

From local to global fight for limiting warming at 1.5°C: the role of NAZCA pledges

Valentino Piana

*Director of the Economics Web Institute
www.accordodiparigi.it*



2016 Conference of the
Italian Society for Climate Sciences
Cagliari, 19 Ottobre 2016

Valentino Piana

- Economist and international consultant.
- Lead author of the book “Innovative economic policies for climate change mitigation”.
- Key Italian expert of the Paris Agreement and local / sectoral action, including eco-neighbourhoods, electric mobility, urban regeneration.
- Nominated to the IPCC Scoping Meeting on the Special Report on 1.5°C, although finally not shortlisted.
- Selected participant to the key Oxford 2016 conference on 1.5°C.



THANK YOU

TO EVERYONE WHO HELPED MAKE '1.5 DEGREES: MEETING THE
CHALLENGES OF THE PARIS AGREEMENT' A SUCCESS

Why 1.5°C is crucial

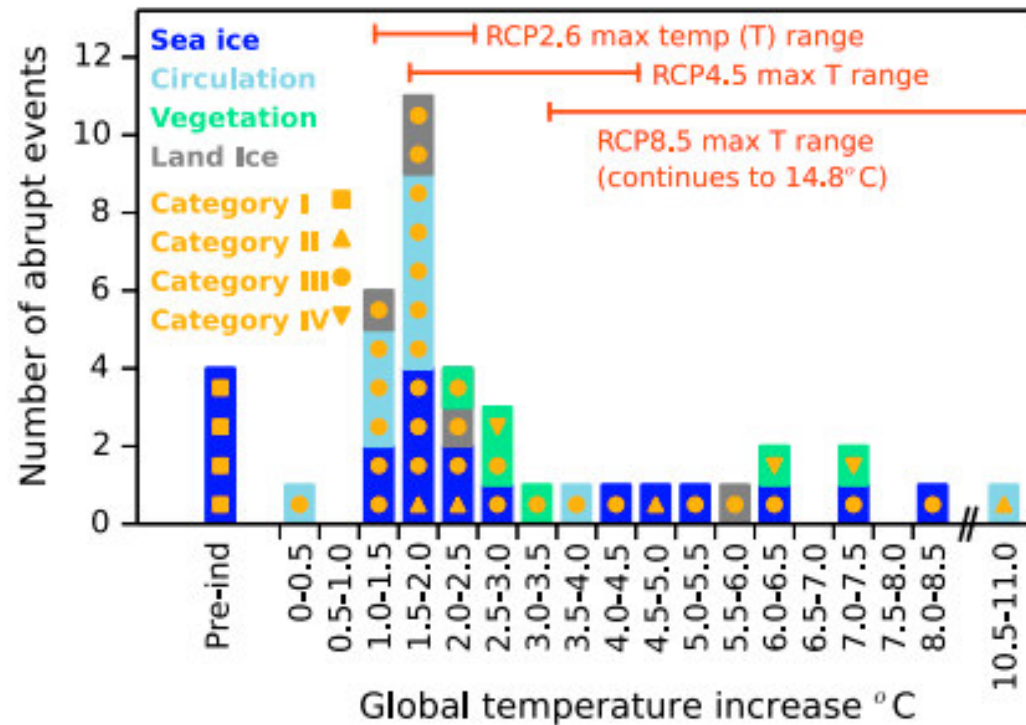


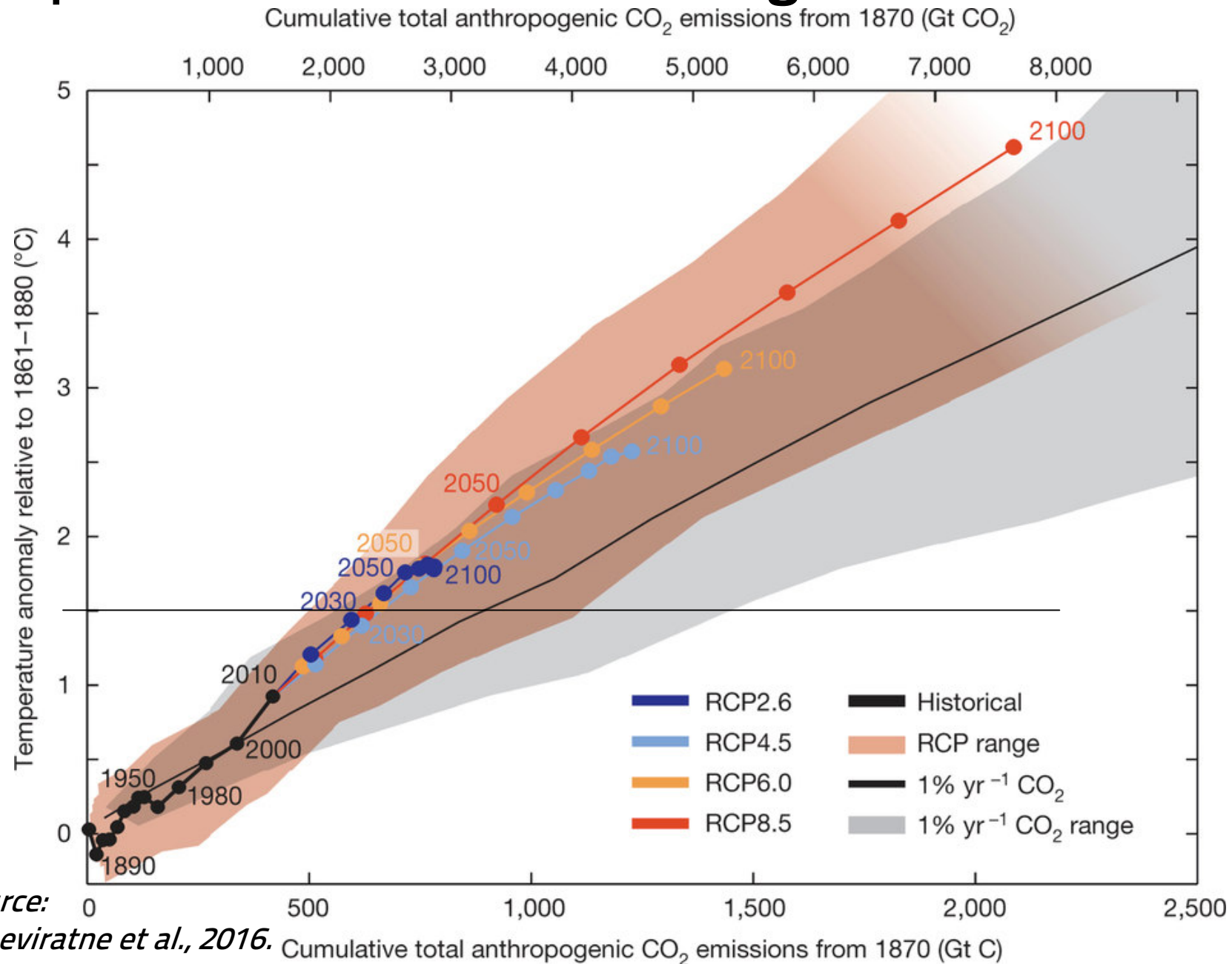
Fig. 4. Abrupt shifts as a function of global temperature increase. Shown are the number of abrupt climate changes occurring in the CMIP5 database for different intervals of warming relative to the preindustrial climate.

37 abrupt shifts in climate system identified in CMIP5 models including biome changes, permafrost loss, ocean circulation changes, sea-ice snow and glacier loss

20% of thresholds of abrupt shifts crossed for 1.5°C compared to 50% at 2°C

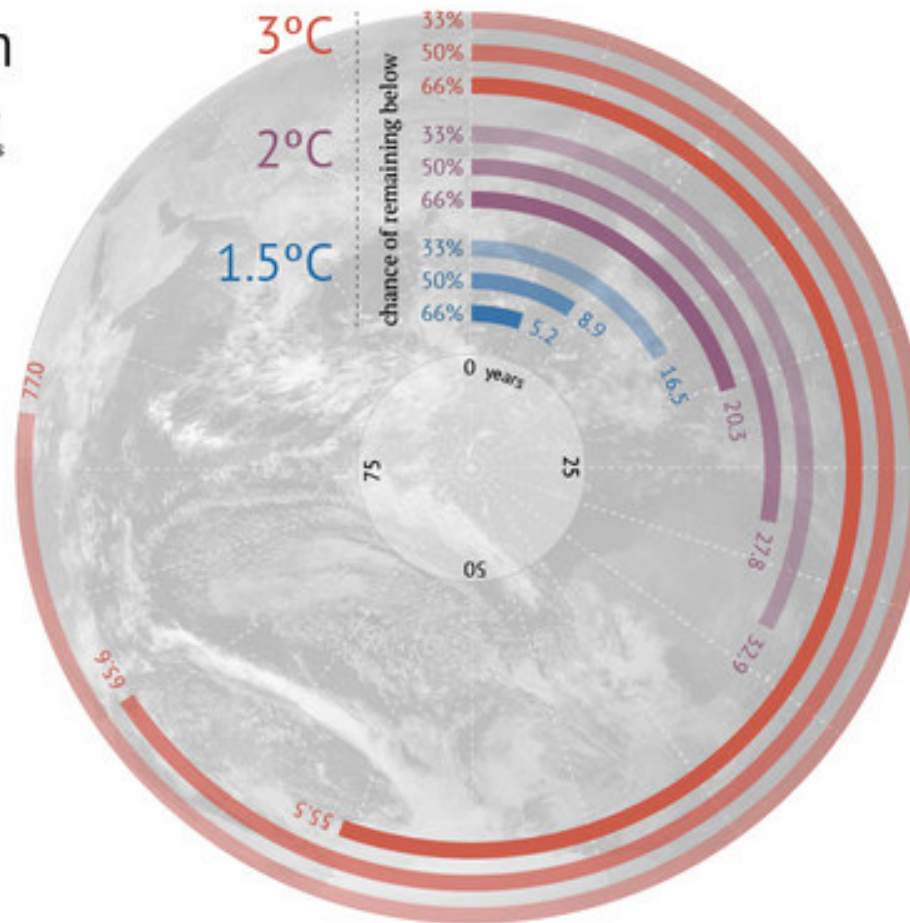
Source: Drijfhout et al., 2016; Schleussner, 2016a.
For Italy see Schleussner, 2016b.

Temperature and carbon budgets



Carbon Countdown

How many years of current emissions would use up the IPCC's carbon budgets for different levels of warming?



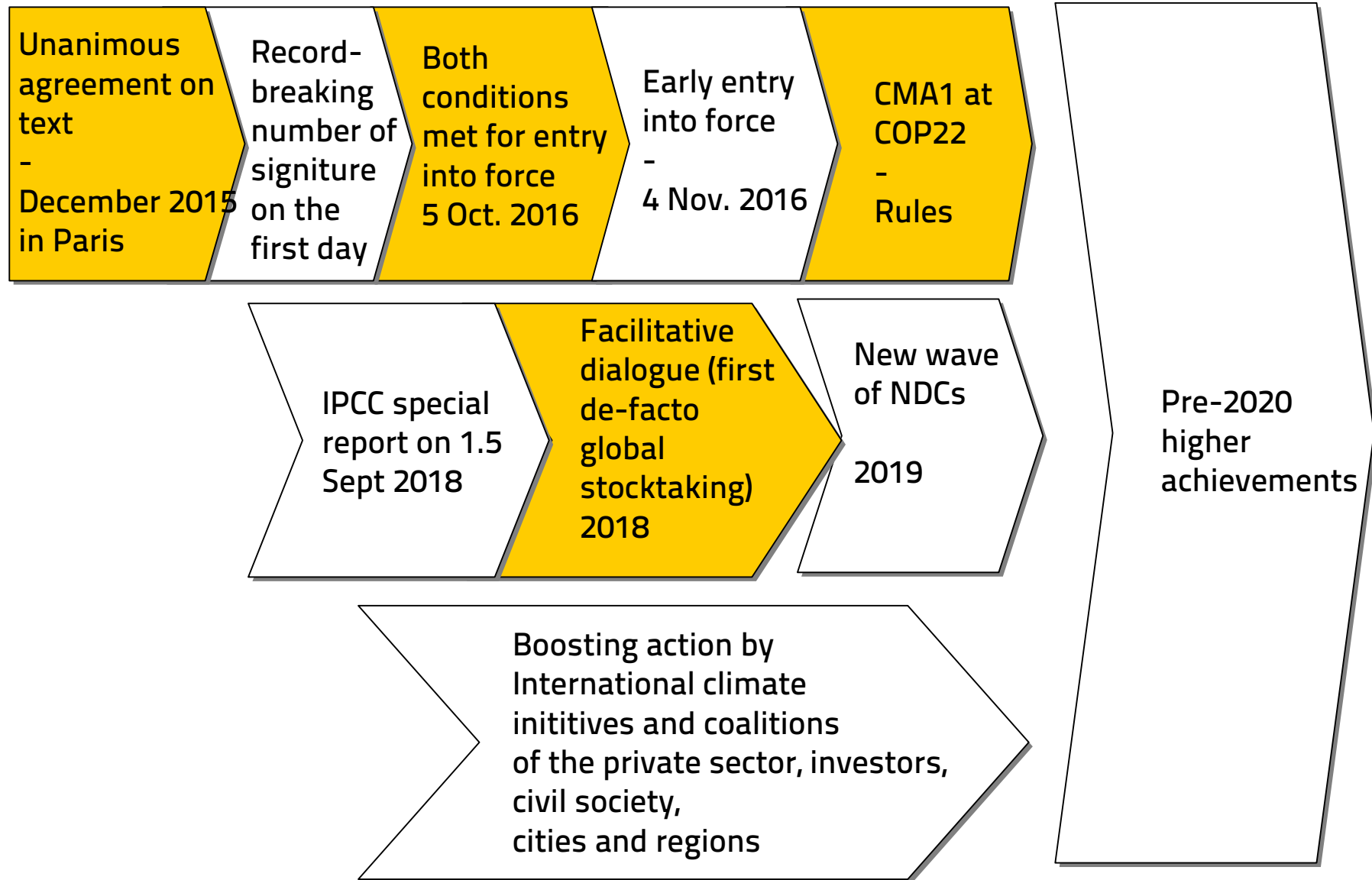
CarbonBrief
CLEAR ON CLIMATE

Photo credit: NASA, Goddard Space Flight Center
Stopwatch icon: T-Kot/Shutterstock.com

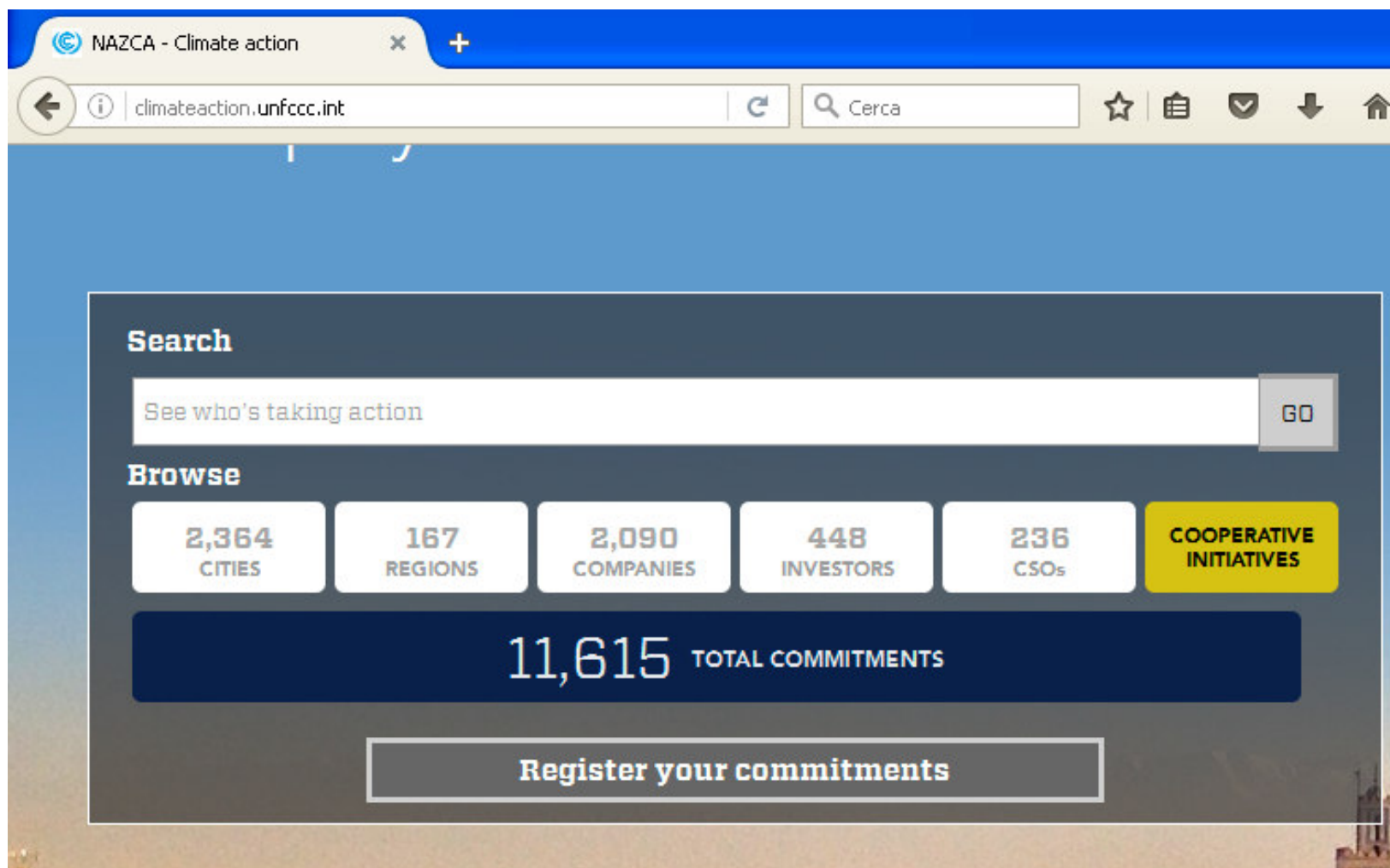
May, 2016: we have 5 year and something of current emissions before crashing into the 1.5C carbon budget (66%).

Source: McSweeney and Pearce, 2016

How to use these 5 years of carbon budget



NAZCA: Non-state actor zone for climate action



Non-state actor are key to climate mobilisation and action. Further commitments encouraged. Italian cities and regions should verify how to join these efforts, including by attracting investors.

Coalitions and international initiatives



Search & browse

See who's taking action

CU

CITIES

REGIONS

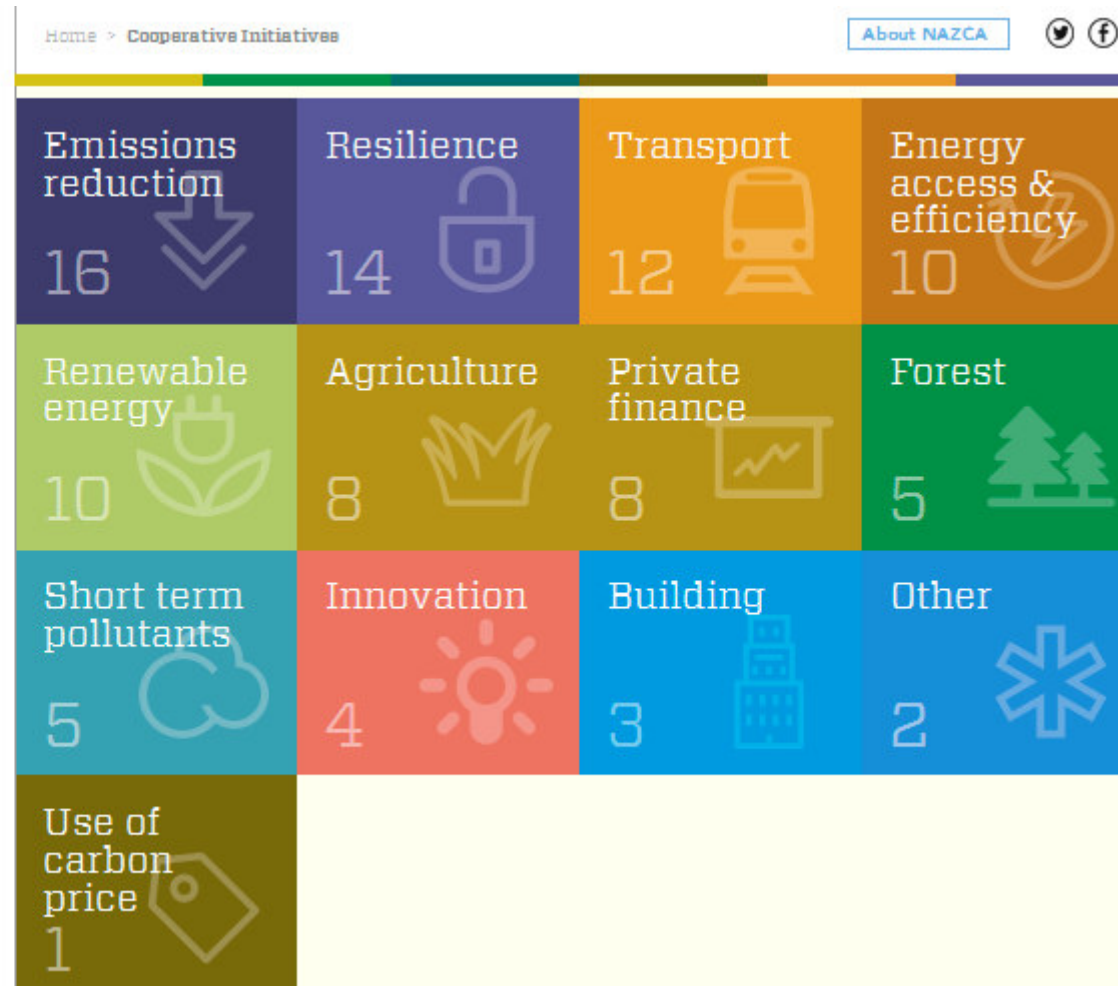
COMPANIES

INVESTORS

CSOs

COOPERATIVE
INITIATIVES

TOTAL COMMITMENTS



Carbon price just one of many fields of action.

An example: the Under 2 Memorandum of Understanding

The Under 2 brings together states and regions willing to commit to reducing their greenhouse gas emissions.

Reasons for "Under 2"

The Subnational Global Climate Leadership MOU is nicknamed the Under 2 MOU in reference to:

The goal of limiting warming to below 2°C, which the Intergovernmental Panel on Climate Change (IPCC) scientists say is needed to avoid dangerous consequences.

The Under 2 Coalition's shared goal of limiting greenhouse gas emissions to 2 tons per capita, or 80-95% below 1990 level by 2050.

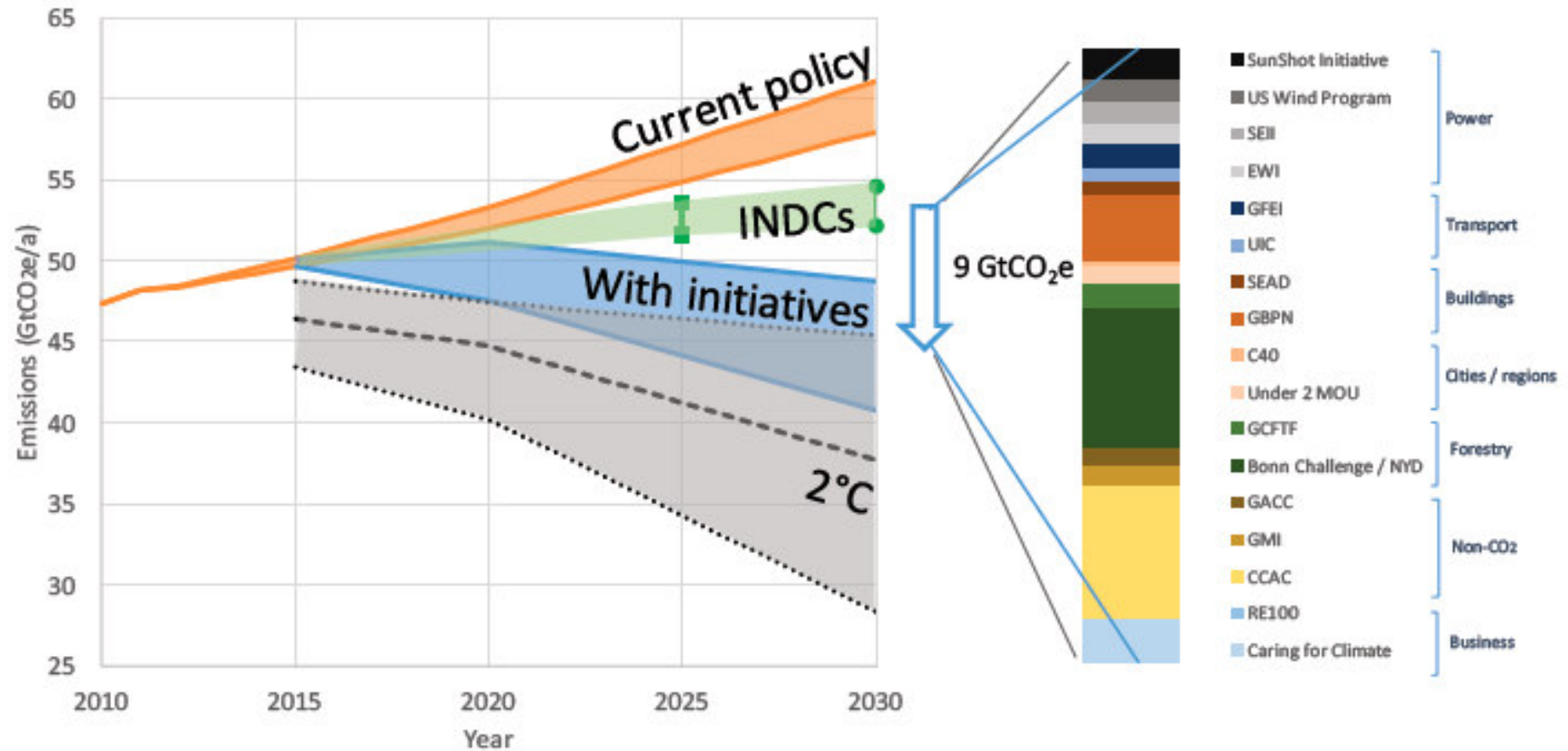
UNDER 2° SECRETARIAT THE CLIMATE GROUP

136 jurisdictions
from 32 countries
and 6 continents

HAVE SIGNED OR ENDORSED THE UNDER 2 MOU

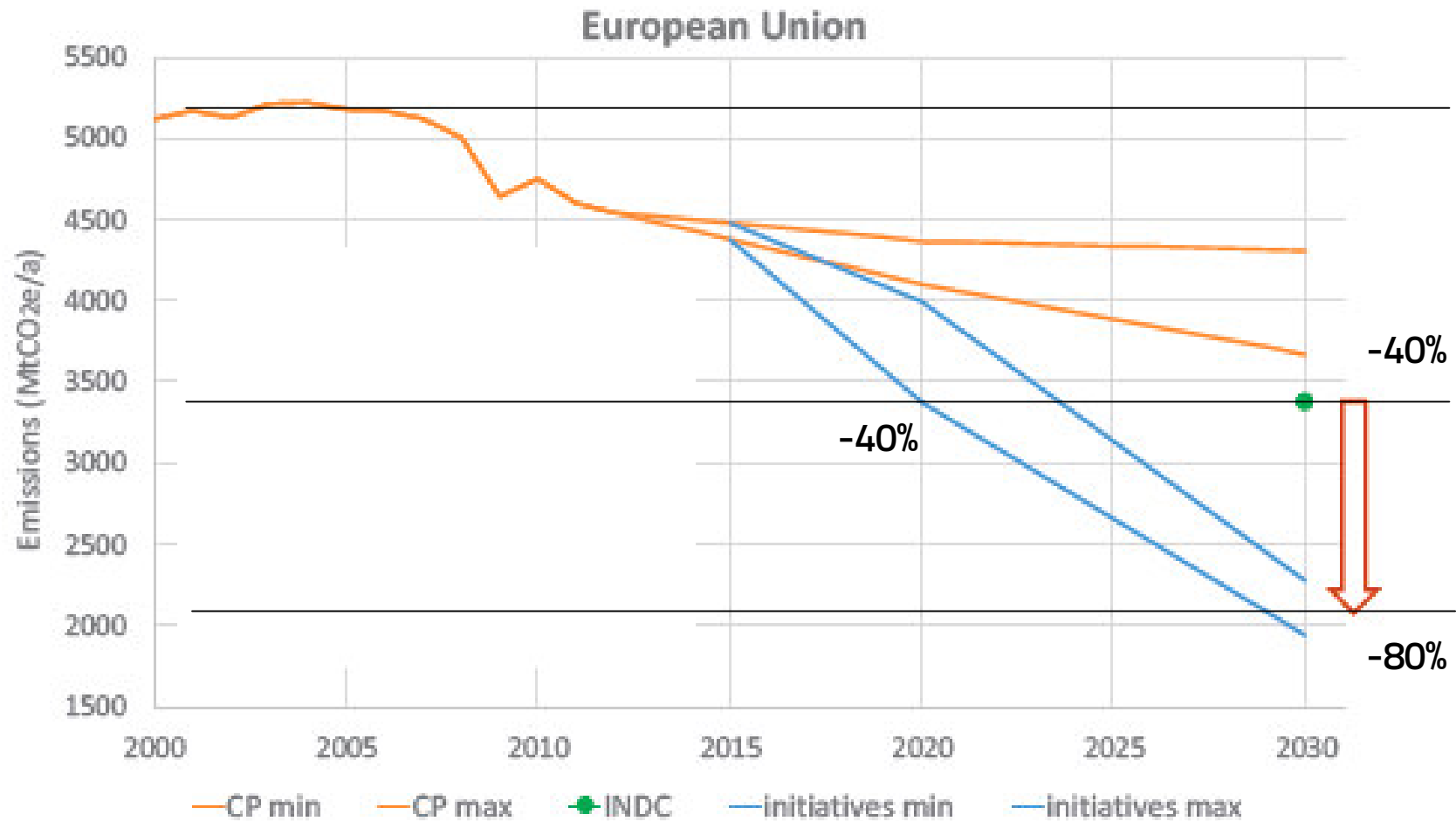
To find out more visit: Under2MOU.org

Their impacts



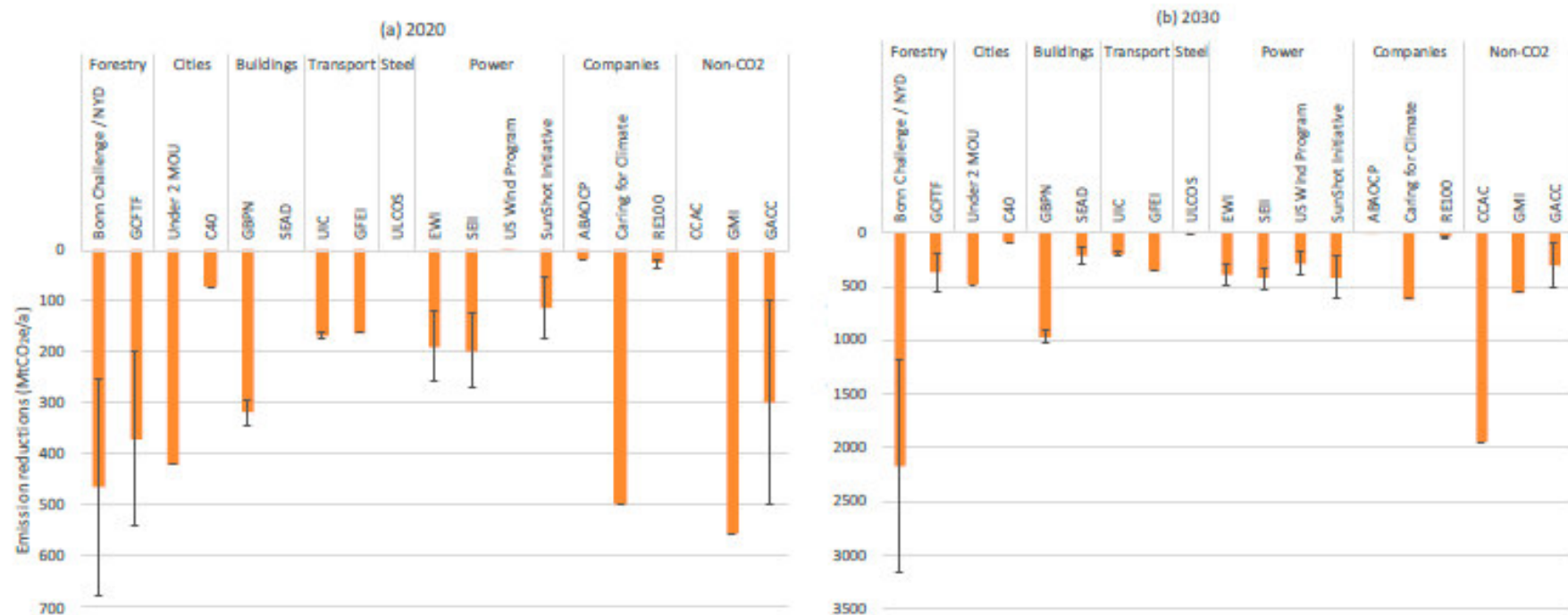
Source: Höhne et al. 2016

Much deeper cuts than official INDC



Source: Höhne et al. 2016

Figure 5: Global potential impact of the quantified initiatives in 2020 and 2030



Cities

C40 Cities Climate Leadership Group (C40)

global

Carbomm Cities Climate Registry (cCCR)

global

Clean Air Asia

Asia and the Pacific

Climate Alliance

global

Covenant of Mayors

Western Europe/ Eastern Europe

Under 2 MOU

global

District Energy Accelerator

global

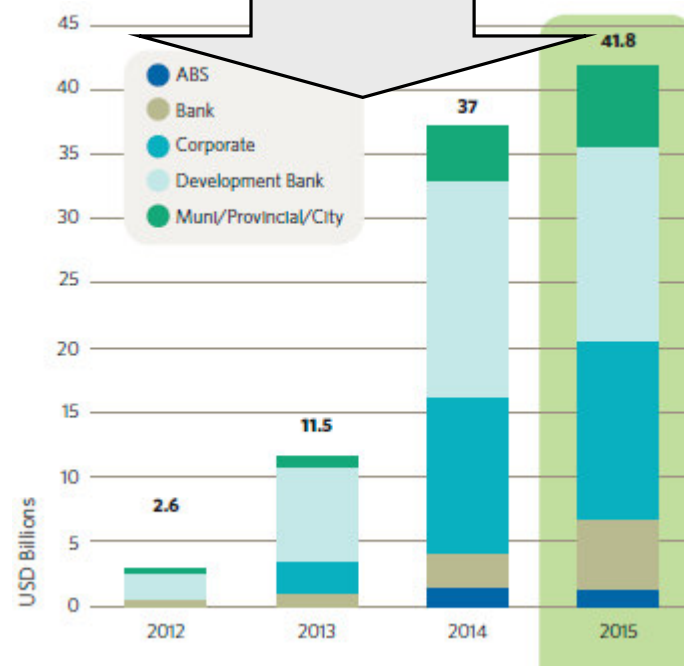
*Source:
Höhne
et al. 2016*

A green bond to fund Sustainable Action Plans

Covenants of Mayors +
Compact of Mayors =
Global Covenant of Mayors
for Climate & Energy

- Integrated plans by urban and local authorities
- Locally elaborated, structured and endorsed
- Appropriate mix of sectoral and horizontal actions of mitigation and adaptation
- Large synergies possible across plans and specific lines of action all over the world
- Currently under-funded

Green bonds



- At the end of Q2, issuance for 2016 stood at USD 34.6bn bringing it close to the total issuance for 2015 with 6 months of the year to go.
- In the first two weeks since the end of Q2 - total issuance surpassed the 2015 total.

Source: CBI, 2016.

Bibliography

Climate Bond Initiative, 2015 Green Bond Market Roundup, Jan-Aug 2016.

Drijfhout, S. et al. Catalogue of abrupt shifts in Intergovernmental Panel on Climate Change climate models. Proc. Natl. Acad. Sci. 201511451 (2015).

Höhne Niklas, Takeshi Kuramochi, Sofia Gonzales-Zuñiga, Sebastian Sterl, Jakob Graichen, Sean Healy, Anne Siemons. Jan Kersting, Jakob Wachsmuth, Climate initiatives, national contributions and the Paris Agreement Draft Discussion Paper evaluating the GHG mitigation contribution of global, regional and national initiatives in relation to nationally determined contributions , 2016

McSweeney R., Pearce R., Only five years left before 1.5C carbon budget is blown, Carbon Brief, May 2016.

Schleussner Carl-Friedrich, Impacts of 1.5°C warming, IPCC Scoping Meeting August 15 2016a.

Seneviratne, S. I., Donat, M. G., Pitman, A. J., Knutti, R. & Wilby, R. L. Allowable CO₂ emissions based on regional and impact-related climate targets. Nature 1870, 1–7 (2016).

Suggested readings and websites:

Rogelj J. et al., Energy system transformations for limiting end-of-century warming to below 1.5 °C , Nature Climate Change, 5, 519–527, 2015; published online 21 May 2015; corrected after print 17 March 2016.

Schleussner, C.-F. et al. Differential climate impacts for policy relevant limits to global warming: the case of 1.5°C and 2°C. Earth Syst. Dyn. 7, 327–351 (2016)b.
globalwarmingindex.org

Piana et al., Innovative economic policies for climate change mitigation, 2009–2012.

Thank you for attention

Valentino Piana
director@economicswebinstitute.org
+39 3493610476

www.accordodiparigi.it

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Call for Co-Authors

of papers to be jointly submitted
to peer-reviewed journals
in order to provide relevant
contributions
to the forthcoming
IPCC Special Report
on the impacts of global warming
of 1.5 °C
above pre-industrial levels
and related global greenhouse gas
emission pathways

Oxford, 22nd September 2016

