Global Politics of Climate Change

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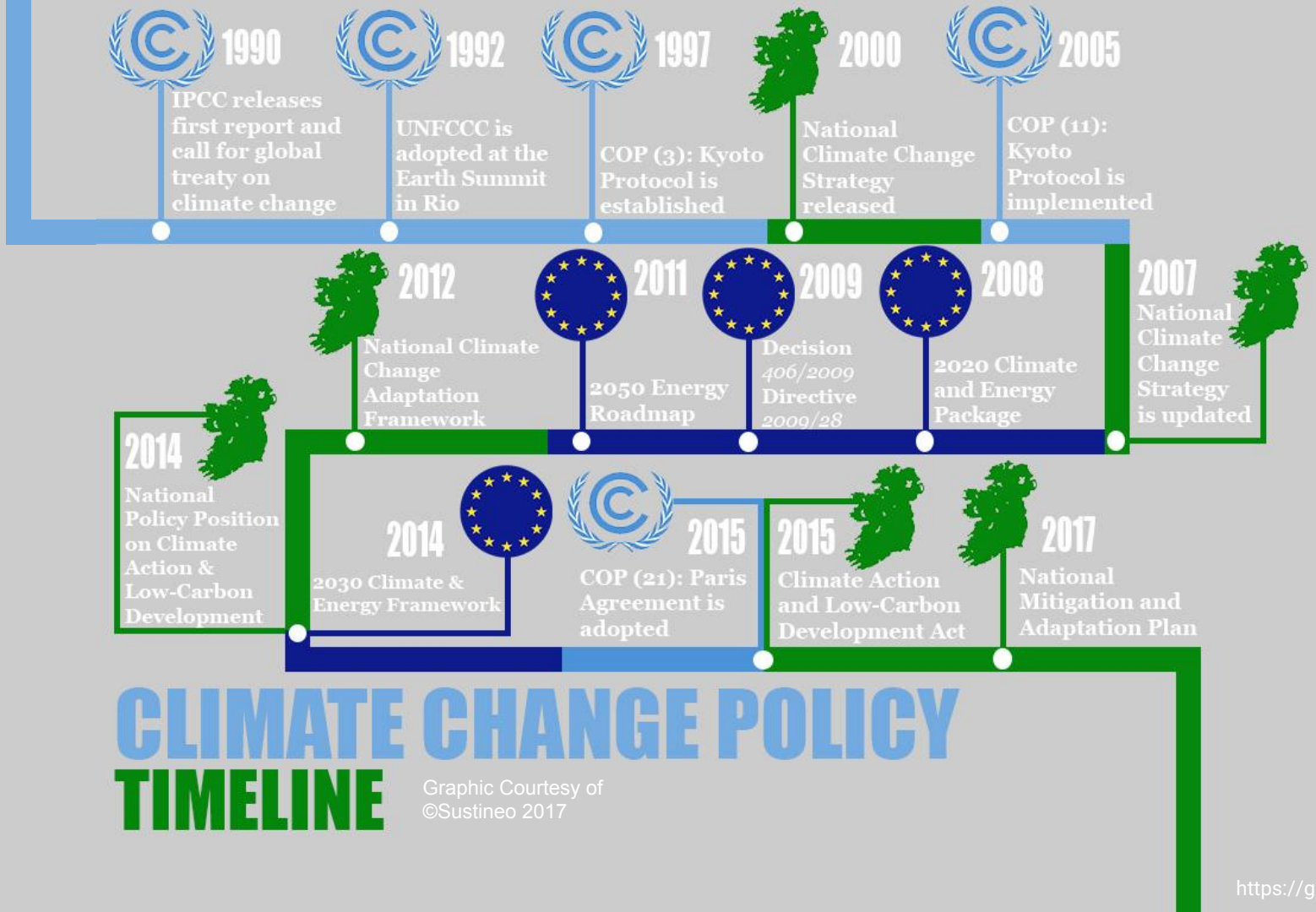
Agenda

- Examine the way other nations approach climate change policy built on student's own experience and work
- This includes:
  - European policy on a organization level as well as member states own initiatives
  - African nations developing their respective future energy systems
- Pose the connection, or lack thereof, of public opinion on climate change to policy

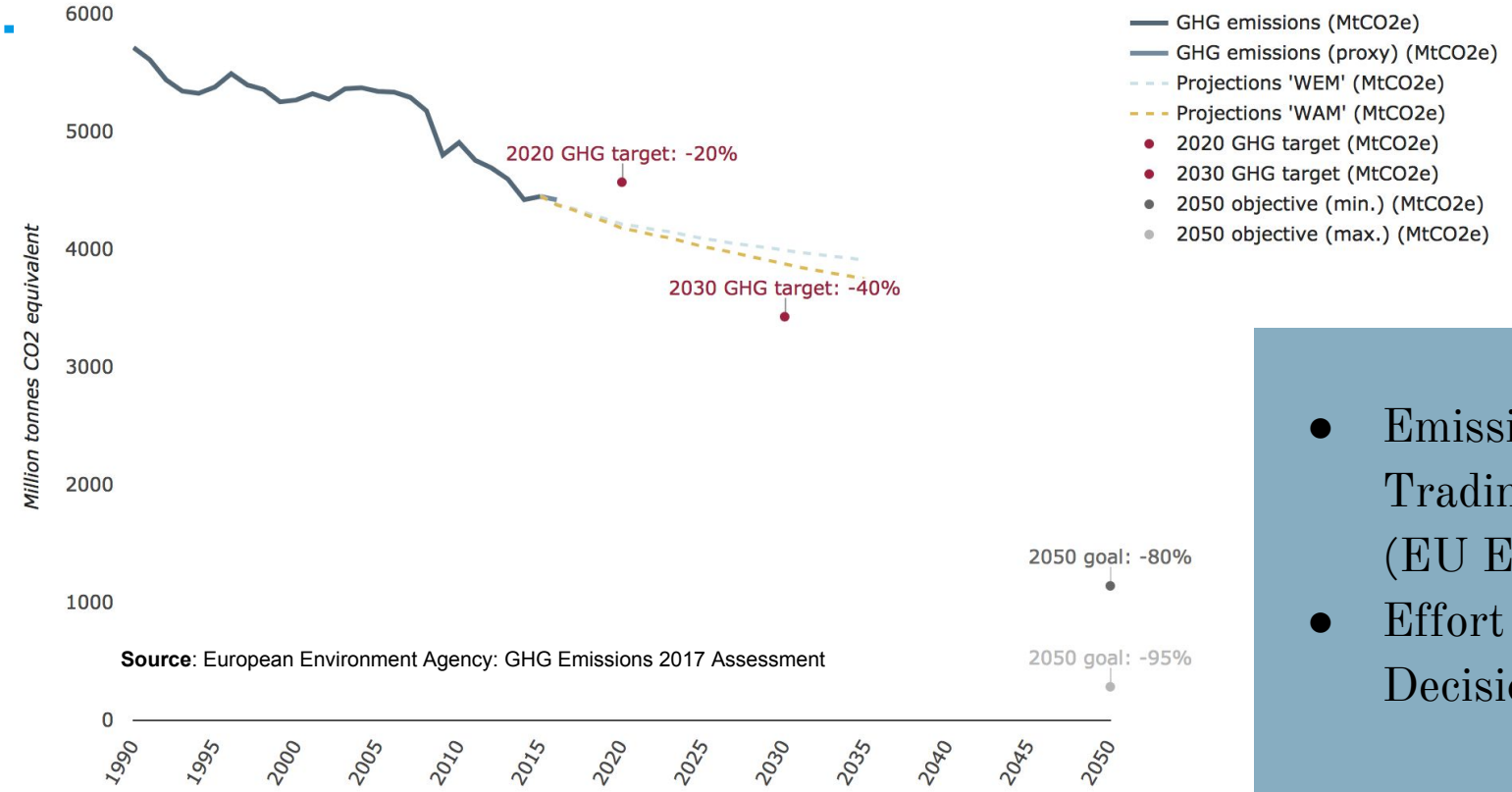
European Union

Organization Efforts



Tools of EU Policy

GHG emission trends, projections and targets in the EU



Source: European Environment Agency: GHG Emissions 2017 Assessment

- Emissions Trading Scheme (EU ETS)
- Effort Sharing Decision (ESD)

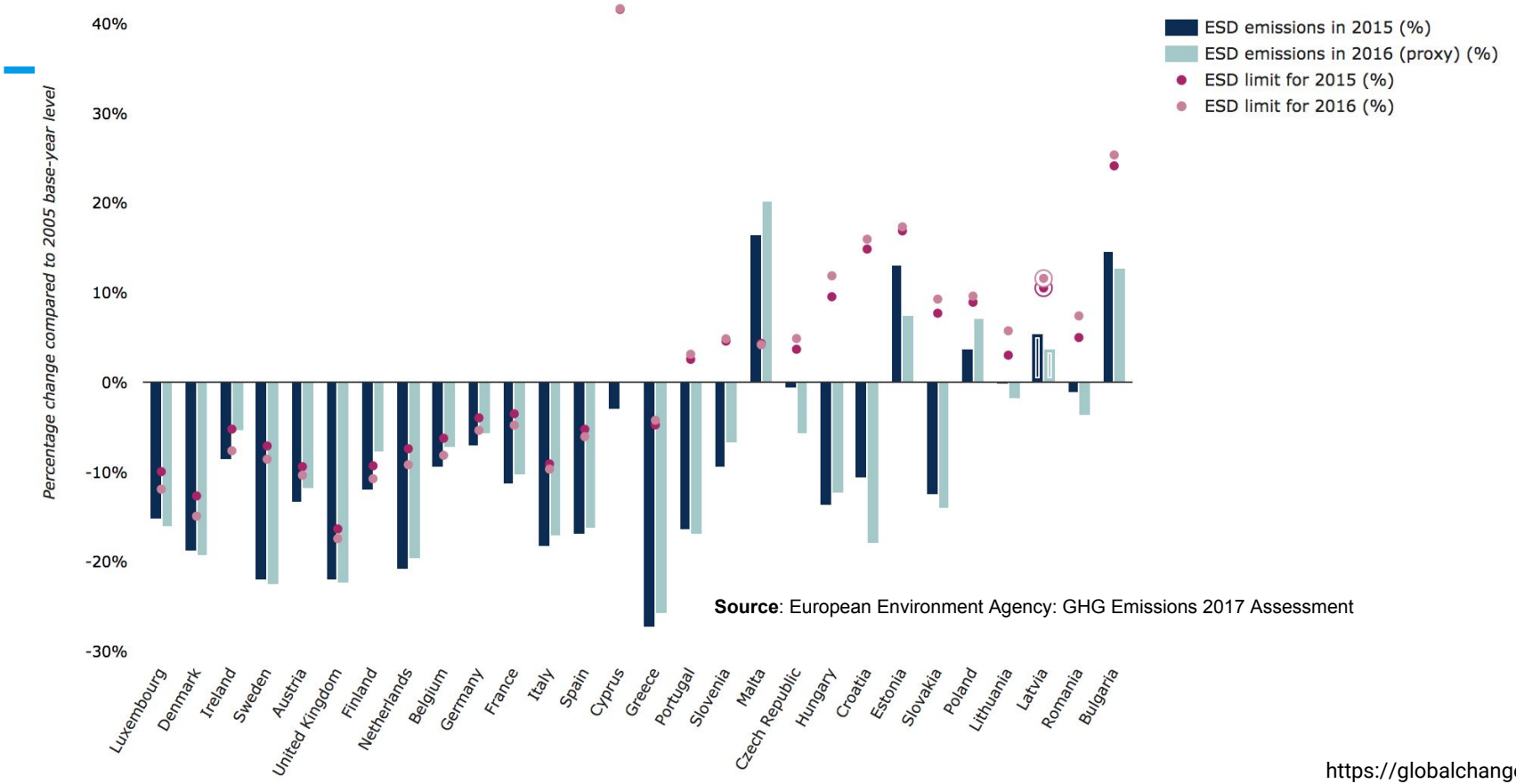
EU ETS

- Cap is set on total GHG emissions and reduced over time
- Companies receive or buy emission allowances that they can trade with one another
- Companies fined if their emissions go over the allowance they hold
  - Extra allowances can be kept for the future or sold to other companies
- Currently in Phase 3 (2013-2020)
  - Single EU-wide cap
  - Auctioning allowances (rather than free allocation)
  - Allowances set aside to fund renewable energy and carbon capture technology

Effort Sharing Decision (ESD)
(Decision 406/2009)

- Set targets for GHG emissions from sectors that are not included in the EU ETS.
- Include agriculture, transport, built environment, waste and non-energy intensive industry.
- Responsibility of EU Member States to define/implement national policies and measures to limit emissions from the sectors covered by the ESD

Progress of EU States towards their ESD Targets



Source: European Environment Agency: GHG Emissions 2017 Assessment

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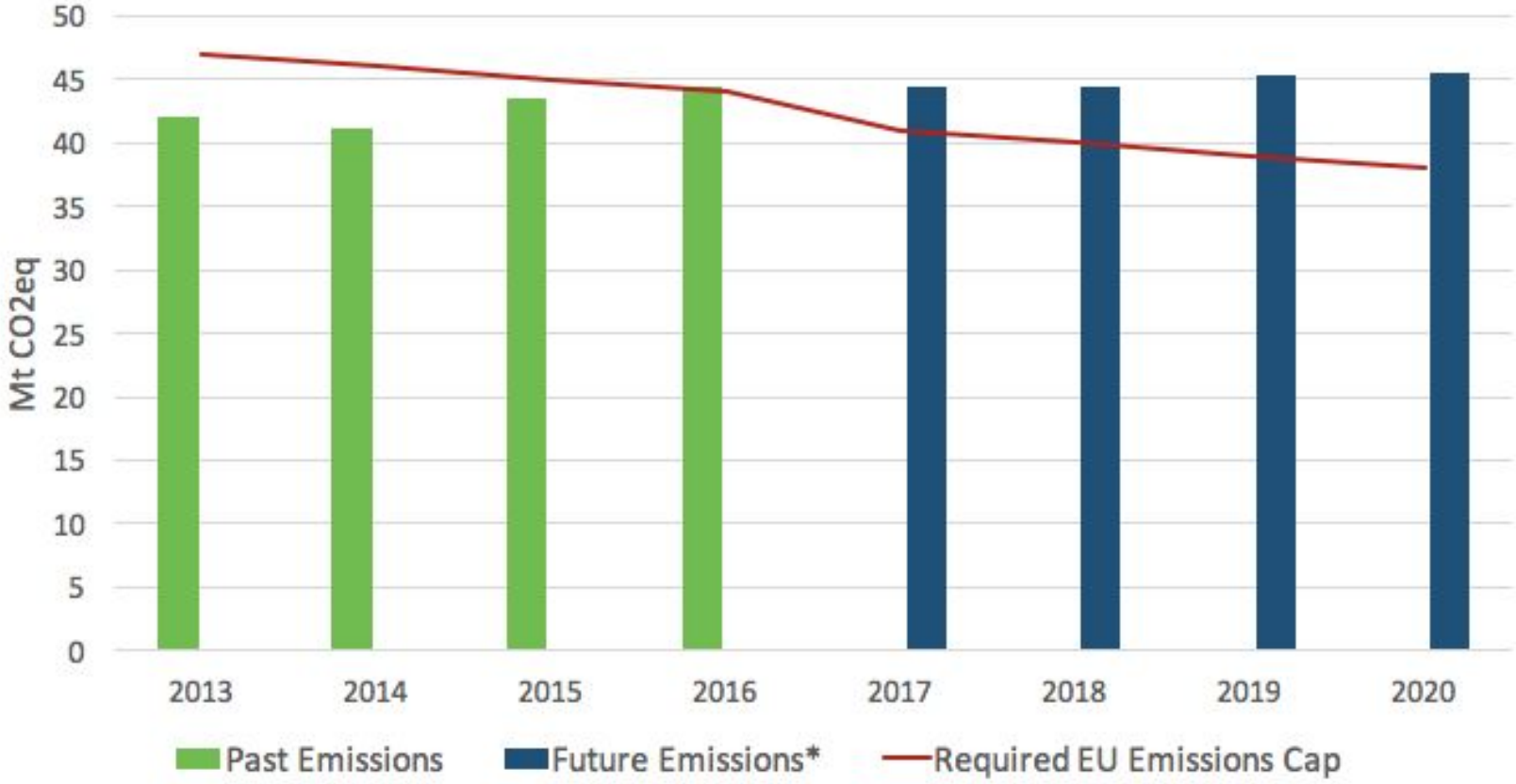
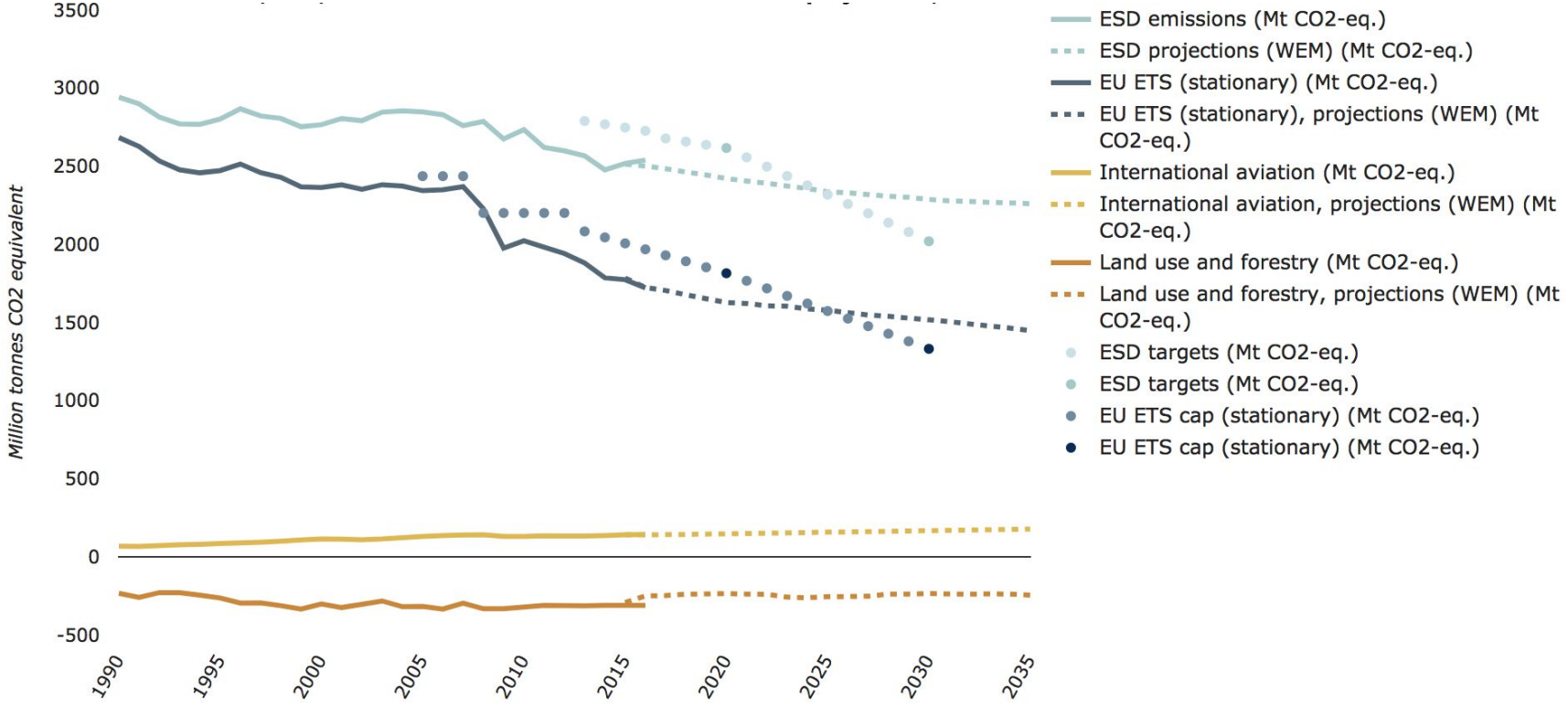
Ireland's ESD sector emissions



*assuming full implementation of existing adaptation and mitigation measures

Data Source:: Ireland's Environmental Protection Agency: 2017 GHG Emission Projections Summary Report

Trends/Results

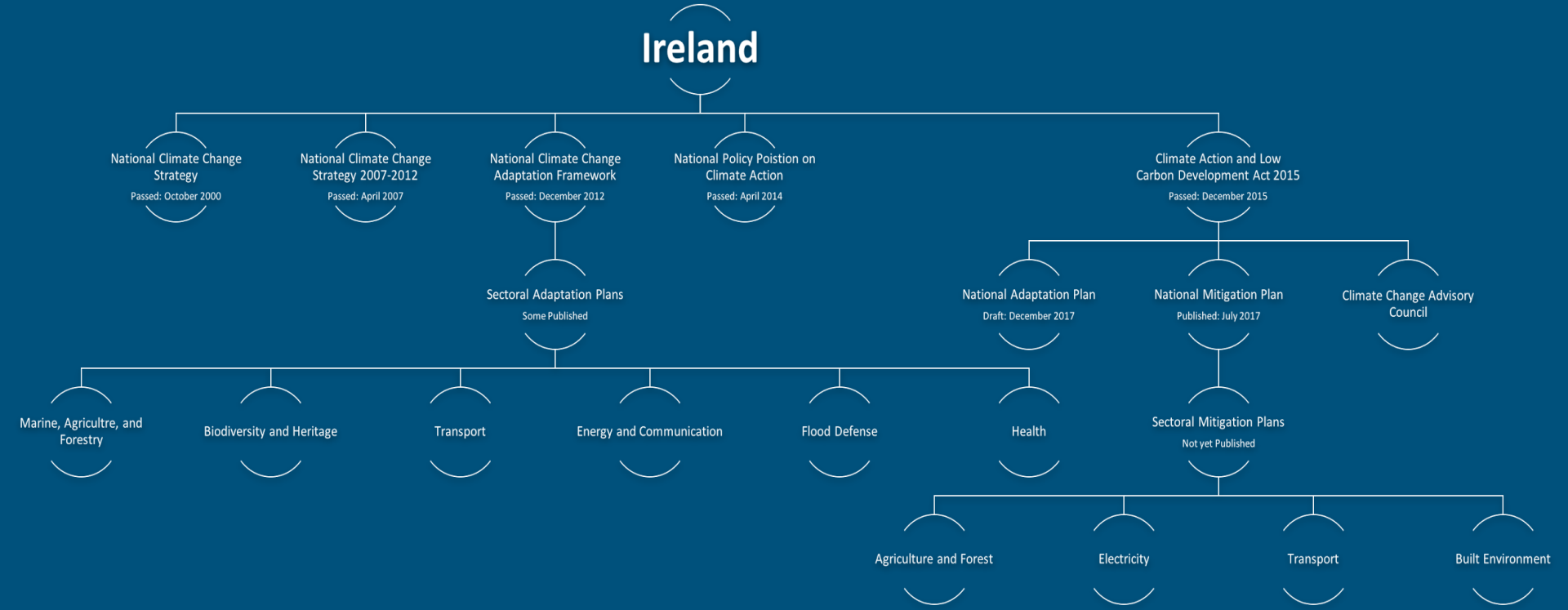


Source: European Environment Agency: GHG Emissions 2017 Assessment

European Union

National and Local Efforts

National Strategies and Adaptation & Mitigation Plans



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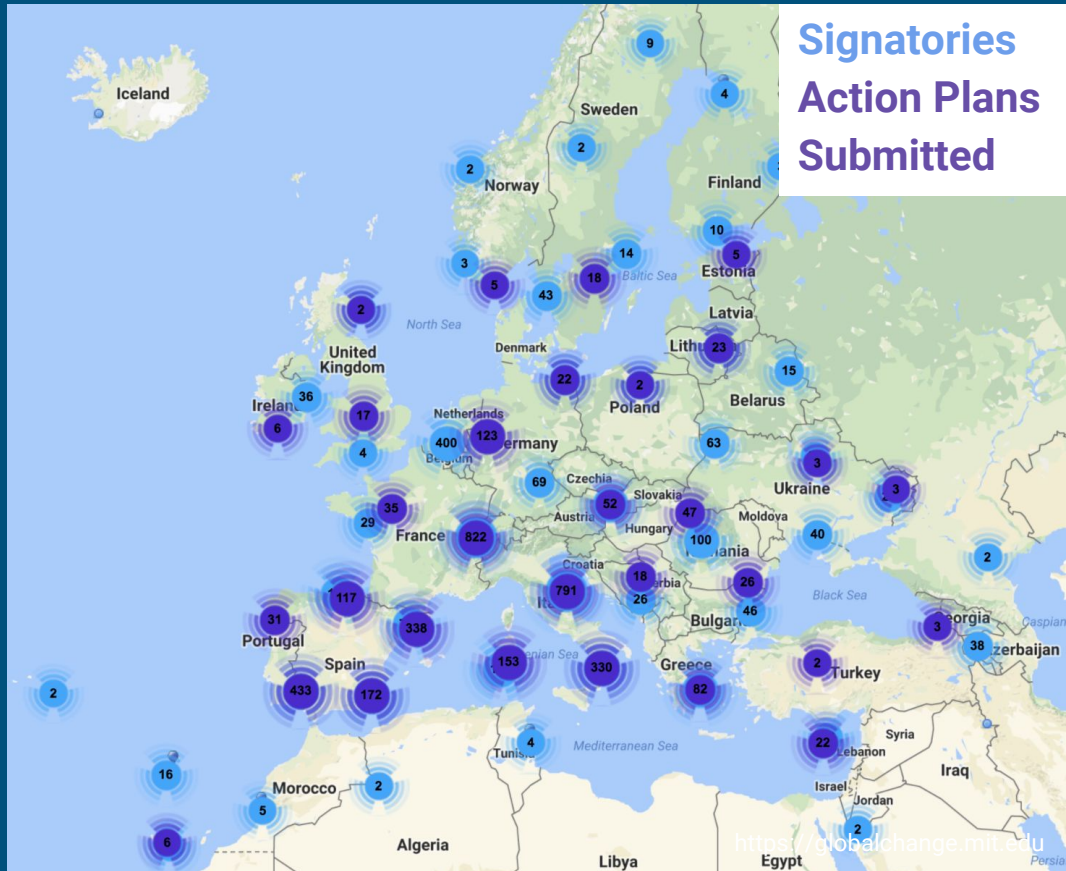
Local Adaptation in the EU: Covenant of Mayors for Climate and Energy

- *"Brings together thousands of local and regional authorities voluntarily committed to implementing EU climate and energy objectives on their territory. New signatories now pledge to reduce CO_2 emissions by at least 40% by 2030 and to adopt an integrated approach to tackling mitigation and adaptation to climate change."*



Utilization of GHG Emission Standards

+ Environmental Management (ISO 14001)

+ Energy Management (ISO 50001)

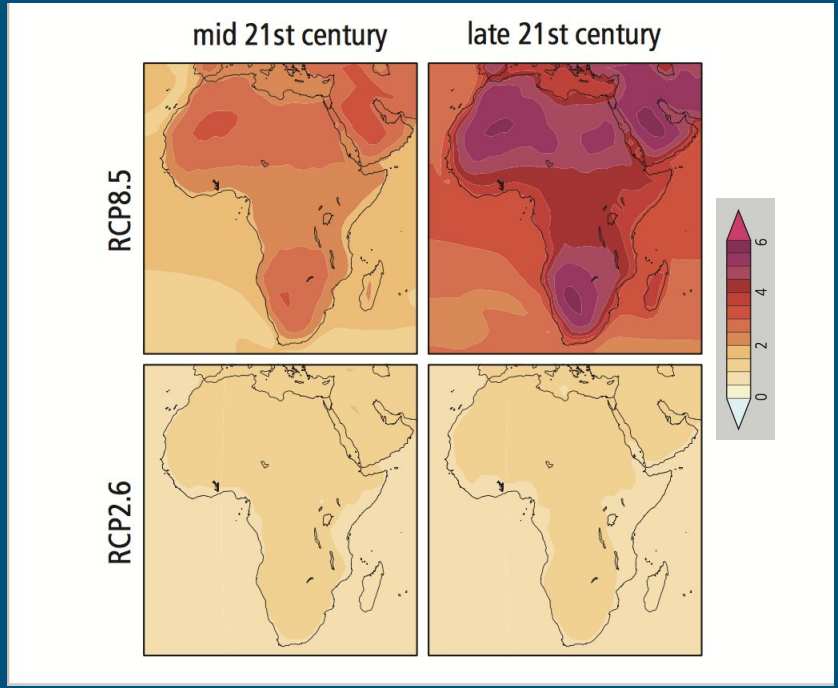
African Nations

Politics, energy, development and climate change

Climate Change

- Changing weather patterns with increased floods and droughts in East Africa
- Impacts on water supply in the Volta and Niger rivers in West Africa, affecting food supply and exposing hydropower dependency
- Food shortages from droughts leading to famine which increased border migration and refugee crisis

Annual temperature change (in ℃)
compared to 1986 - 2005 average



Source: IPCC, 2014

Africa Rising

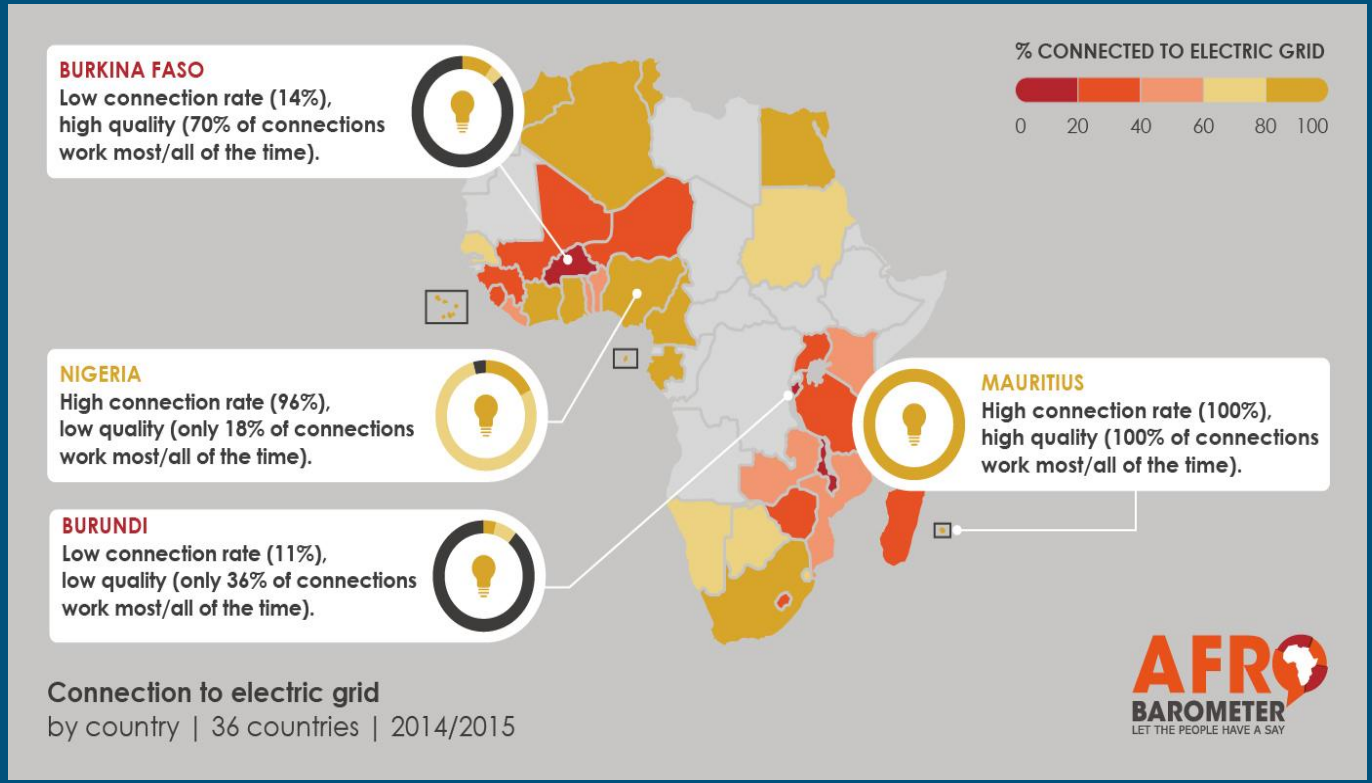
Largely consistent:

- Economic growth
- Population growth - set to double by 2050
- Increasing urbanization - 50% of Africans will live in cities by 2030
- Energy needs are steadily increasing - 75% growth between 2015 and 2035

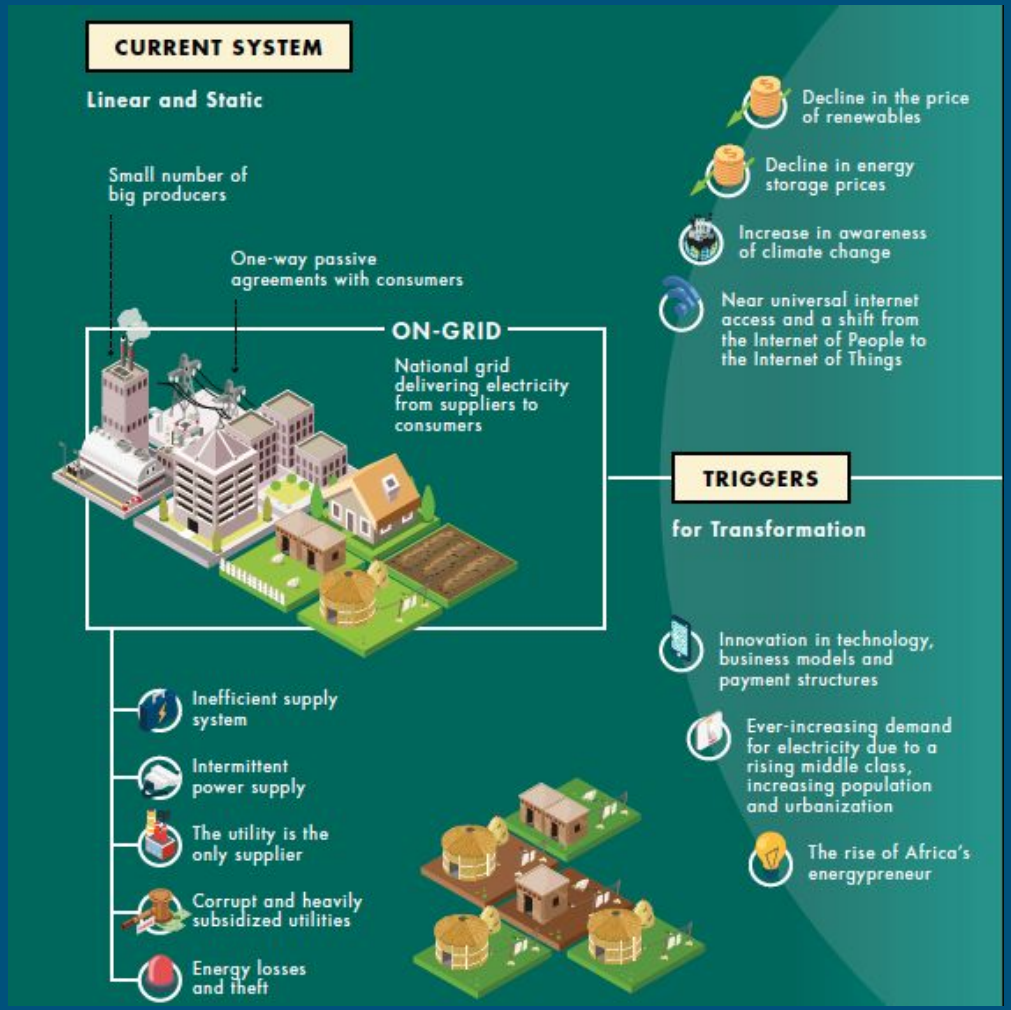
620 million Africans lack electricity access

Electricity Access

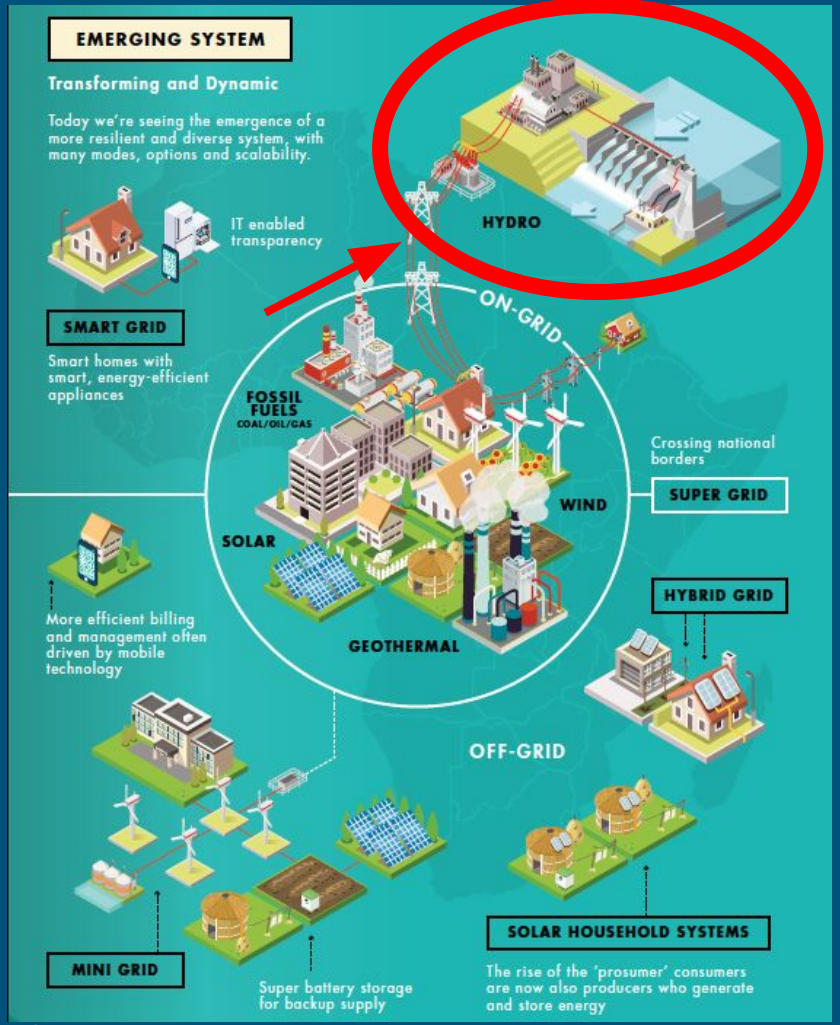
- Urban areas - 94%
- Rural areas - 45%



Source: Afrobarometer, 2016



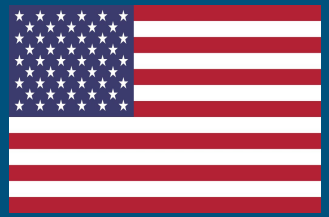
Source: Africa Progress Panel, 2016

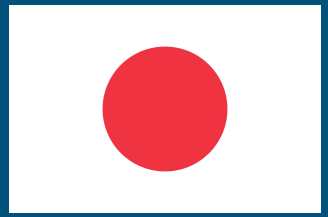


Source: Africa Progress Panel, 2016

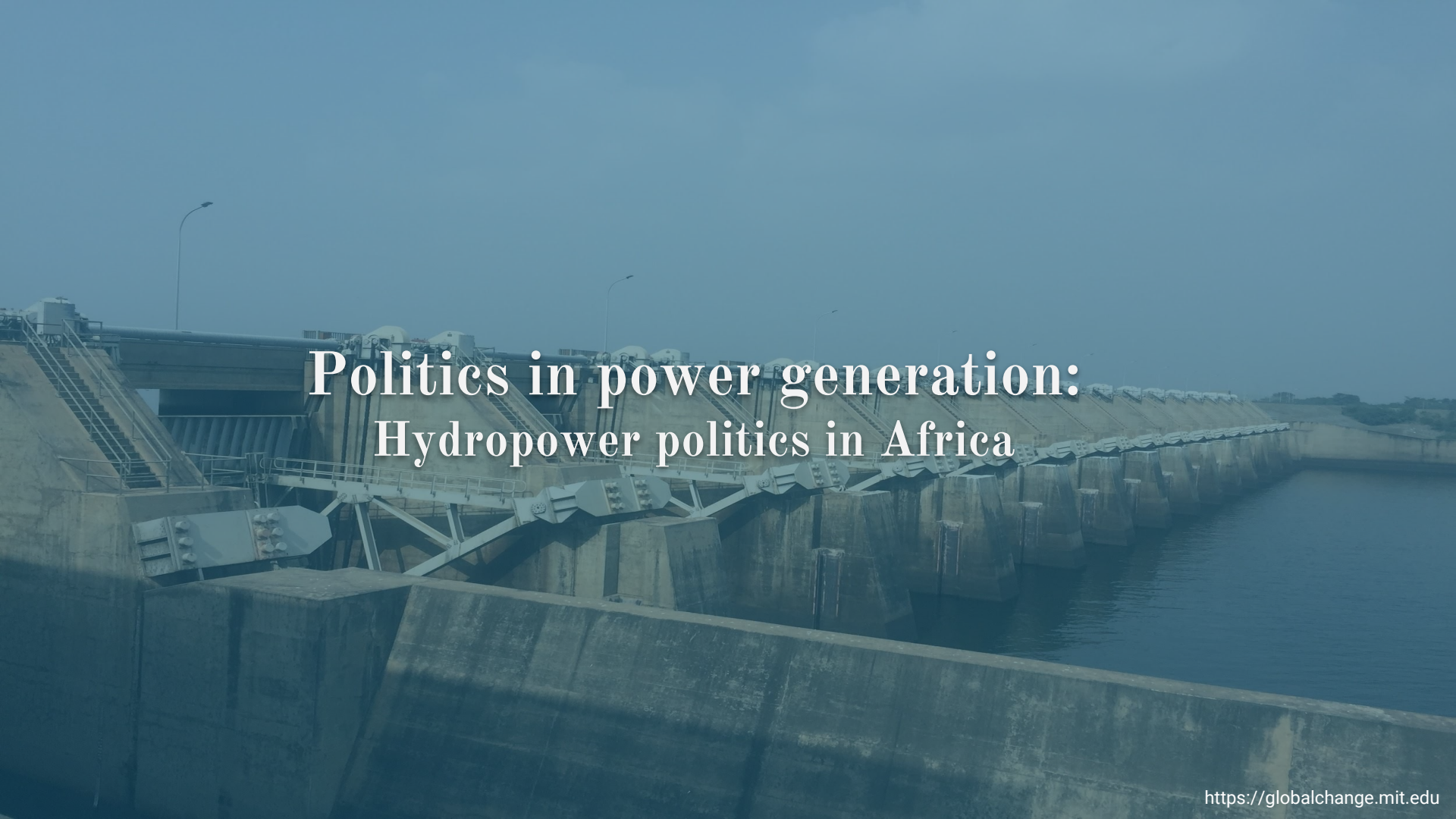
Partners

Countries





Institutions

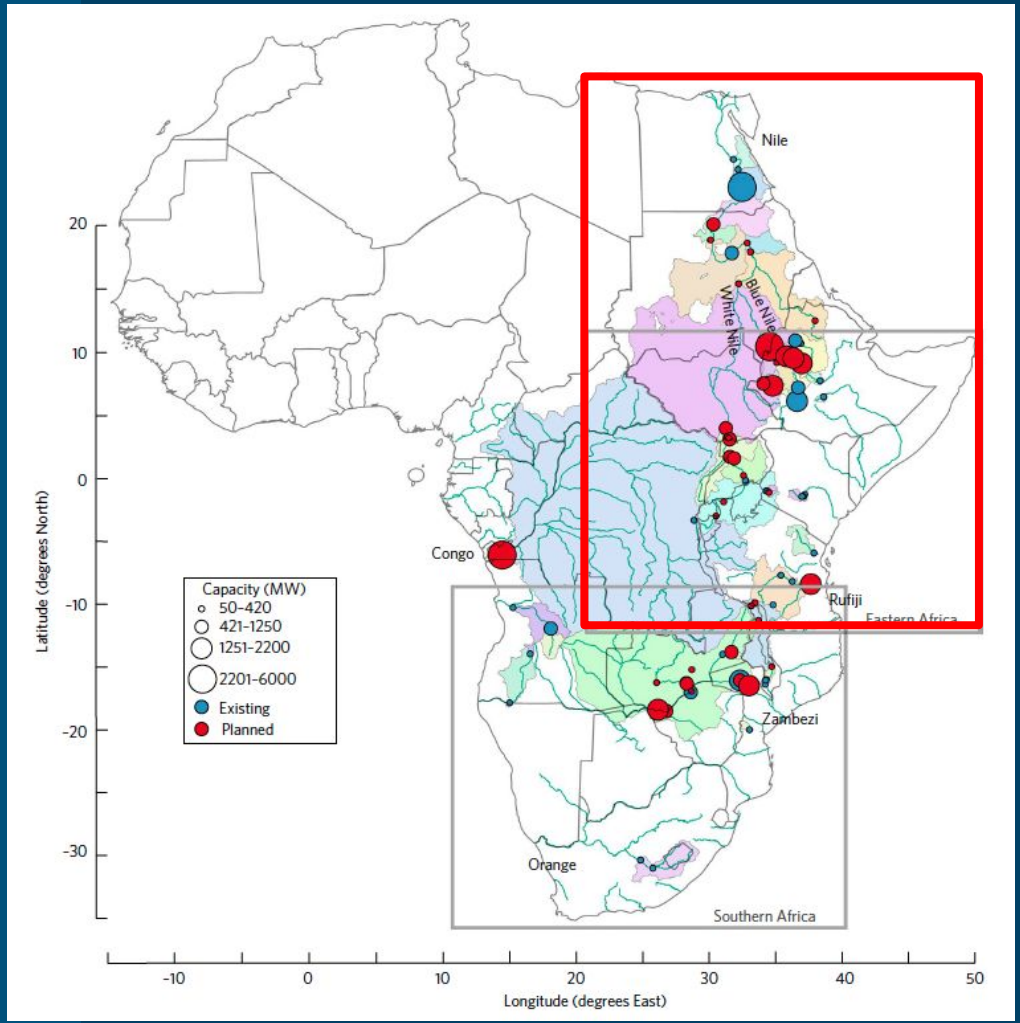


Politics in power generation:
Hydropower politics in Africa

Water Resources in Africa

- Seven major river basins including the Nile, Zambezi, Volta
- Water is key to continued growth of the power and agriculture industries
  - Irrigation
  - Hydro and thermal powered electricity generation
- Climate change forecast shows fluctuations and variability across power pools and river basins

Existing and planned hydropower projects in Southern and Eastern Africa



Source: Conway et. al, 2017

The Nile

- Serves 400 million people in 10 countries including Egypt, Sudan and Ethiopia
- Central to Egyptian economy
- Blue Nile, which serves 60 percent of Egypt's water is in Ethiopia
- Ethiopia building the 6,000-MW Grand Ethiopian Renaissance Dam (GERD)
  - 75% of Ethiopians without electricity

How should Nile's resources be distributed?

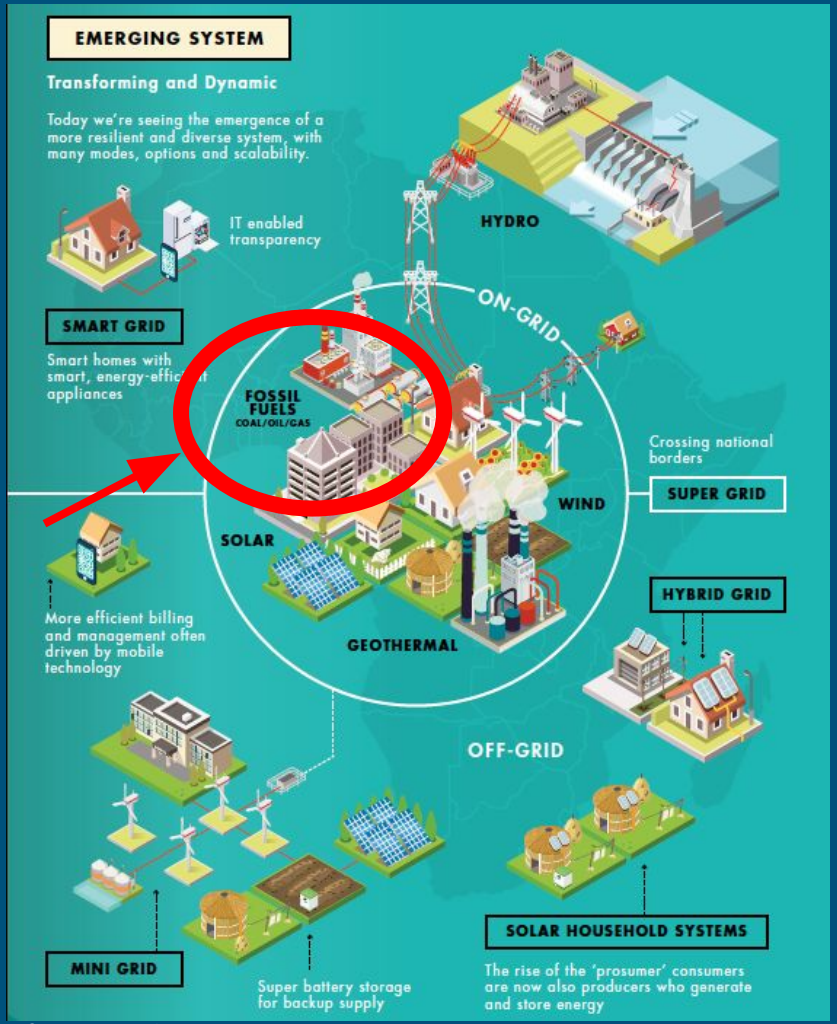
Disputes over GERD dam in Ethiopia

1929/1959: Nile Water Agreements - Egypt and Sudan receive lion share of Nile and Egypt can veto water projects.

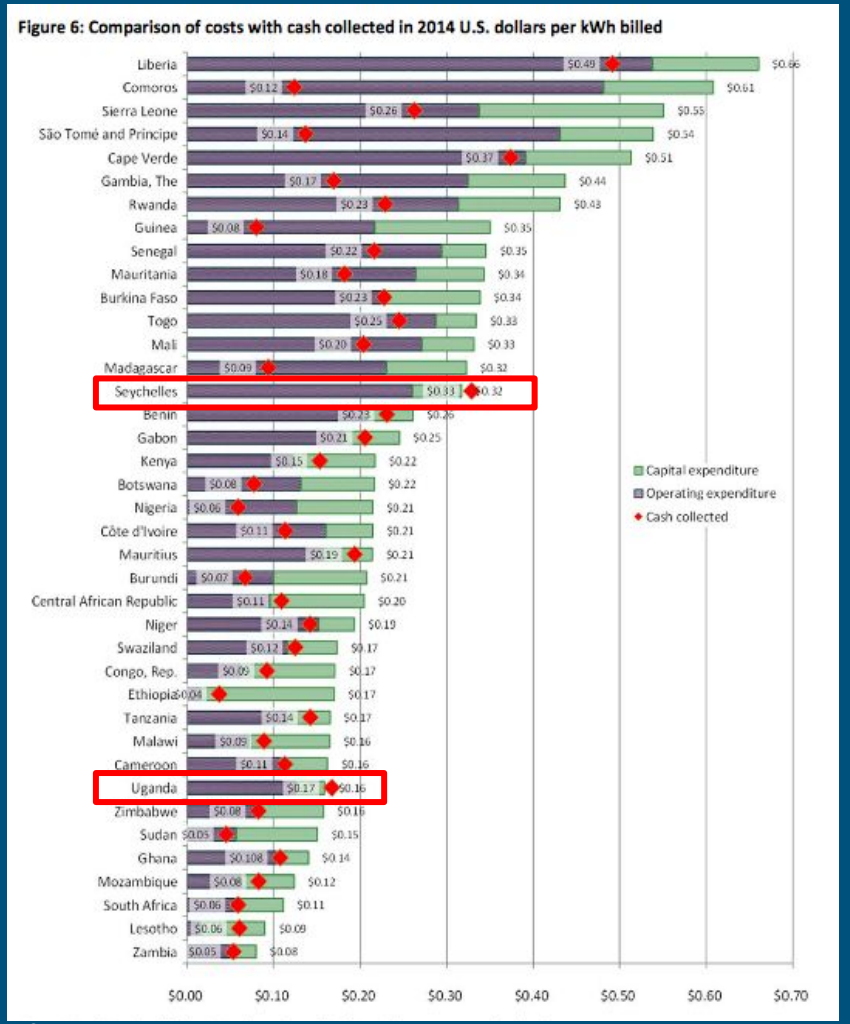
2013: Cooperative Framework Agreement - equitable utilization and protection of Nile resources

2015: Egypt, Ethiopia and Sudan sign preliminary agreement to peacefully develop and share Nile resources

Politics in electricity regulation

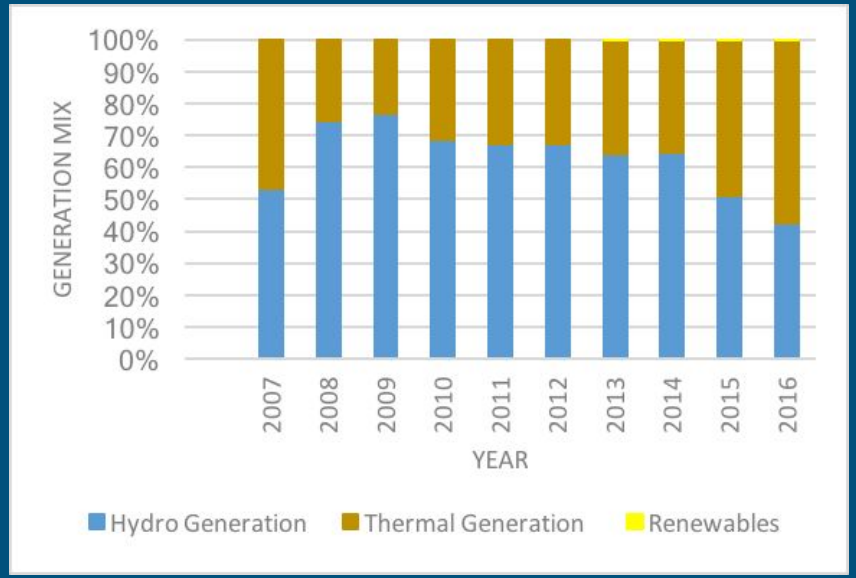


Source: Africa Progress Panel, 2016



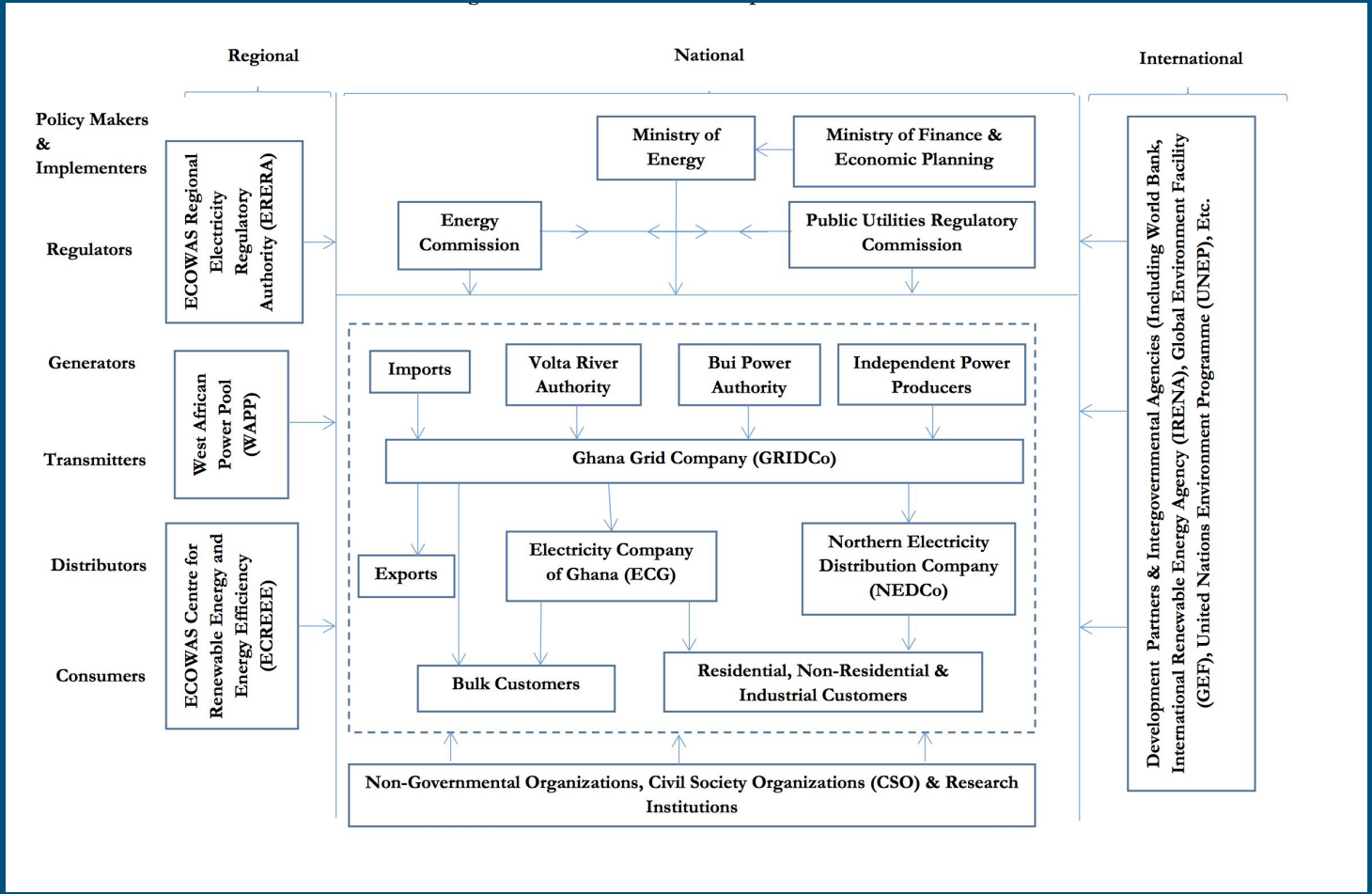
Source: Energy at Haas, 2016

Power generation and pricing in Ghana



Figures by Sika Gadzanku

Organizational structure of Ghana's electricity sector



Source:https://www.cgdev.org/sites/default/files/electricity-situation-ghana-challenges-and-opportunities.pdf

Summary

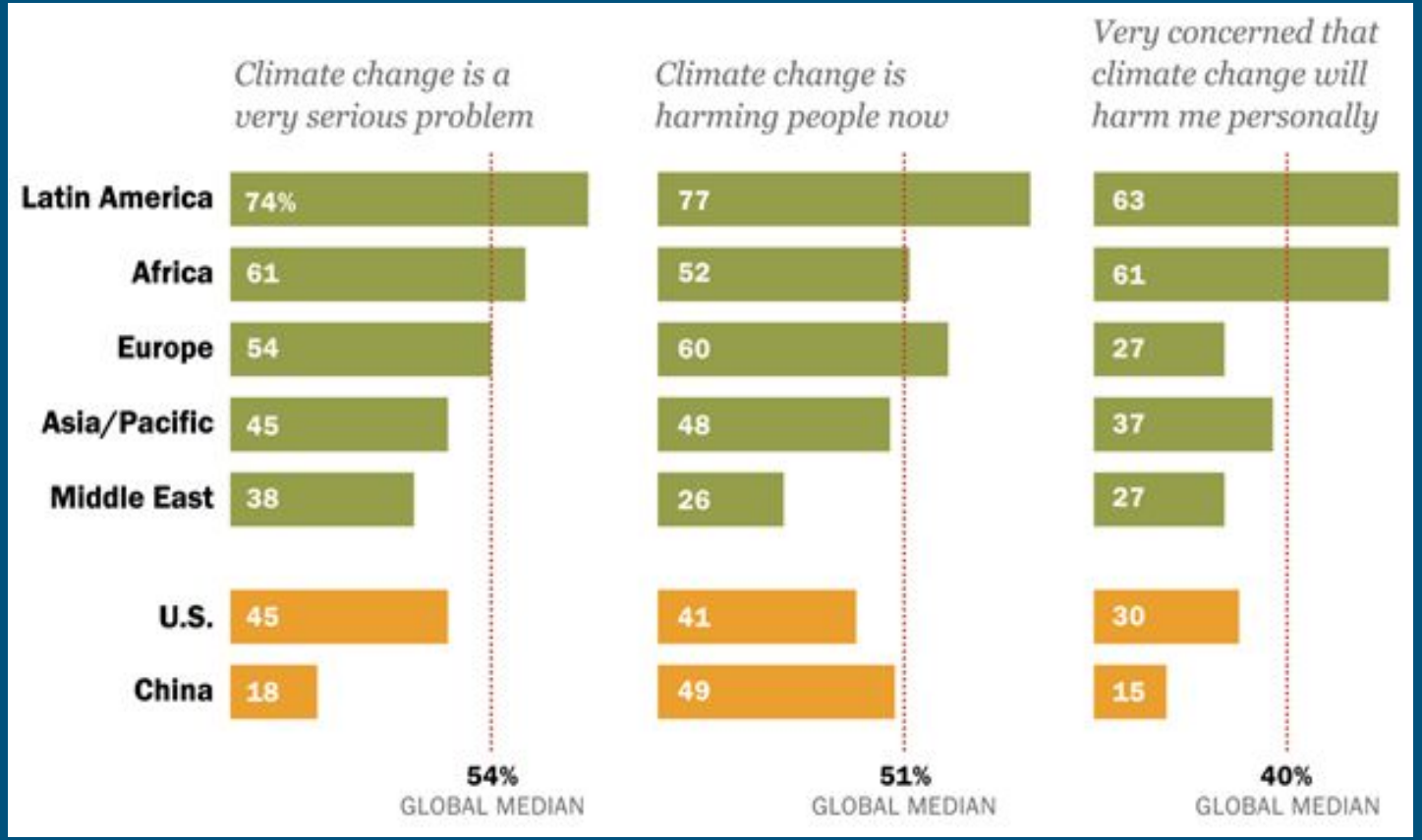
- Electricity access is key to economic growth in African countries
- Hydropower is cheap power but climate change impacts reveal vulnerability of resource
- Reduced rainfall and increasing temperature may reduce economic feasibility of large hydropower projects

Policy considerations

- Adaptive energy policy - to serve short term energy needs for economic growth and long term energy planning which incorporates climate change impacts and taps into renewable energy capacity
- Adaptive, flexible and robust electricity infrastructure planning
- Prioritize independence of electricity regulation and tariff setting - to reduce political influence and signal desire of full cost recovery within the sector
- Capacity building - developing indigenous research, policy and infrastructure development capabilities
- Defining future partnerships for needed climate financing

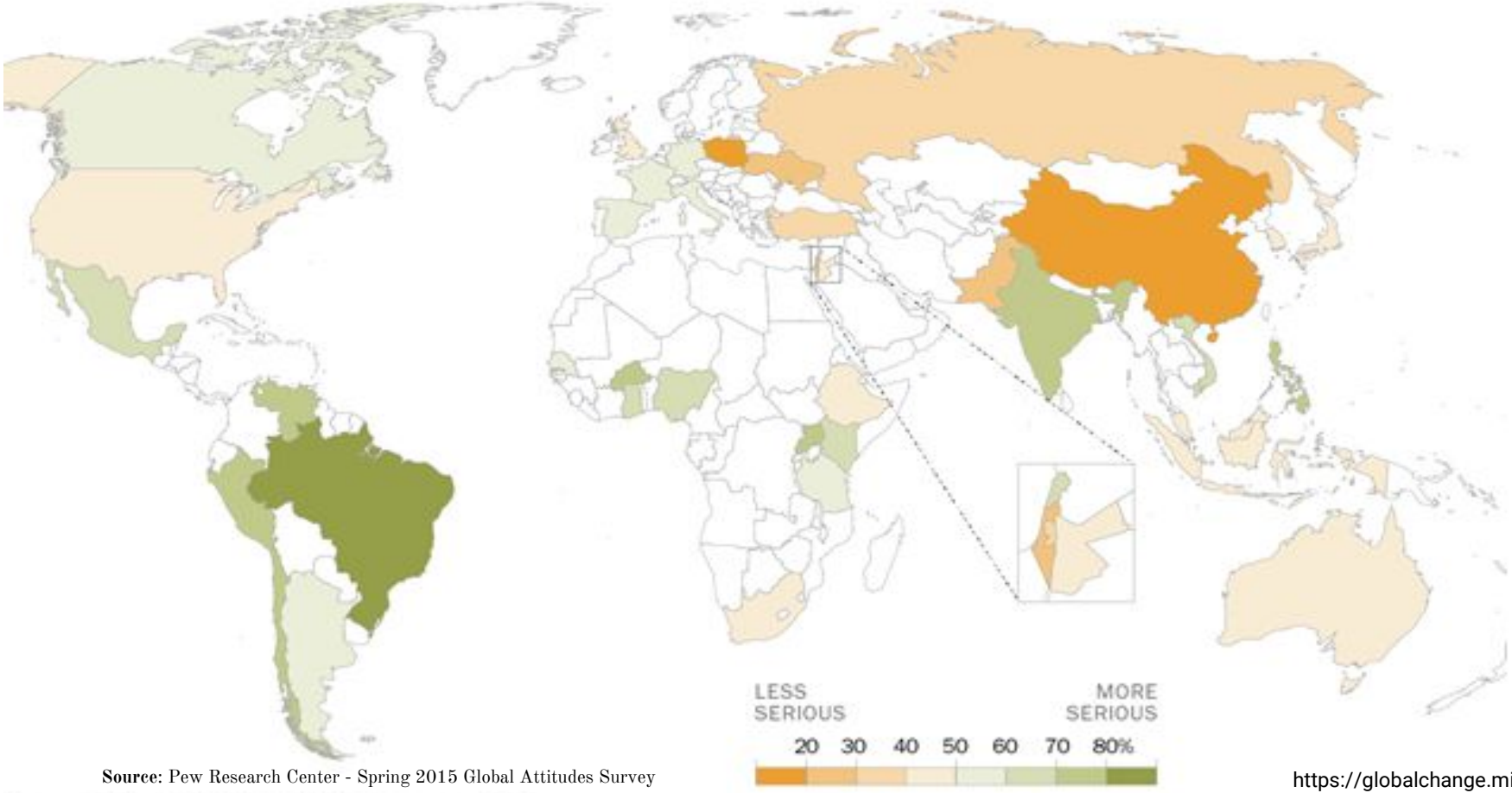
Public Opinion's Role in Shaping Countries Policy

Climate Change Views by Region



Source: Pew Research Center - Spring 2015 Global Attitudes Survey

Percent saying global climate change is a very serious problem



Source: Pew Research Center - Spring 2015 Global Attitudes Survey

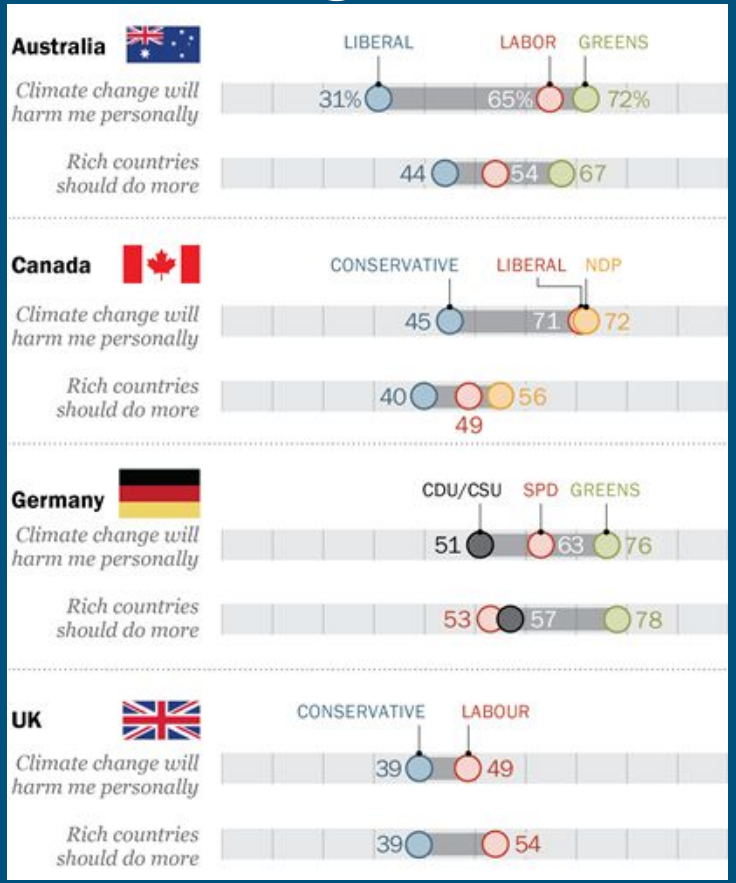
Climate Change Views in Europe & the U.S.

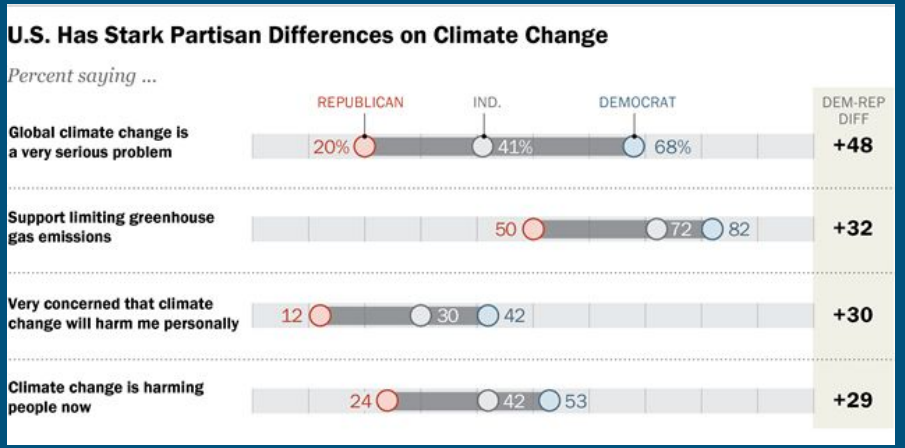
In Europe and U.S., Deep Ideological Divides on Concern about Climate Change

	Global climate change is a very serious problem				Global climate change is harming people now			
	Left	Mod	Right	Right-Left Diff	Left	Mod	Right	Right-Left Diff
	%	%	%		%	%	%	
Italy	69	59	42	**-27**	74	62	64	**-10**
France	70	55	49	**-21**	71	61	50	**-21**
UK	53	41	34	**-19**	59	50	44	**-15**
Spain	60	52	46	**-14**	69	63	51	**-18**
Germany	58	52	57	-1	73	63	59	**-14**
Poland	16	25	18	+2	25	23	36	**+11**
	Lib	**Mod**	**Conserv**	**Conserv - Lib Diff**	**Lib**	**Mod**	**Conserv**	**Conserv - Lib Diff**
	%	%	%		%	%	%	
U.S.	68	45	30	**-38**	59	37	32	**-27**

Source: Pew Research Center - Spring 2015 Global Attitudes Survey

Climate Change Views in Major Economies





Source: Pew Research Center - Spring 2015 Global Attitudes Survey

Climate Views in the U.S.

- Similar to Pew's study, **Yale's Program on Climate Communication** found in the U.S. that a majority of Americans believe:
  - That global warming is happening (69%)
  - Carbon emissions should be scaled back (74%)
  - Renewable Energy Source research should be funded (82%)
  - Climate change will NOT harm them personally (52%)
  - Do NOT discuss global warming occasionally (67%)

- Question: Where's the disconnect between public opinion, policy, and action?

Thank You!

Questions?

Sources

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