2017 Forum of the Standing Committee on Finance "Mobilizing Finance for Climate Change and Resilient Infrastructure"

Dr. Paul Oquist Kelley

Minister

Private Secretary for National Policies

Presidency of the Republic

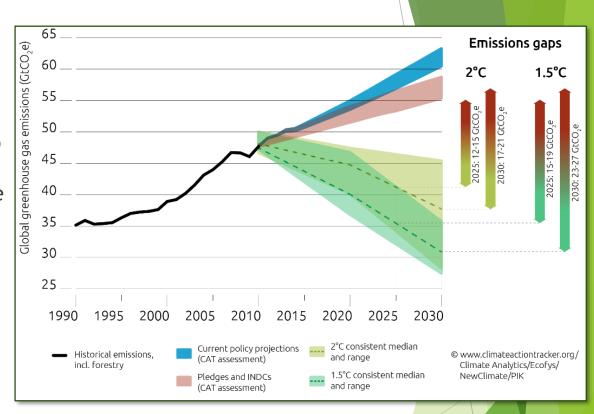
Nicaragua

Rabat, Morocco 6-7 September 2017

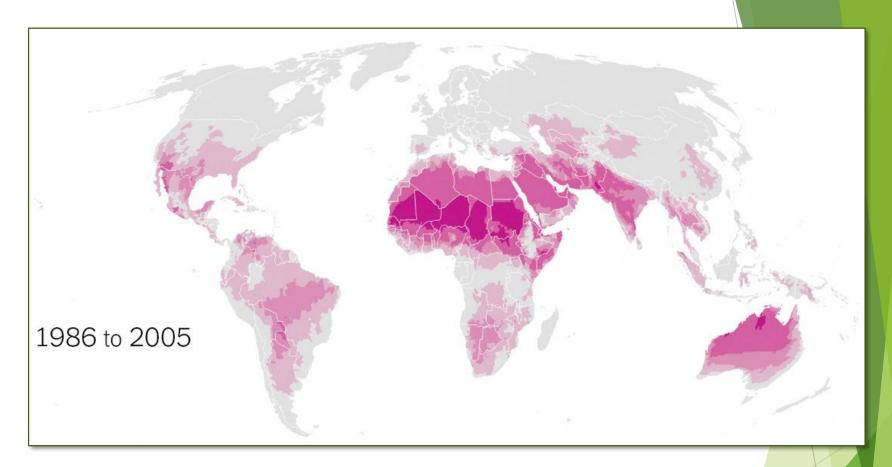
Paris Agreement Objective

"To keep the world average temperature rise well below 2° C above pre - industrial levels, and to continue efforts to limit that temperature rise to 1.5° C from pre - industrial levels, recognizing that this would significantly reduce the risks and effects of climate change."

(Article 2.1.a)



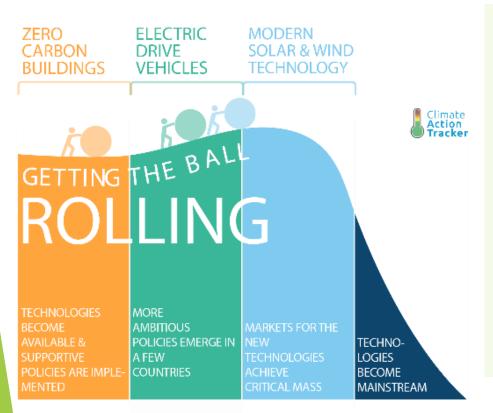
The 2015 INDC commitments take us to a 2.7°C to 3.5°C range worldwide. This represents increases of 4°C to 6°C in the tropics, deserts and artic regions.



Global warming with Paris Agreement.

Source: The New York Times, 2017, based on an analysis of Climate Impact Lab.

According to a report by Carbon Tracker (London), the Climate Action Tracker consortium, the Potsdam Institute for Climate Impact Research (Germany) and Yale University in New Haven (Connecticut)



- If emissions continue to rise beyond 2020, or even remain level, the temperature targets set in Paris become virtually unattainable.
- Significant climate action must be undertaken now, the coming decade will be too late.
- The United Nations
 Sustainable Development
 Goals agreed in 2015 would
 also be in grave danger.

A roadmap for rapid decarbonization

Johan Rockström, Owen Gaffney, Joeri Rogelj, Malte Meinshausen, Nebojsa Nakicenovic, Hans Joachim Schellnhuber

Science Magazine, March 2017



CLIMATE POLIC

A roadmap for rapid decarbonization

Emissions inevitably approach zero with a "carbon law"

hy Johan Rockström, "Owen Gaffney," Joeri Rogelj, 34 Malte Meinshausen, 54 Nebojsa Nakicenovic, "Hans Joachim Schellnhuber."

are aligned with science (2) and can, in principle, be technically and economically achieved (3), alarming inconsisencies remain between science-based targets and national commitments. Despite progress during the 2016 Marrakech climate negotiations, long-term goals can be trumped by political short-termism. Following the Agreement, which became international law earlier than expected, several countries published mid-century decarbonization strategies, with more due soon. (4) and scenarios often struggle to capture transformative change and the dynamics associated with it: disruption, innovation, and nonlinear change in human behavior. For example, in just 2 years, China's coal use swung from 3.7% growth in 2013 to a decline of 3.7% in 2015 (5). To harness these dynamics and to calibrate for short-term realpolitik, we pro-

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pose framing the decarbonisation challenge in terms of a global decalar randamp based on a simple heuristic—a 'varbon ise"—of babileng rows anthropogenic carbon-dissibabileng gross anthropogenic carbon-dissinational content of the carbon-dissipation of the carbon removal amounted by immediately insignated, establish carbon removal and effects to ramp down landauce OO, emissions, this can lead to netzero emissions around mid-entrary, a path homeowarts bullend wavening to well below 2°C.

The Paris goal translates into a finite planetary carbon budget: a 50% chance of limiting warming to 1.5°C by 2100 and a >66% probability of meeting the 2°C target imply that global CO, emissions peak no later than 2020, and gross emissions decline from -40 gigatons (metric) of carbon dioxide (GtCO,)/ year in 2020, to -24 by 2030, -14 by 2040, and -5 by 2050 (3) (see the figure, top). Risks could be further reduced by moderately increasing ambition to halve emissions every decade (see the figure, bottom right). Following such a global carbon law means at least limiting cumulative total CO2 emissions from 2017 until the end of the century to -700 GtCO,, which allows for a small but ssential contingency (-125 GtCO, less compared with total CO, emissions in the pathway in the figure, top) for risks of biosphere carbon feedbacks (6) or delay in ramping up CO,-removal technologies.

A carbon law applies to all sectors and countries at all scales and encourages bold action in the short term. It means, for example, doubling of zero-curbon shares in the energy system every 5 to 7 years, a rate conThe road to global decarbonization must involve renewable energy, as from these wind turbines in Germany, and improved transportation technologies

sistent with the trajectory of the past decade see the figure, bottom left). All sectors (e.g., agriculture, construction, finance, manufacturing, transport) need comparable transformation pathways. In addition, in the absence of viable alternatives, the world must aim at rapidly scaling up CO₂ removal by technical means from zero to at least 0.5 QtCO. Awar by 2030, 2.5 by 2040, and 5 by 2050. CO, emissions from land-use must decrease along a nonlinear trajectory from 4 GtCO./year in 2010, to 2 by 2030, 1 by 2040, and 0 by 2050 (see the figure, bottom right). The endgame is for cumulative CO₃ emissions since 2017 to be brought back from around 700 GtCO, to below 200 GtCO, by the end of the century (see the figure, top) and atmospheric CO₁ concentrations to return to 380 ppm by 2100 (currently at 400 ppm).

Roadmaps are planning instruments, link ing shorter-term targets to longer-term goals. They help align actors and organizations to in stigate technological and institutional breakthroughs to meet a collective challenge. An explicit carbon roadmap for halving anthro pogenic emissions every decade, codesigned by and for all industry sectors, could help promote disruptive, nonlinear technological advances toward a zero-emissions world. The key to such a carbon law will be a dual strategy that pushes renewables and other zeroemissions technologies up the creation and dissemination trajectory, while simultaneously nolling fossil-based value propositions from the market. Thus, the transformation unfolds at a pace governed by novel schemes rather than by inertia imposed by incumbent

technologies (see the figure, bottom left). We sketch out a broad decadal decaronization narrative in four dimensionsinnovation institutions, infrastructures, and investment-to provide evidence of feasibility stay on a carbon-law trajectory. The narrative provides no guarantees but identifies crucial steps, grounded in published scenarios com bined with expert judgment, Each step has two parts: actions for rapid near-term emissions reductions, and actions for systemic and long-term impact, creating the basis for the next steps. Such a narrative, specifically designed with decadal targets and incentives could provide key elements for national and international climate strategies.

2017-2020: NO-BRAINERS Annual emissions from fossil fuels must

Annual emissions from fossil fuels must start falling by 2020. Well-proven (and ideally income-neutral) policy instruments such as carbon tax schemes, cap-and-trade

- Global emissions should be cut in half every 10 years from 2020, starting from the current 41 Gt, so that zero emissions are reached in 2050
- Transforming the global hydrocarbondependent infrastructure, for a new sustainable and environmentally friendly infrastructure
- Reducing emissions from land-use change, increasing carbon sinks through processes of massive reforestation on degraded lands, conservation of forests and reserves for natural regeneration, as well as bioengineering processes for carbon sequestration
- This alternative would give us a 50% chance of limiting warming to 1.5 °C by 2100 and a 66% chance of reaching the 2 °C target, as long as global CO2 emissions reach the peak no more than 2020.

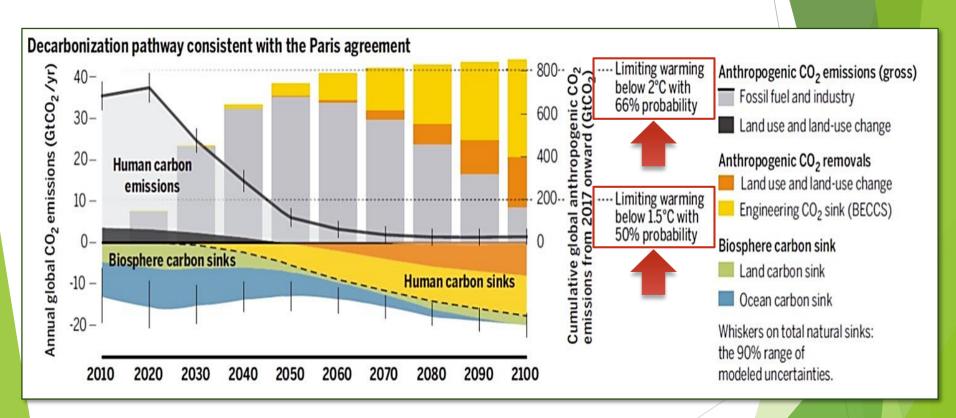
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Three years to safeguard our climate

Christiana Figueres, Hans Johan Schellnhuber, Gail Whiteman, Johan Rockström, Anthony Hobley & Stefan Rahmstorf

Nature Magazine, June 2017



safeguard our climate

Christiana Figueres and colleagues set out a six-point plan for turning the tide of the world's carbon dioxide by 2020.

n the past three years, global emissions of carbon dioxide from the burning of fossil fuels have levelled after rising for decades. This is a sign that policies and investments in climate mitigation are starting to pay off. The United States, China and other nations are replacing coal with natural gas and boosting renewable energy sources. There is almost mous international agreement that the risks of abandoning the planet to dimute change are too great to ignore.

The technology-driven transition to lowcarbon energy is well under way, a trend that made the 2015 Paris climate agreement possible. But there is still a long way to go to lecarbonize the world economy. The political

has announced that the United States will withdraw from the Paris agreement when it is legally able to do so, in November 2020.

The year 2020 is crucially important for another reason, one that has more to do with physics than politics. When it comes to climate, timing is everything. According to an April report¹ (prepared by Carbon Tracker in London, the Climate Action Tracker consortium, the Potsdam Institute for Climate Impact Research in Germany and Yale University in New Haven, Connecticut), should emissions continue to rise beyond 2020, or even remain level, the temperature goals set in Paris become almost unattainable. The UN Stutainable Development Goals that were agreed in 2015 would also be at grave risk.

That's why we launched Mission 2020 a collaborative campaign to raise ambition and action across key sectors to bend the mhouse-gas emissions curve downwards by 2020 (www.mission2020.global).

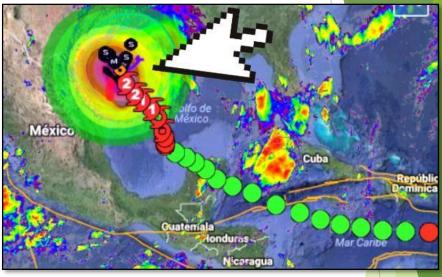
As 20 leaders of the world's largest econo mies gather on 7-8 July at the G20 summit in Hamburg, Germany, we call on them to highlight the importance of the 2020 climate turning point for greenhouse-gas emission and to demonstrate what they and others are doing to meet this challenge. Lowering emissions globally is a monumental task, but research tells us that it is necessary, desirable and achievable

After roughly 1°C of global warming driven by human activity, ice sheets in Greenland

- Endorsed by 68 other scientists and academic personalities
- When it comes to weather, time is everything
- 2020 is the limit.
- Our climate actions must be based on science and not political compromises to the lowest common carbon reduction denominator.

Natural events become extreme and more frequent

- "Unusual" behavior of Hurricane Harvey:
 - Arrived the Gulf of Mexico as a degraded tropical depression and when it touched waters of 30 ° rapidly strengthened and became category 4 Hurricane very close to land.
 - ▶ Degraded to a tropical storm, and remained stationary for a week, depositing billions of liters of water in Texas and Louisiana, causing 30 deaths and at least 32,000 people displaced.
- Simultaneously:
 - ► Monsoon rains have caused severe flooding and more than 1400 deaths and 43 million people affected in Asia.
 - ► Tropical storm Lidia has caused destruction, death and more than 2,500 climate refugees in Baja California, Mexico





Nicaragua shares this proposal



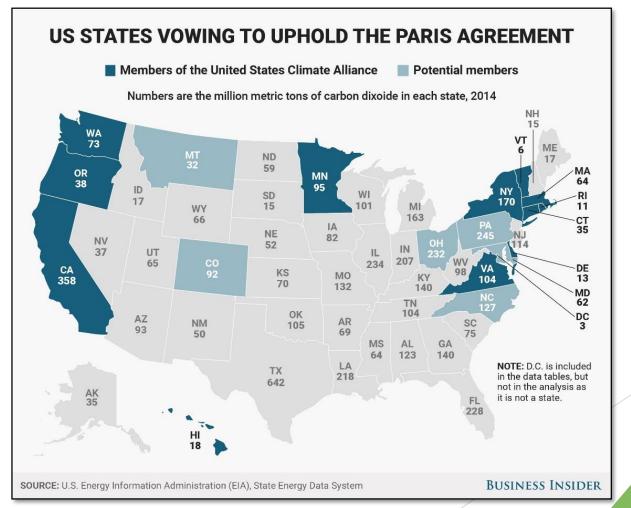
- The investments to cope with climate change that were to be made in the future, must urgently advance to the 2017-2020 window of opportunity.
 - It must start from mobilization of funds for climate mitigation, adaptation, loss and damage and infrastructure projects.

Nicaragua notes with concern that the public funds of developed countries have serious limitations



- US has announced its withdraw from the Paris Agreement.
- There is significant opposition to climate change action in the US Congress.
- Reduction of US contributions to UNFCCC, IPCC and to GCF capitalization by USD 2 billion.

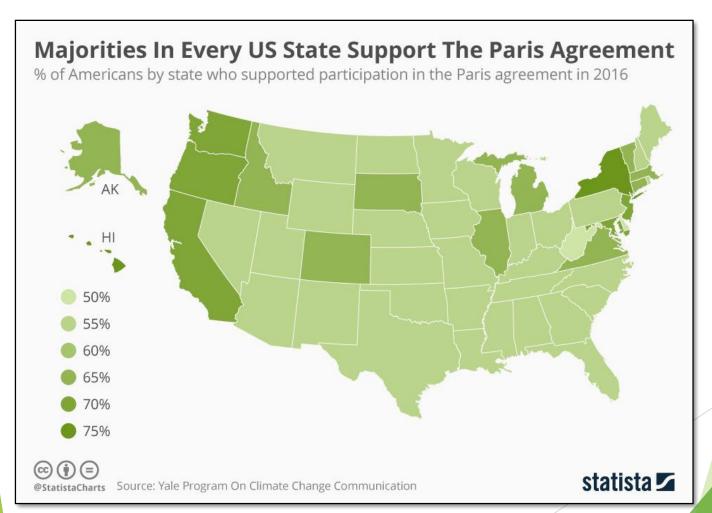
In the United States there are several states that have publicly committed to continuing to pursue their emissions reduction goals



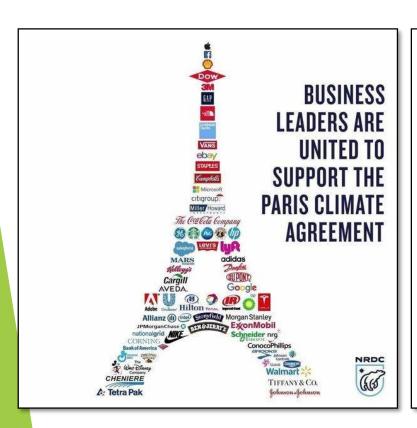
A growing number of cities will maintain their objectives of boosting renewable energies and reducing emissions



The public opinion of the United States supports these actions



Large transnational corporations and US private sector corporations support climate actions





ALTERNATIVE SOURCE OF FINANCE

CASH AVAILABILITY BY COMPANIES LISTED ON

STOCK EXCHANGES (Data as of December/2015)





United States

• US\$2.5 Trillion (S&P 500)



European Union

• US\$ 1.1 Trillion (FTSE, CAC, DAX, Others)



Japan

• US\$ 2.4 Trillion (NIKKEI)



Korea

• US\$ 0.75 Trillion (KOSPI)

The tendency is for the idle cash to increase



IDLE CASH COULD BE USED FOR:







Possible solutions to channel available funds to invest in environmentally friendly infrastructure

World Bank and Regional Banks Issue AAA Bonds



The funds go to existing windows that finance actions against climate change





















Bonds issuing banks windows

Negotiations...



Investments must be done in projects and infrastructure with a clear content of climate change, such as:

Renewable Energies



Sustainable transportation



Energy efficiency



Reforestation



Potable Water



In Nicaragua, a small developing country, we do invest in infrastructure to deal with climate change







New roads

New Bridges

Expansion of drainage systems

Directed to connect to the poorest, most vulnerable and isolated areas with the rest of the country



Hospitals



Early warning systems for natural disasters



The global economy is not being stimulated by these funds

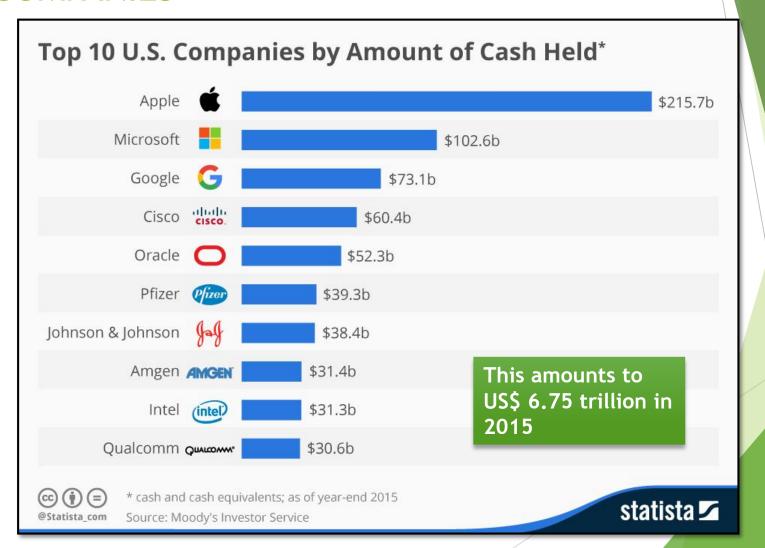




World Bank President Jim Yong Kim and IMF Director General Christine Lagarde have stated that Central Banks have done more or less all they can to stimulate the economy and that other sectors and stakeholders should be involved.

The idle corporate funds are a potential stimulus that would also reduce inequality a bit and finance climate projects and infrastructure.

AVAILABILITY OF CASH 10 LARGEST UNITED STATES COMPANIES



Other companies... Japan

Toyota Motor Corp.



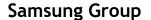
Nissan Motor Co.



Honda Motor Co.



Other companies... South Korea













LG

POSCO

Lotte











Other companies... Europe



Volkswagen













Daimler