Sustainable Fisheries Program
10) Blue Carbon
11) Federal water strategy (conservation)
12) More efficient desalination
13) R&D – MIST, etc.
14) Sustainable Schools/Campus
15) Ecological Footprint Initiative
16) Waterwise, Powerwise

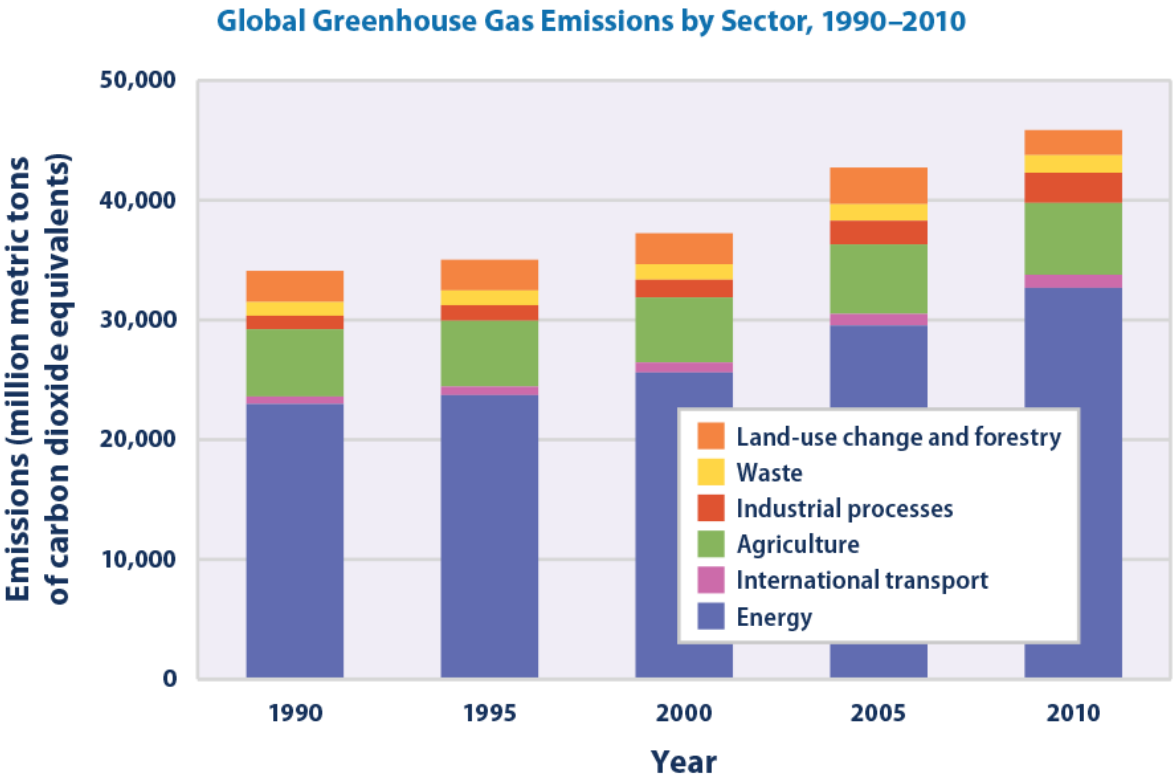
THE EMISSIONS GAP

We need to act to▼ the gap between planned and required NDCs

The **emissions gap** is the difference between the pledges made in the INDCs, and what is needed to have a good chance of keeping global warming below the 2°C target



PART II – ENERGY MATTERS



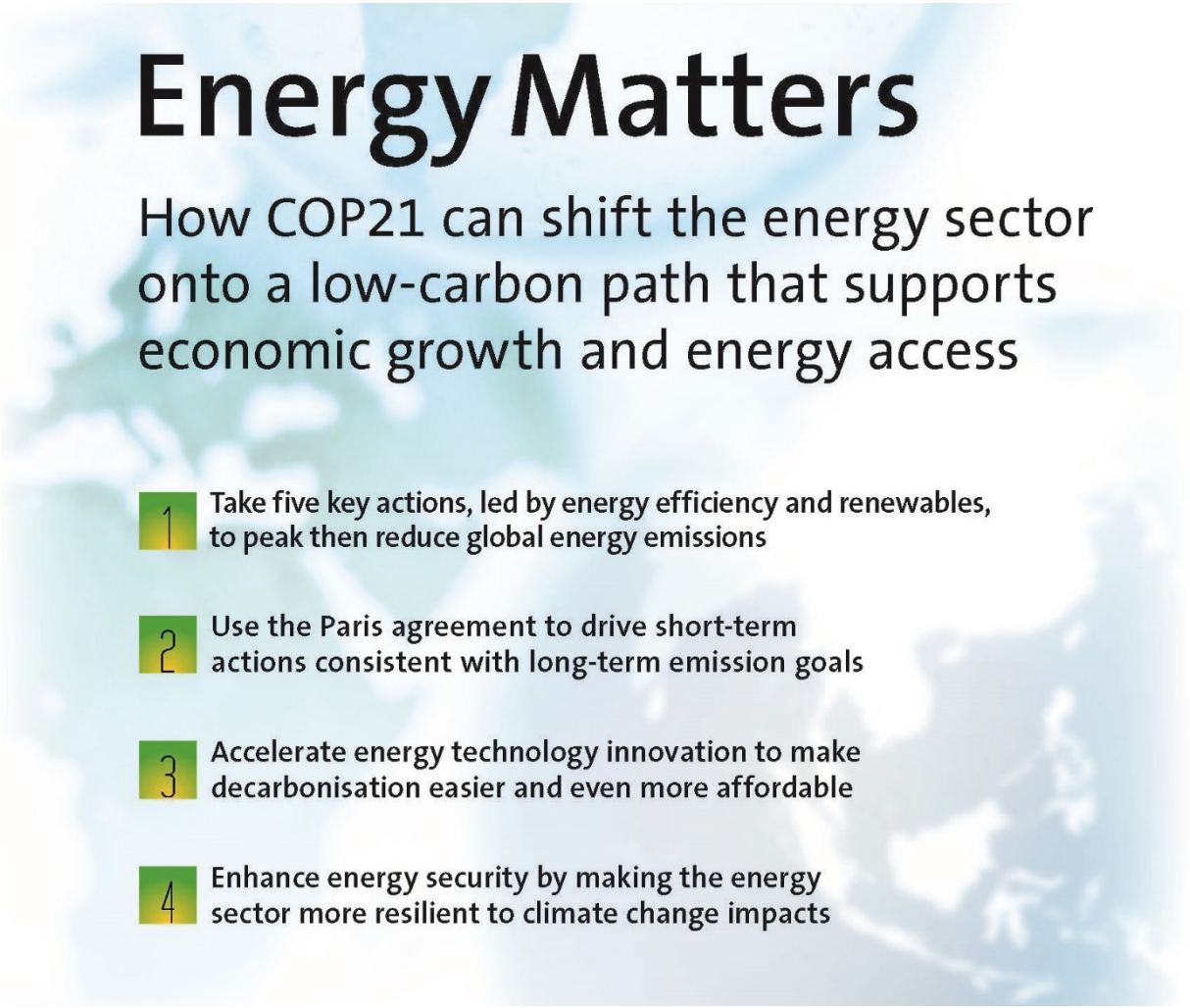
Data sources:

- WRI (World Resources Institute). 2014. Climate Analysis Indicators Tool (CAIT) 2.0: WRI's climate data explorer. Accessed May 2014. http://cait.wri.org.
- FAO (Food and Agriculture Organization). 2014. FAOSTAT: Emissions—land use. Accessed May 2014. http://faostat3.fao.org/faostat-gateway/go/to/download/G2/*/E.

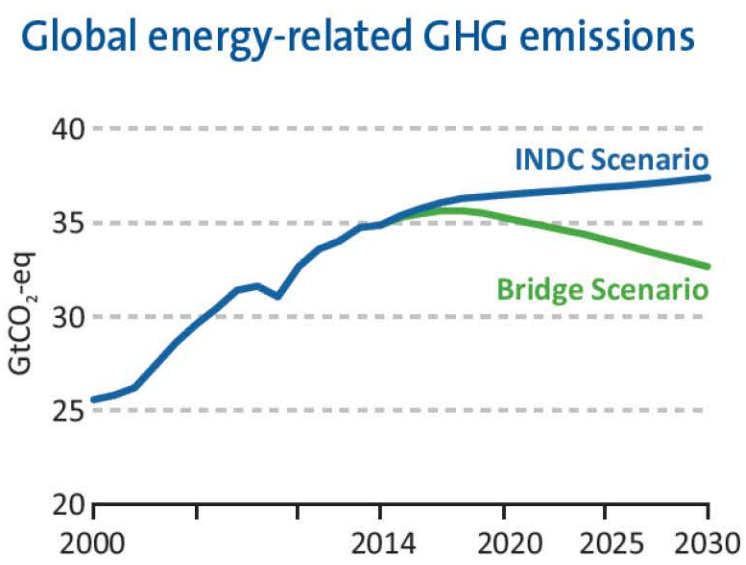
For more information, visit U.S. EPA's "Climate Change Indicators in the United States" at www.epa.gov/climate-indicators.

BRIDGING THE EMISSIONS GAP

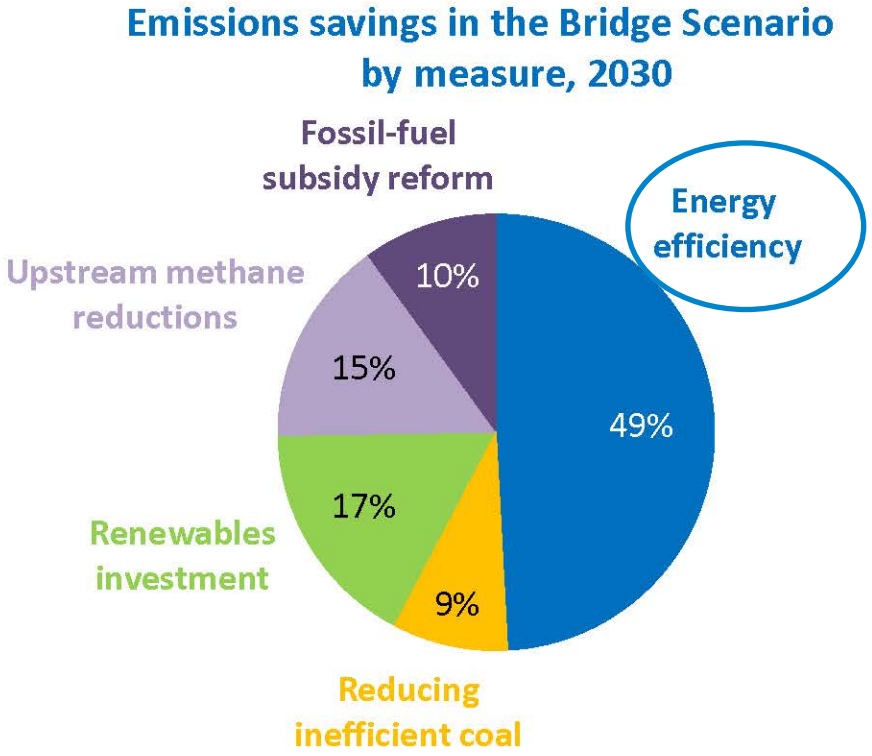
IEA's recomendations



1. Take five key actions, led by energy efficiency and renewables, to peak then reduce global energy emissions.



Source: *World Energy Outlook Special Report: Energy and Climate Change* (2015).



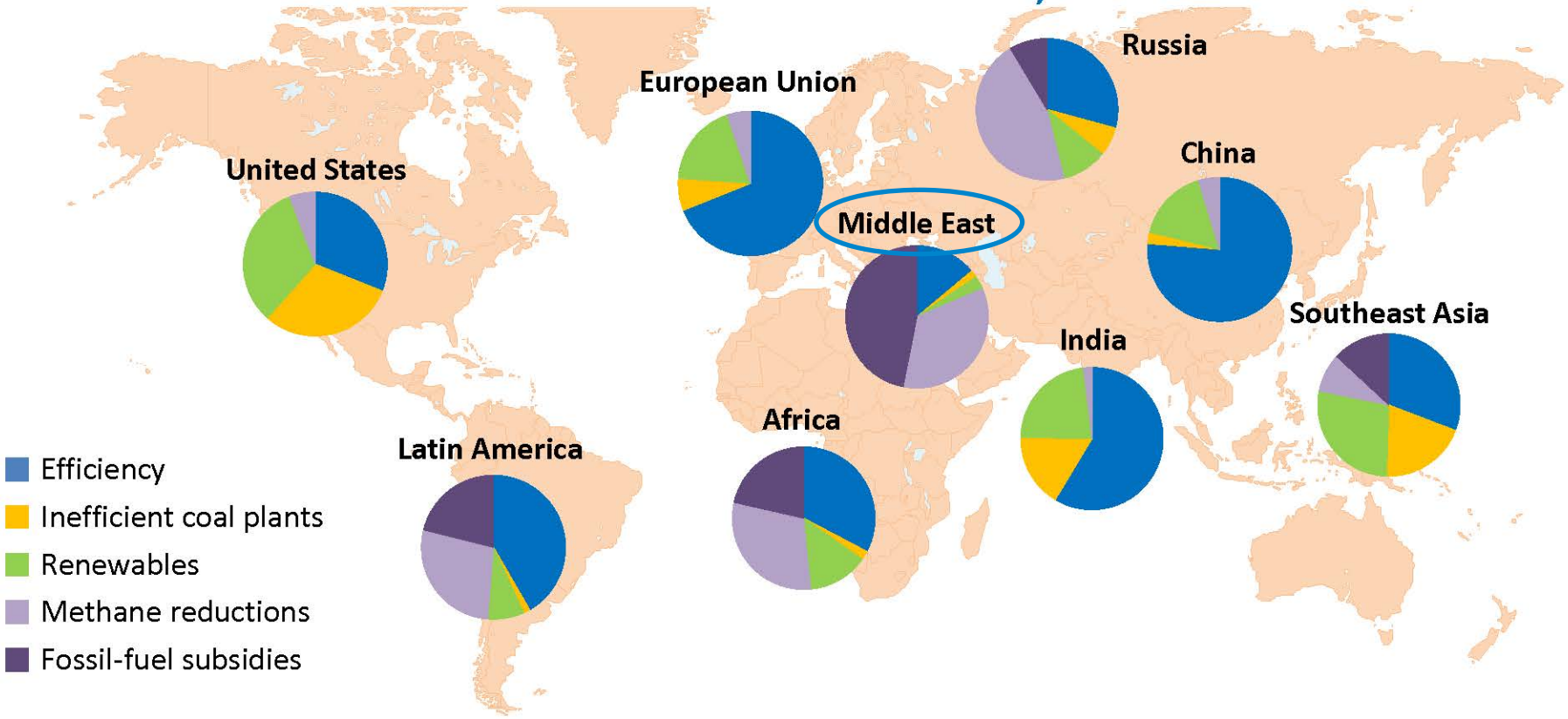
Five measures save almost 5 Gt of emissions by 2030 & achieve a global emissions peak by 2020, without harming economic growth & using only proven technologies

© OECD/IEA 2015

The Bridge Strategy is flexible across regions

International Energy Agency
Secure Sustainable Together

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



Source: *World Energy Outlook Special Report: Energy and Climate Change (2015).*

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

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MARKET VALUE AND OPPORTUNITIES

Low-carbon technologies move to the forefront of energy sector investment

- The full implementation of climate pledges will require the energy sector to invest $13.5 trillion in energy efficiency and low-carbon technologies from 2015 to 2030, representing almost 40% of total energy sector investment.

- Around $8.3 trillion is needed to improve energy efficiency in the transport, buildings and industry sectors, while much of the remaining investment is to decarbonize the power sector.

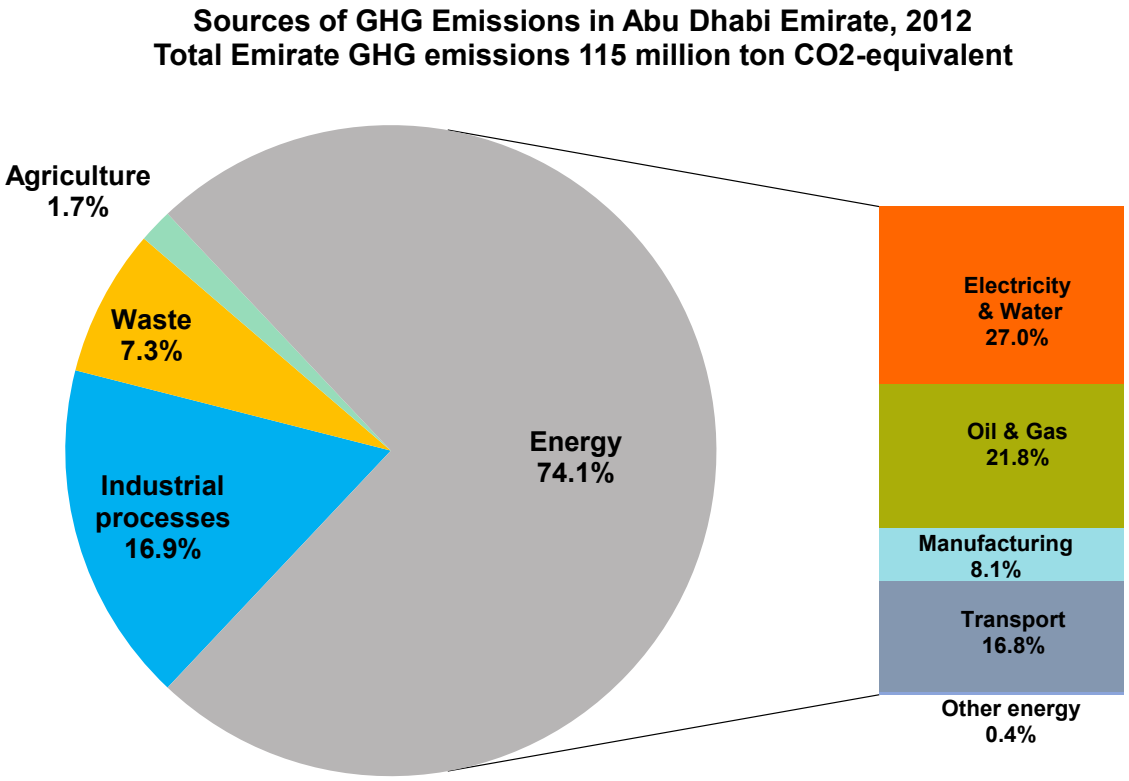
- While OECD countries absorb 60% of energy efficiency investment ($5 trillion), non-OECD countries absorb a greater share of the investment in low-carbon technologies ($2.7 trillion)".

Source: International Energy Agency, 2015. Energy and Climate ChangeCOP21Briefing

PART III – POLICY AND PLANNING

GHG INVENTORY 2012 ABU DHABI

The energy sector is the main contributor to GHG emisisons in Abu Dhabi



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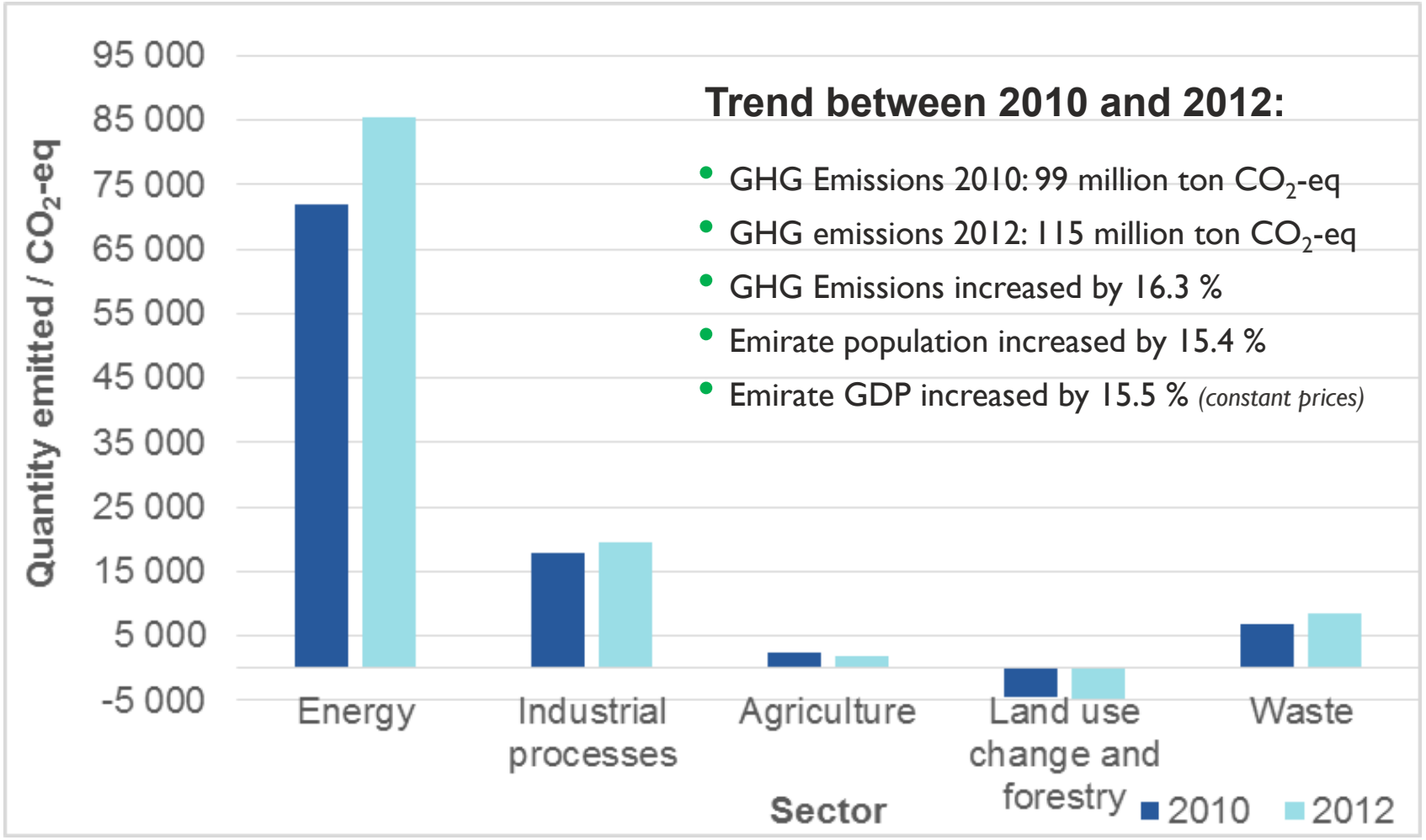
Source: EAD. 2016. Abu Dhabi GHG Inventory 2012

GHG INVENTORY 2012 ABU DHABI

GHG emisisons have increased 16% between 2010 and 2020



Source: EAD. 2016. Abu Dhabi GHG Inventory 2012

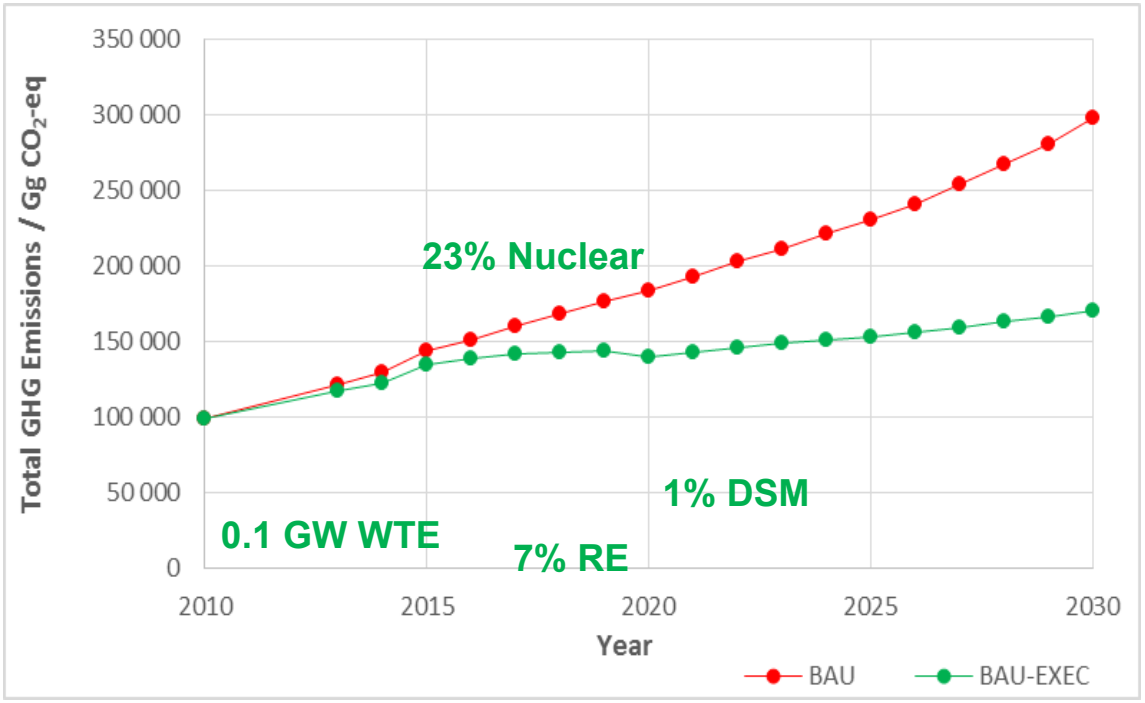
PROJECTED GHG EMISSIONS ABU DHABI

43% reduction by BAU-EXEC

2030 Emissions projected for two scenarios:

BAU: based on policy measures as of 2010 and expected demographic and economic growth (298 million ton CO_2-eq)

BAU-EXEC: based on business as usual extended with policy measures(170 million ton CO_2-eq.

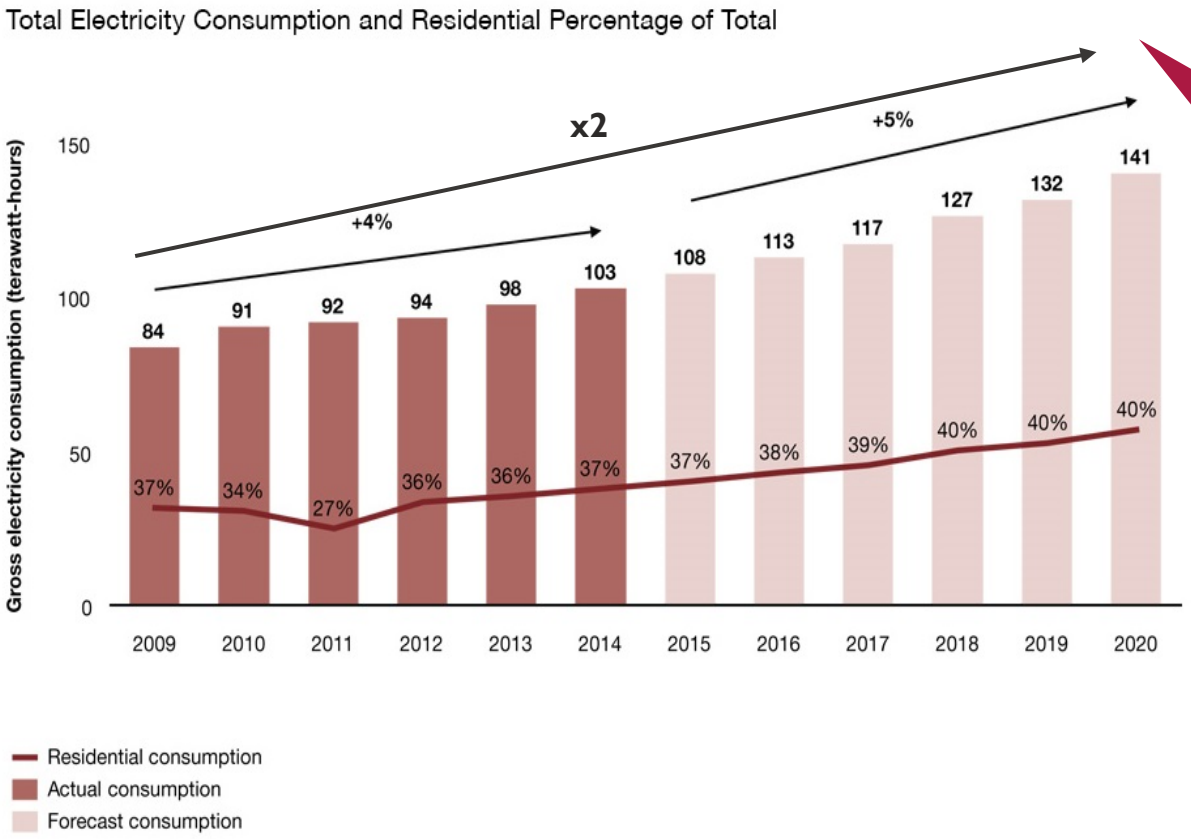


Source: EAD. 2016. Abu Dhabi GHG Inventory 2012

UAE ELECTRICITY CONSUMPTION

Electricity consumption is a key driver for growing emissions

Electricity consumption in the UAE has grown at an annual average of 4% over the past six years, with projections that it will increase to 5% through 2020.



Electricity consumption has more than doubled in the past 10 years, at a pace that will be difficult to provide for over the long term.

Source: The Economist Intelligence Unit, 2015; International Energy Agency (IEA)

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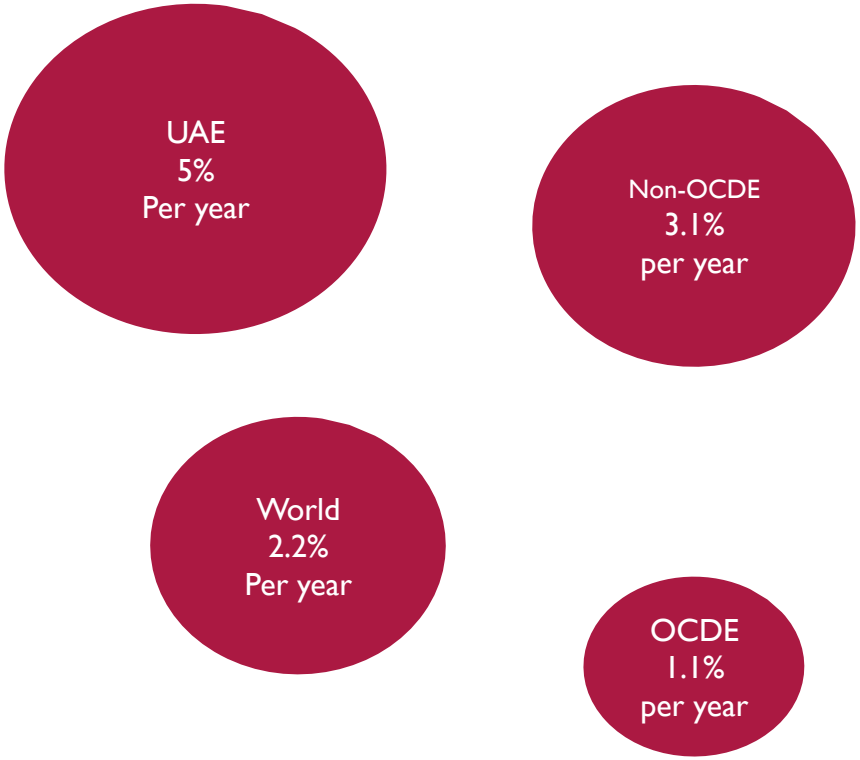
UAE'S ELECTRICITY CONSUMPTION

Growths double the world average

To place these figures in perspective growth in electricity generation worldwide is projected to rise by 2.2% per year on average from 2010 to 2040.

- The strongest growth is projected for non-OECD countries that increase by an average of 3.1% per year.
- In lowest growth is projected for OECD countries, that increase by an average of 1.1% per year.
- The growth is lower where infrastructures are more mature and population growth is declining,



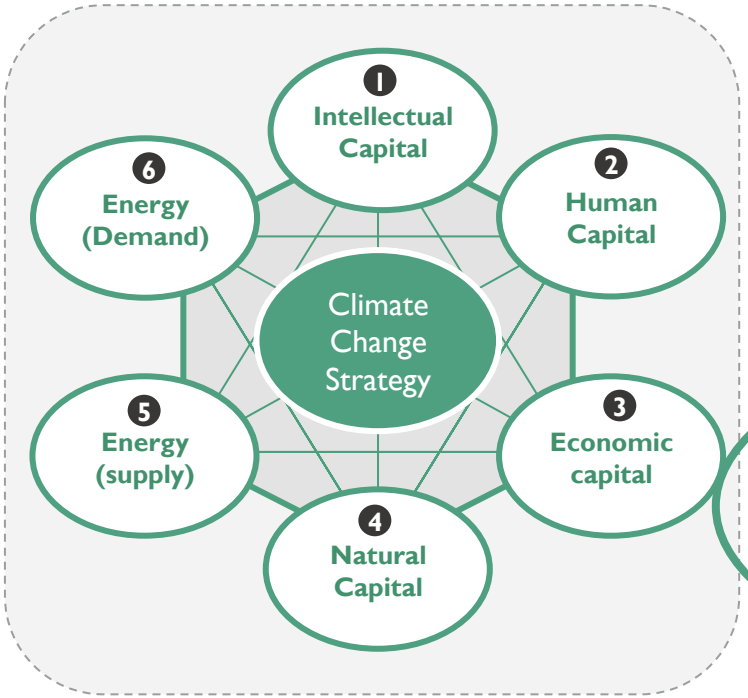
Source: International Energy Agency, International Energy Outlook 2013.

ABU DHABI CLIMATE ACTION PLAN

Requires smart policies to increase energy and water efficiency

The Abu Dhabi Climate Action Plan is built around six priorities that refer to six assets have to be conserved and enhanced to ensure economic, social and environmental sustainability, and a set of imperatives that require immediate action to mitigate and adapt to climate change

Assets



Priorities	Imperatives
1 *Knowledgeable and innovative society*	1. Ensure data is available to support research, policy making, planning and performance management 2. Build a better understanding of the causes, effects and responses to climate change 3. Accelerate R&D and application of low carbon innovation and technology
2 *Healthy, educated and aware society*	1. Minimise the impact of climate change on human health 2. Reduce the skills gap of the workforce to take climate action 3. Increase the awareness and motivation of the public and key stakeholders to take climate action
3 *Competitive and resilient economy*	1. Diversify the economy into low carbon economic sectors 2. Create an enabling environment for the provision of environmental goods and services 3. Assess and reduce the vulnerabilities to climate change of economic and financial systems 4. Assess and reduce the vulnerabilities to climate change of buildings and infrastructure
4 *Sustainable Environment And Valued Natural Resources*	1. Asses and protect vulnerable habitats and species from climate change impacts 2. Conserve and enhance natural sinks of greenhouse gases 3. Conserve and enhance groundwater resources
5 *Low carbon and efficient Energy Supply*	1. Increase the share of clean energy in the energy mix 2. Manage water and electricity supply to reduce the consumption of energy
6 *Sustainable lifestyles and use of resources*	1. Manage water and electricity demand to reduce the consumption of energy 2. Transition towards low-carbon and energy efficient buildings and infrastructure 3. Transition towards a low-carbon and energy-efficient transport system 4. Transition towards low-carbon and energy efficient industries 5. Transition towards more efficient production and consumption patterns to reduce, reuse and recycle resources

THANK YOU

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