

Addressing Climate Change Risk is Imperative

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Clean
Energy
Business
Council



مجلس
صناعات
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Middle East & North Africa
الشرق الأوسط وشمال أفريقيا

Dr. Nasser Saidi
CEBC Chair

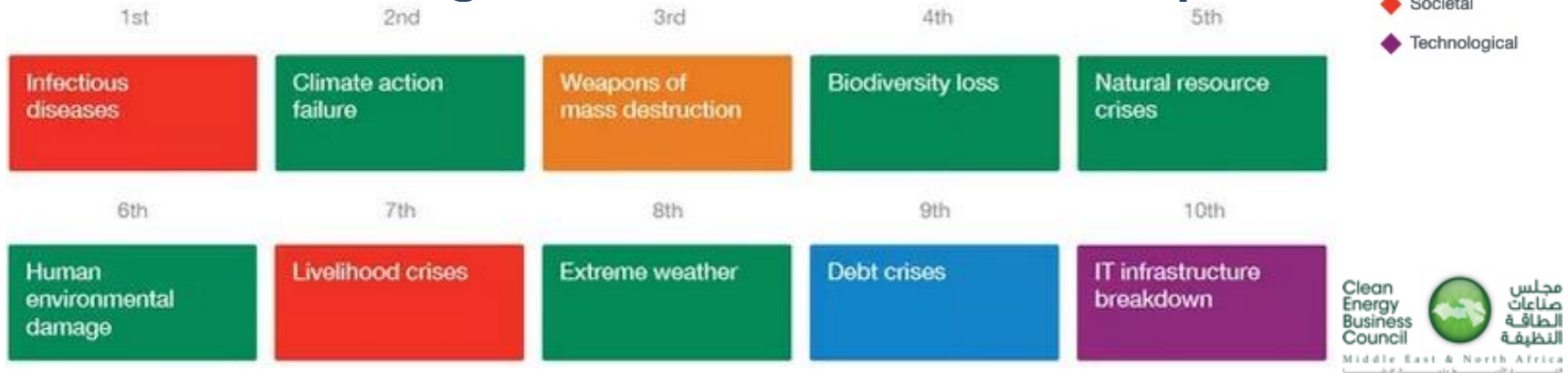
Agenda

- ❑ Climate Change: Looming Collective Global Catastrophic Risk
- ❑ Global Consequences of Climate Change
- ❑ Planning a Green Recovery post-Covid19
- ❑ Middle East's Emerging Climate Crisis & How to Adapt

Climate-related issues dominate 4 out of the top 5 long-term risks in terms of likelihood...

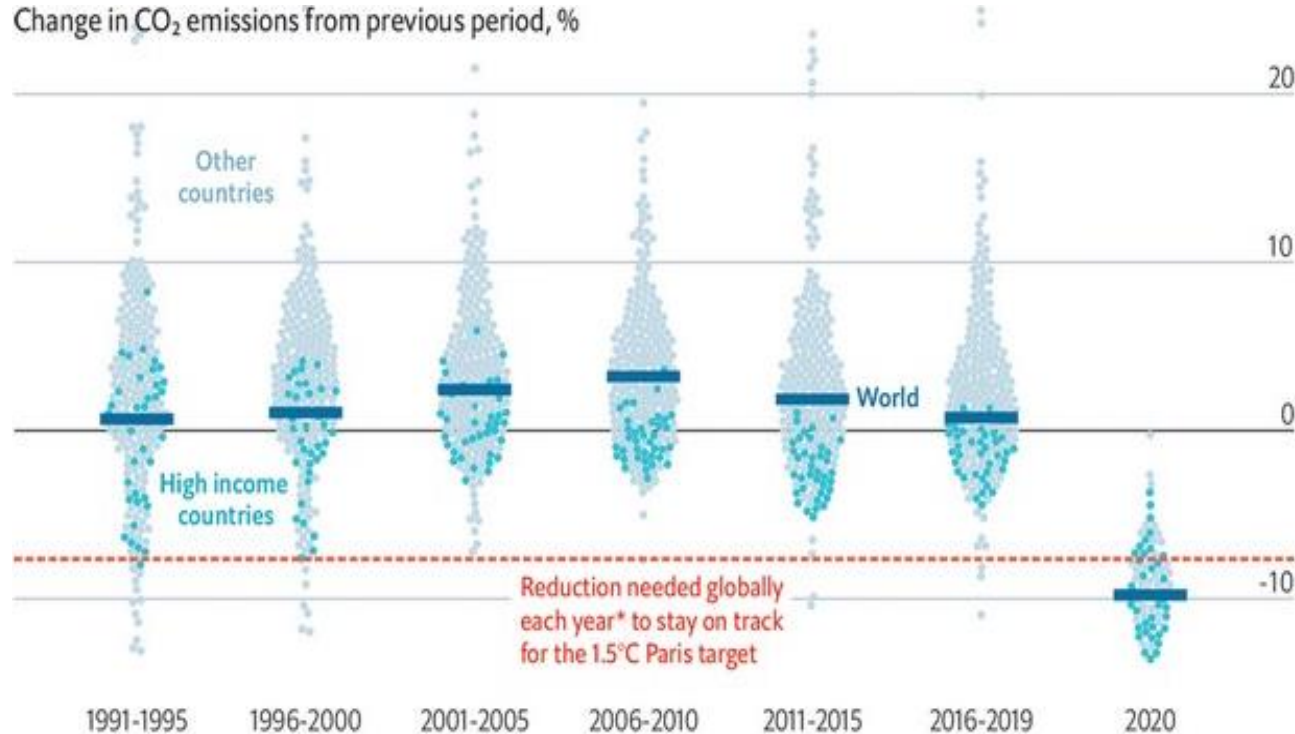


& 3 out of 5 long-term risks in terms of impact!



Carbon emissions drop in 2020: a long way to go

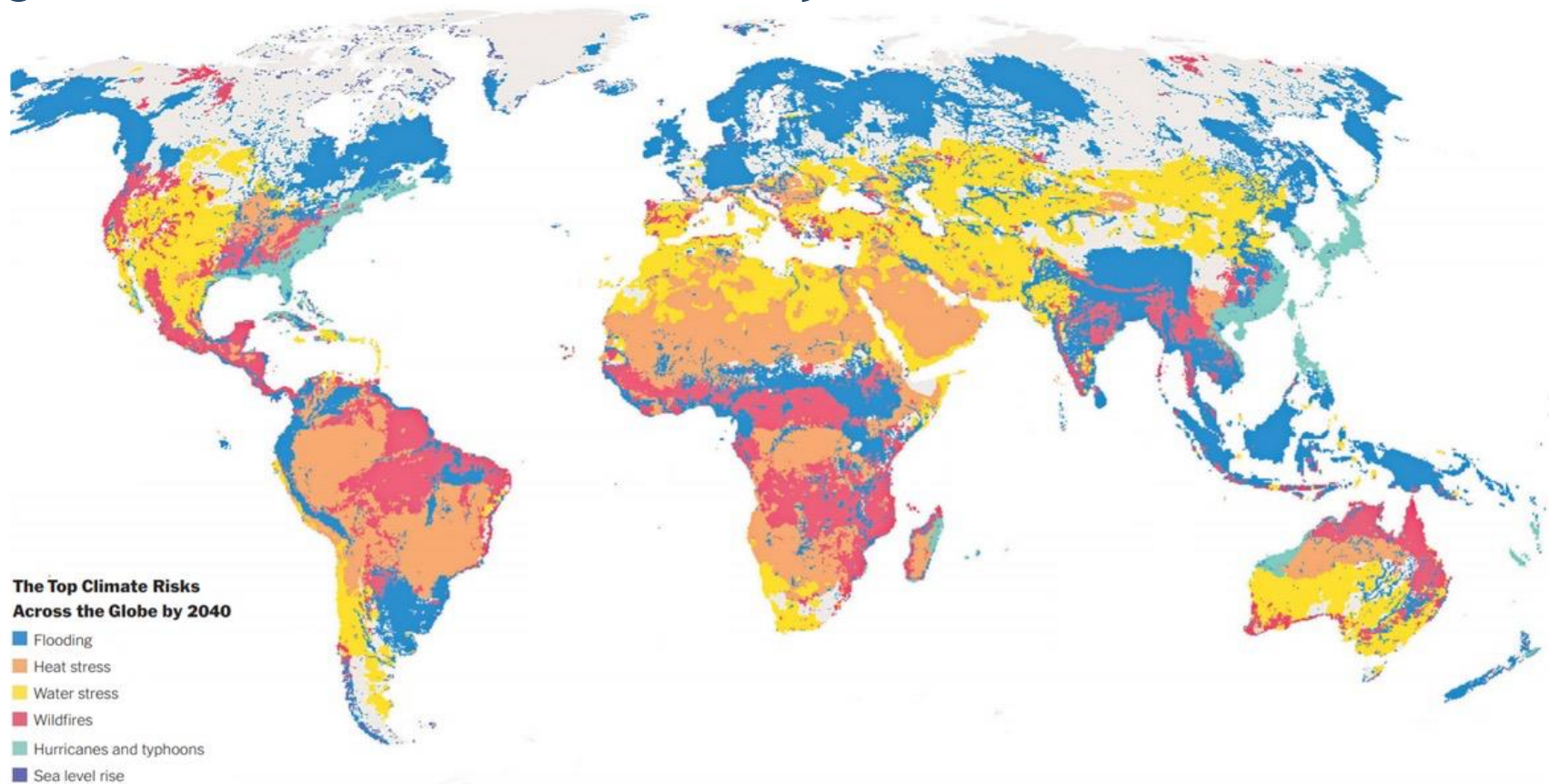
A similar drop needed every other year for a decade to meet Paris agreement's goal



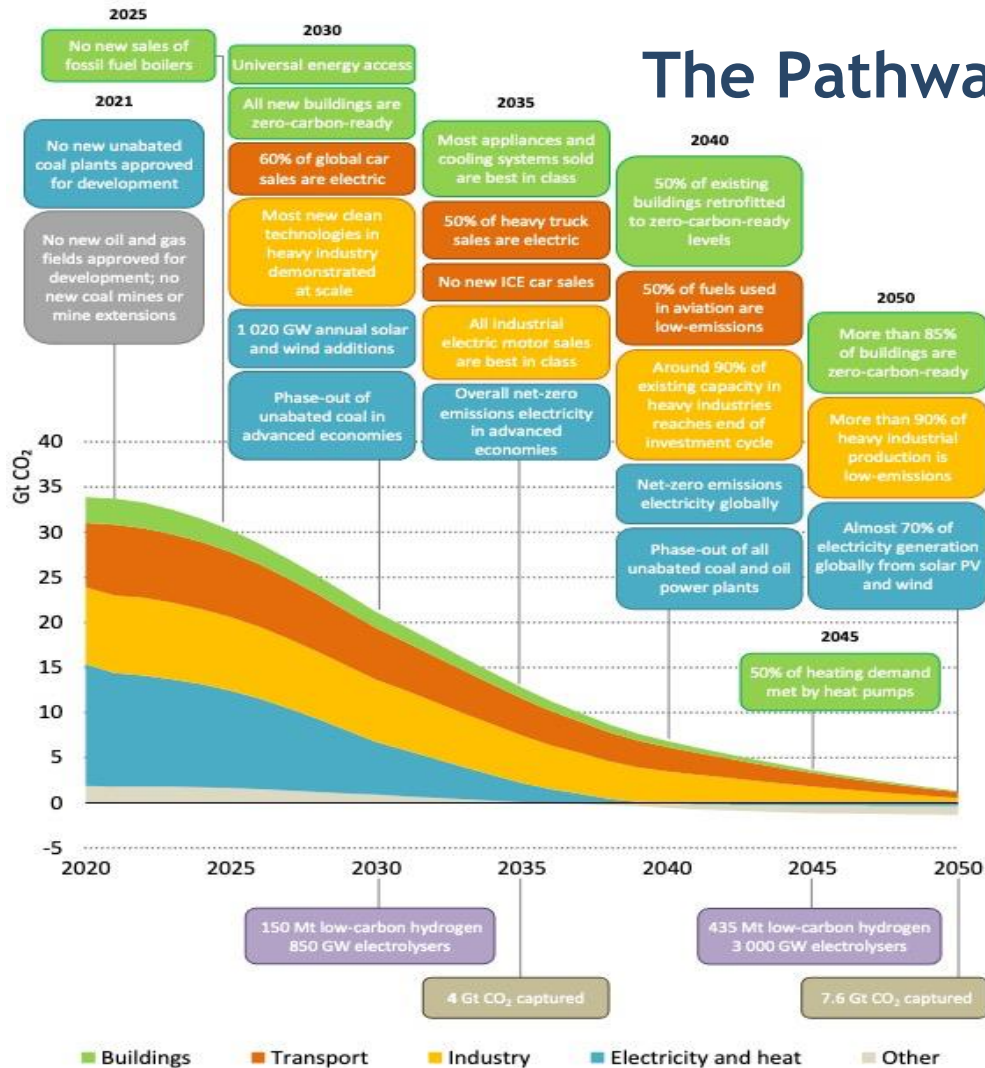
Source: Le Quéré et al., *Nature Climate Change*, 2021; Global Carbon Project; A. J. De-Gol; UNEP

Source: *The Economist* (2021) <https://www.economist.com/graphic-detail/2021/03/05/the-world-is-far-from-hitting-its-target-for-carbon-emissions>

Primary climate risks the world could face by 2040 if greenhouse-gas emissions are not cut drastically



The Pathway to Net Zero by 2050



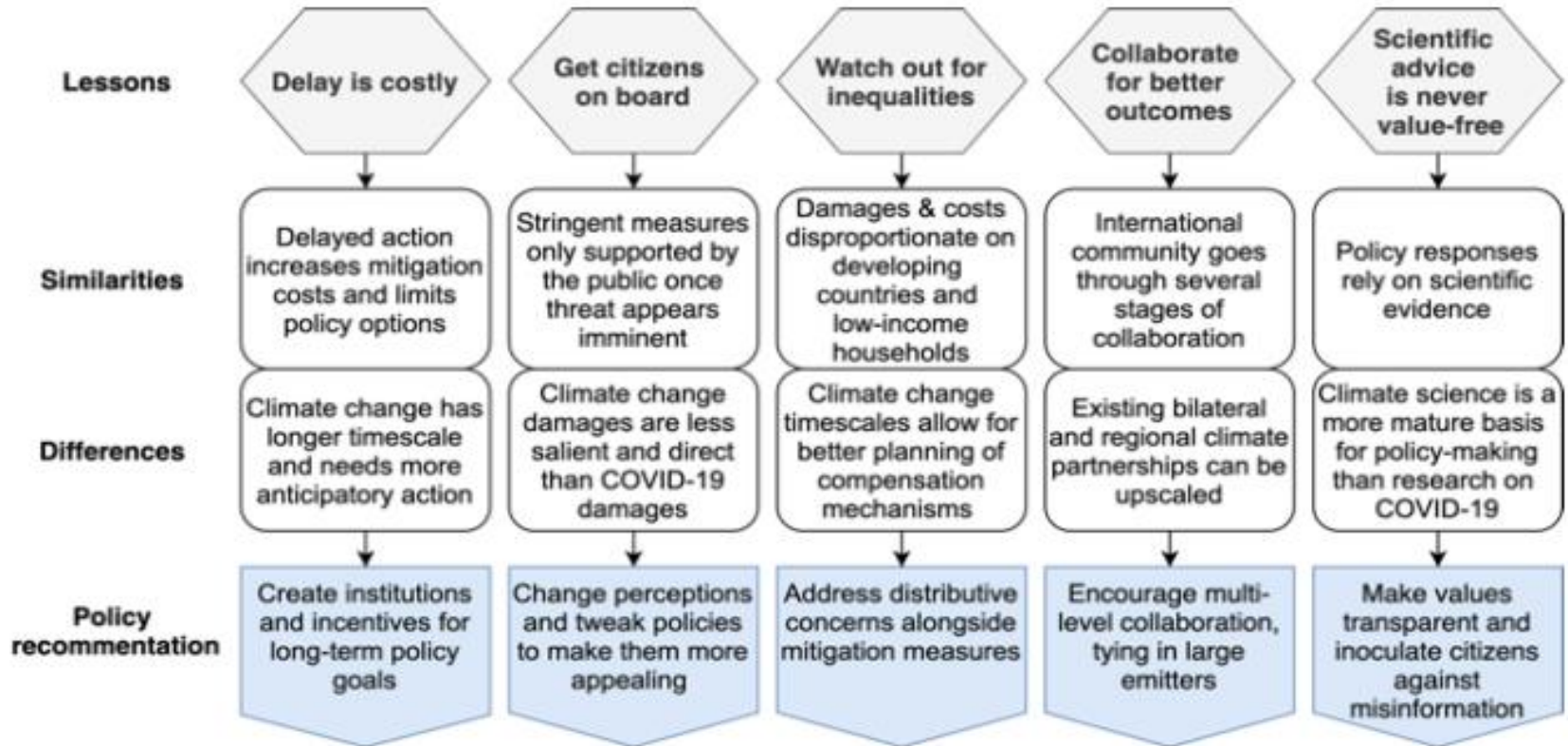
- In the IEA's net zero pathway, **global energy demand in 2050 is around 8% smaller than today**, but it serves an economy more than twice as big & a population with 2bn more people
- Net zero by 2050 hinges on an **unprecedented clean technology push to 2030**
- Biggest **innovation opportunities** concern advanced batteries, hydrogen electrolyzers and direct air capture & storage
- There is **no need for investment in new fossil fuel supply** in IEA's model
- **International co-operation is pivotal** for achieving net-zero emissions by 2050, especially on innovation and investment

Source: Net Zero by 2050: A Roadmap for the Global energy Sector, IEA (May 2021)

Can we tackle both climate change and Covid-19 recovery?



Five lessons from the COVID-19 pandemic for the future of climate change mitigation



Lord Stern's G7 Report (2021)

Shared intl vision for strong recovery & sustainable growth

- Meet stepped-up **emission reduction** commitments
- **Global target for nature** with protection of 30% of land & ocean areas by 2030
- **Collective goal to raise annual investment by 2% of GDP** above pre-pandemic levels for this decade & beyond + improve the quality of investment: invest \$1tn per year through 2030

Policies for delivery

- Commit to put a **strong price on carbon** and to **eliminating fossil-fuel subsidies** no later than the target date of 2025
- Global energy transition by **setting targets for zero-carbon power & road transport**; phase out coal generation
- Commit to a '**just transition**': protect the most vulnerable to economic losses

Finance for action

- Strengthen **international tax cooperation**
- Improve availability of consistent, comparable & **reliable info on climate-related financial risks**, inclu. by supporting mandatory disclosure
- **Collective commitment to double climate finance**, improve quality & raise proportion of grants
- **Enable multilateral devt banks to scale up support for a green recovery**, drive to net-zero emissions & climate adaptation/resilience

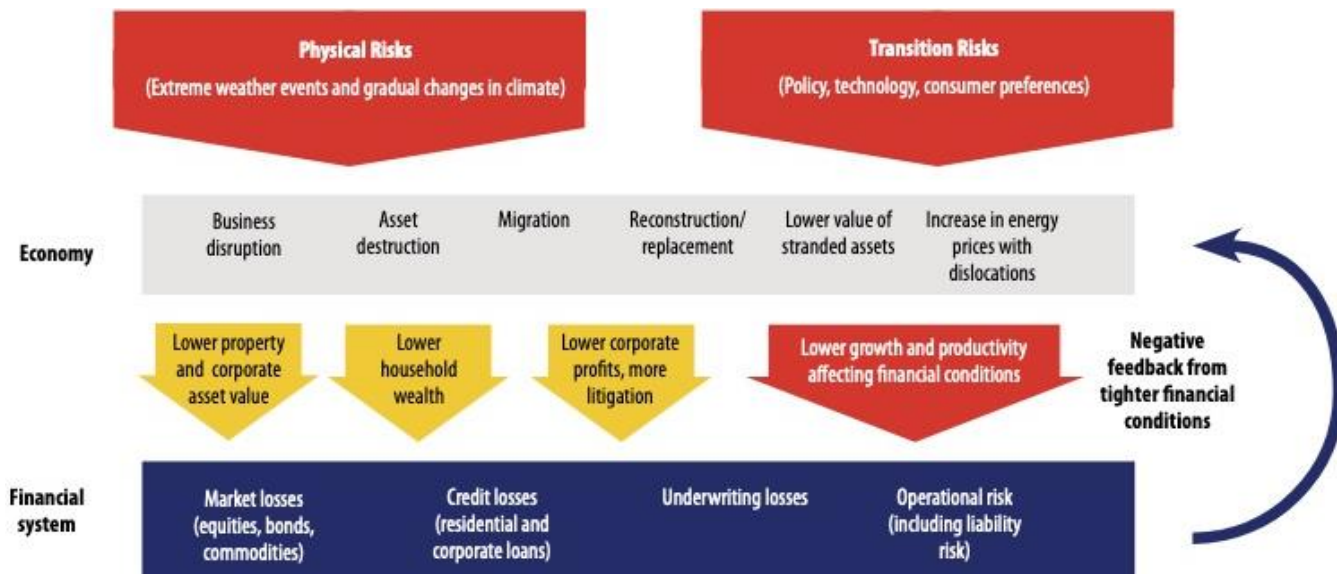
Source: Stern, N (2021) <https://www.lse.ac.uk/granthaminstitute/publication/g7-leadership-for-sustainable-resilient-and-inclusive-economic-recovery-and-growth-summary-report/>

Why is addressing Climate Change an imperative for the GCC / Middle East?

- Extreme heat & growing desertification: threat to life ecosystem
- Water scarcity (WB: climate-related water scarcity will cost the region 6 to 14% of its GDP by 2050, if not earlier).
- Widespread droughts => “Water Wars”
- Reliance on desalinated water for domestic use (large carbon footprint as the region is reliant on energy-intensive thermal desalination plants)
- Threat of rising sea levels (24 port cities at risk in MENA) + coast erosion (impact on tourism)
- Climate induced population migration & displacement
- Global energy transition: Oil producers face threat of stranded assets

Climate Change & Financial Risk

- There is a consensus across international organizations regarding the massive need to address climate change. **Delayed responses get disproportionately more expensive**
- But, **measuring economic costs of climate change remains a work in progress**
- Need to change policy frameworks:** central banks & financial regulators are **starting to fully integrate climate risks into their prudential & monetary frameworks**; next step could be to introduce natural capital into national accounting systems

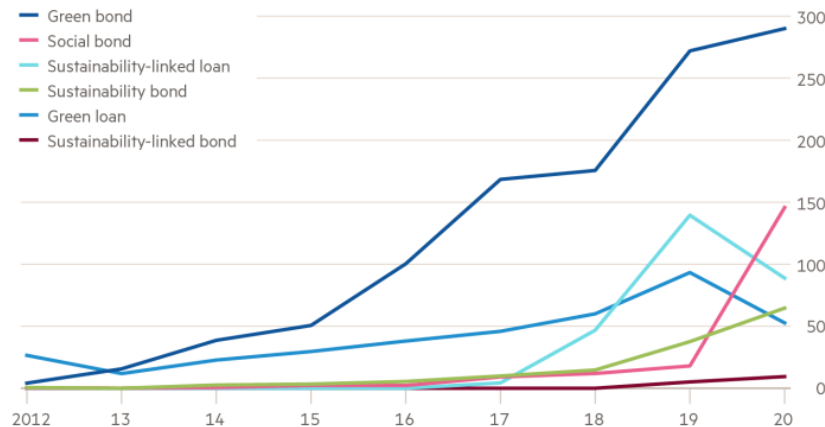


Climate finance goes mainstream

- Assets in investment funds focused partly on the environment reached ~\$2trn globally in Q1 2021, more than tripling in 3 years
- More than \$5bn worth bonds & loans designed to fund green initiatives are issued every day!
- On average about two new ESG-focused funds are launched each day
- Banks always backed fossil fuels over green projects until this year

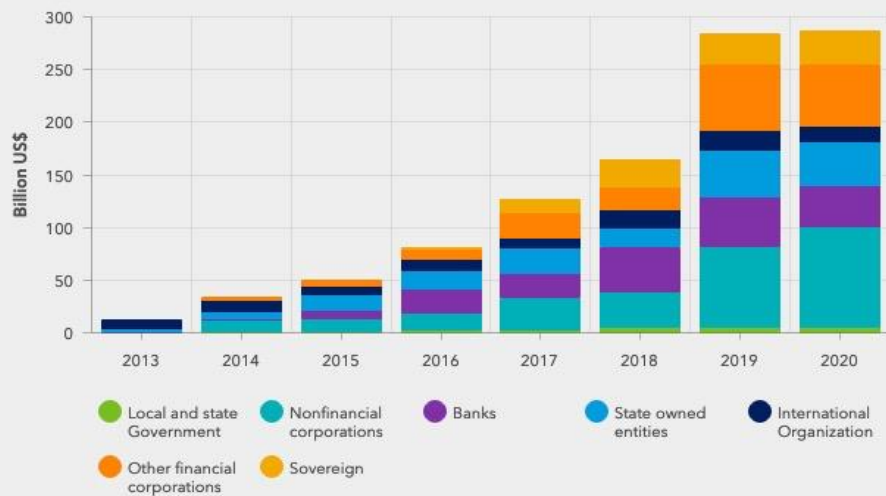
Green bonds dominate sustainable debt market

Issuance by instrument type (\$bn)









Source: Bloomberg, FT, Refinitiv, IMF

Cumulative Green Bond Issuances by Type of Issuer

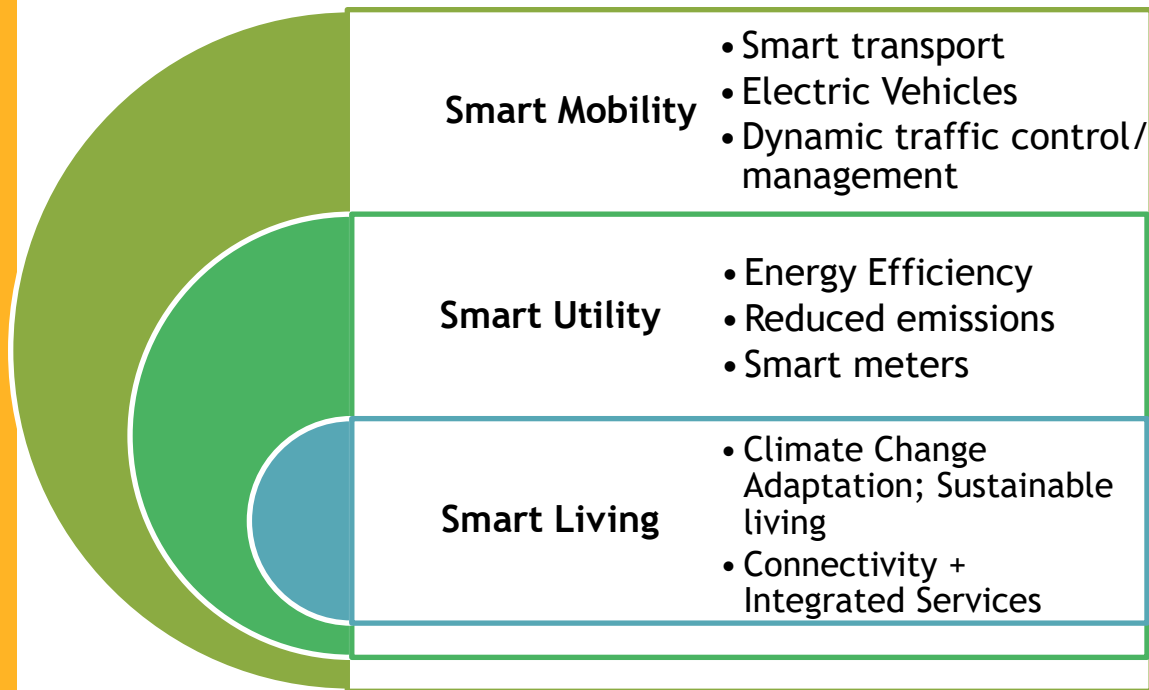


Green technologies are at various stages of development

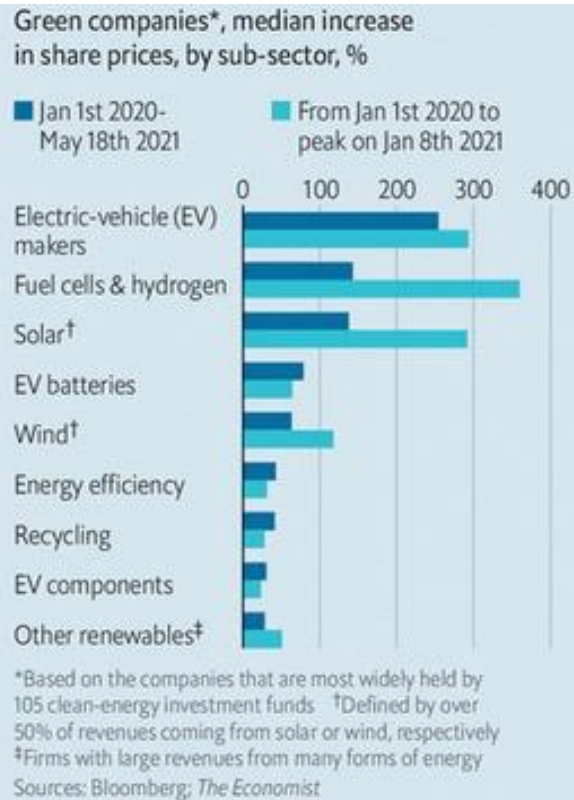
Established and emerging green technologies

	 Solar energy	 Wind energy	 Batteries	 Electric vehicles	 Carbon capture and storage	 Geoengineering
Description	The process uses the sun's rays to meet energy needs. For example, solar power converts sunlight into electricity, often through panels.	The process converts wind into energy. Wind power transforms wind into electricity. Turbines can be built onshore or offshore.	Batteries enable the uptake of renewables by allowing power to be stored during peak times for later use.	Electric vehicles (EVs) are cars and trucks powered with electricity rather than gasoline or diesel.	Carbon capture and storage (CCS) systems capture carbon dioxide emissions at the source and either dispose of them or repurpose them for other uses.	Geoengineering is the large-scale manipulation of the environment by reflecting sunlight back into space and supporting carbon removal processes.
Outlook	The levelized cost of electricity (LCOE) for large solar plants dropped 4 percent in six months in 2019–2020, reaching \$50 per MWh. As prices continue falling, adoption will likely surge.	Onshore wind is one of the world's cheapest energy sources, with LCOE averaging \$44 per MWh. Offshore wind prices are almost double that but poised to taper down.	As prices continue falling and renewables proliferate, demand will likely remain high in the years to come.	More automakers are adding EVs to their fleets, and regions such as the EU are mandating that a greater share of vehicles be electric, too.	CCS is not as established as renewables and EVs, so it remains costly. Projects are under way, but more progress is needed to meet the COP21 climate goals.	The field is unproven, but China has invested \$3 million in research, and the United States has set aside \$4 million. One US university research program raised \$16 million from private sources.

Mobility & Energy Efficiency support Smart Cities & Infrastructure => Investing in clean energy



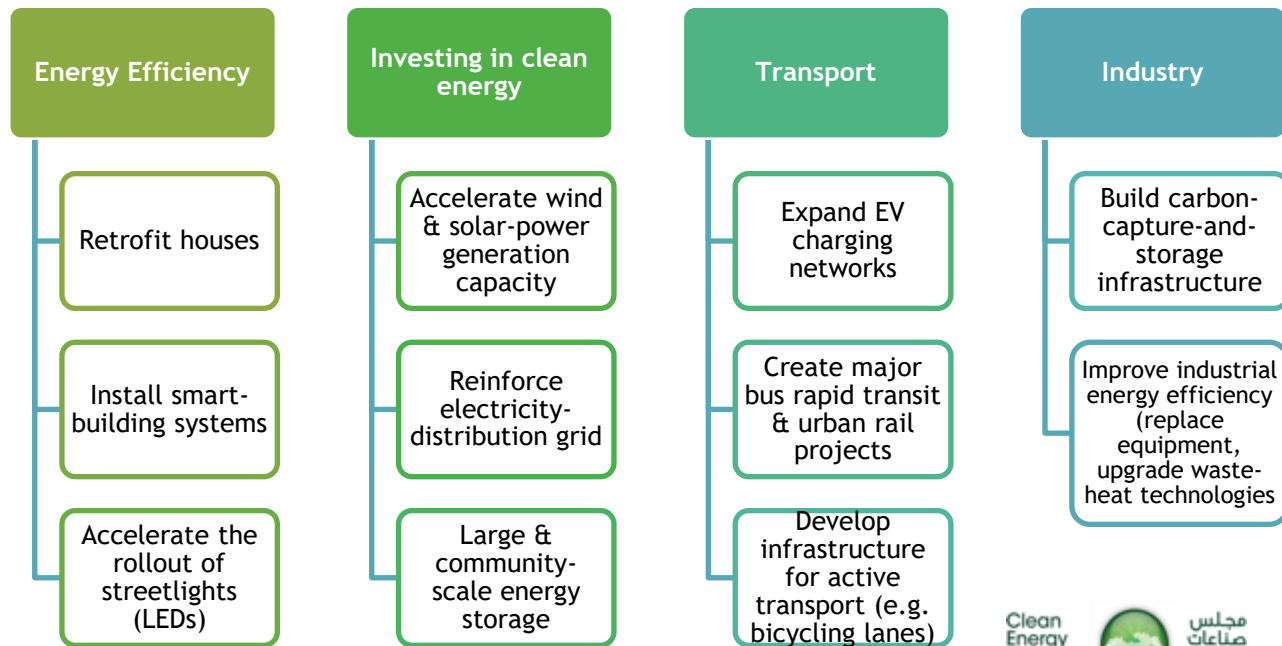
A Green Exuberance



An inclusive, green post-Covid19 recovery

- Every \$ invested in building climate resilience could result in b/n \$2 and \$10 in **net economic benefits** (*Global Commission on Adaptation*)
- Several governments have integrated climate and economic goals into their COVID economic recovery packages; Europe is leading the way.

A few feasible stimulus measures w/ strong socioeconomic benefits (including multiregional job creation) & decarbonization effects



How can MENA Adapt? Small steps to begin addressing climate change risk

Policy & Institutional

- Elimination of subsidies
- Widespread use of clean energy & clean technology
- Undertake national climate change risk assessment => build capacity for climate change & risk mitigation
- E-transport systems
- Adopt a Zero Net Emissions Policy
- Unified regional standards to remove barriers to trade & investment

Financing

- Low-carbon transition policies
- Introduce carbon taxes = revenue + raise energy efficiency + fund decarbonization strategies
- Mandatory disclosures as part of regulations & and as part of climate risk pricing for banks/ financial markets
- Support for small-scale players & installations
- Facilitate New Energy Financing (green and blue bonds & sukuk)
- Develop Green Banks to fund private sector (energy efficiency to retrofitting, to climate risk mitigation investments)

Adopt innovations

- Energy storage
- Implement Blockchain (for power/ grid chain) & AI to increase efficiency
- Explore new avenues: hydrogen (UAE, Oman, KSA)

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