

**Proceedings of UNFCCC SB42 Side-Event:
Getting Ready for Zero:
An Overview of Who's Working on Zero Carbon
Modelling & Tool Kits
& Next Steps**

Date: Thursday, 4 June 2015, 16:45-18:15

Place: Berlin Room, World Conference Centre, Bonn, Germany

**The Side Event was organised by
INFORSE – International Network for Sustainable Energy
Nordic Folkecenter for Renewable Energy
Centre for Alternative Technology and Track 0.**

See Full Proceedings also at: www.inforse.org/europe/conf15_PreCOP21-Bonn.htm

WHO'S GETTING READY FOR ZERO?



Paul Allen



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Country	Who	What	URL
Australia	Beyond Zero Emissions	<i>Zero Carbon Australia</i>	http://bze.org.au/
Belgium	Vito & Belgian Federal Planning Bureau	<i>Towards 100% renewable energy in Belgium by 2050</i>	http://energie.wallonie.be/servlet/Repository/130419-backcasting-finalreport.pdf?ID=28161
Bhutan	Royal Government of Bhutan	<i>A national strategy and action plan for low carbon development</i>	http://www.ea-energianalyse.dk/reports/1148_bhutan_a_national_strategy_and_action_plan_for_low_carbon_development.pdf
Chile	Mitigation Action Plans & Scenarios (MAPS)	<i>MAPS Chile – Mitigation options for a low carbon development</i>	http://www.mapsprogramme.org/wp-content/uploads/Chile-Phase-2-Synthesis-of-Results-English-Final.pdf
Costa Rica	Costa Rica Climate Change Dep.	<i>Carbon Neutral by 2021</i>	http://www.cambioclimaticocr.com/2012-05-22-19-47-24/empresas-y-organizaciones-hacia-la-carbono-neutralidad-2021
Croatia	University of Zagreb	<i>Planning for a 100% independent energy system [In Croatia]</i>	http://www.sciencedirect.com/science/article/pii/S1359431111001463

Our new report *Who's Getting Ready for Zero* maps out how different actors at national, regional and city levels are already modelling the elimination of GHGs on science-based timeframes compatible with 2°C. The report draws on results from over 70 peer-reviewed research projects and programmes that demonstrate how we can reach low or net zero emissions before the second half of the century with existing technology and without harming social or economic development. We feature 27 of these in more detail to showcase work occurring in developed and developing countries, covering both low as well as full decarbonisation scenarios.

WHO'S GETTING READY FOR ZERO?

Definitions

- Work on zero emissions has developed independently in many places, so we need to be clear about terminology
- We support action on zero emissions that addresses the demands of the science: 1.5°C / 2°C (max)
- All emissions that **can go to zero, must go to zero**; for example in burning fossil fuels for energy
- Negative processes are a **limited & precious resource** & must be both ecologically & socially responsible
- Only the **very minimum** residual emissions should be balanced out by negative process

WHO'S GETTING READY FOR ZERO?

CASE STUDIES

GLOBAL



Who	World Wildlife Fund, Ecofys and the Office for Metropolitan Architecture
What	<i>The Energy Report – 100% Renewable Energy by 2050</i>
When	2011
Key	

REGIONAL



Who	Lappeenranta University of Technology, Finland; Mizuho Information & Research Institute, Tokyo; Silla University, Korea & National University of Mongolia
What	<i>North–East Asian Super Grid: Renewable Energy Mix and Economics</i>
When	November 2014
Key	

This research describes how the high growth rates of new renewable energy technology capacities enable the transformation of the energy system. It shows that North–East Asia has excellent solar resources, for example in the Gobi desert, which could be used to meet demand in highly populated areas of China, Korea and Japan. This study presents a spatially and hourly resolved energy system model for the region with a 100% renewable energy supply for the electricity demand.

COUNTRIES



Country	Ethiopia
Who	Federal Democratic Republic of Ethiopia
What	<i>The path to sustainable development – Ethiopia's Climate–Resilient Green Economy Strategy</i>
When	2011
Key	

The government of Ethiopia aims to achieve carbon–neutral middle–income status before 2025 and build a climate–resilient green economy.

CITY



City	Berlin, Germany
Who	Berlin Senate Department for Urban Development and the Environment
What	<i>Climate–Neutral Berlin 2050</i>
When	March 2014
Key	

KEY CONCLUSIONS

FROM DECARBONISATION CASE STUDIES

- 1 Climate action is pro-poor and pro-fairness:** Policies that eliminate GHG emissions go hand-in-hand with increasing equity and supporting the more vulnerable sections of communities.
- 2 Time up for wasteful energy use:** We can drastically reduce energy demand by re-thinking our urban spaces and reconfiguring lifestyles, whilst also creating smart, efficient distributed energy models for those who currently lack access to energy.
- 3 Time up for fossil fuels – the technologies to achieve net zero by mid-century already exist:** There is no longer any need to rely on fossil fuels; we can capture enough of the energy that is naturally available to us using technologies available today, to provide the world with abundant clean energy at a cost similar to the real cost today.
- 4 If we manage the transition well, we can reach net zero without disruption to industry or consumers, although there will be some winners and some losers:** Technologies to balance supply and demand from renewables already exist and are part of a rapidly growing mix of technologies and tools driving the clean energy revolution.
- 5 Joining the dots:** Integrated net zero scenarios covering energy, transport, built environment, industry, agriculture and land use ensure that all emissions are fully accounted for and land use changes are considered.
- 6 Everyone must be ambitious – we must all pull together:** We need new collaborative knowledge platforms that work across borders and across disciplines as well as learning across scales.

Figure 1. Social, economic and environmental benefits of going to net zero

Better economics

- More localised employment and possibilities to create stronger, more stable economies
- Realistic pricing of energy that internalises all costs
- Distributed energy systems supporting a collaborative sharing economy
- Reduced mitigation and adaptation costs resulting from acting early and providing long-term certainty

Better health & wellbeing

- Clean air, water and soil improves life expectancy and respiratory health, and allows humans to safely exercise and access public space
- Cleaner and healthier urban environments that are more pleasant to live in and support mental wellbeing
- Opportunities to strengthen communities and reduce isolation

Better Equity & Resilience

- Increased access to energy, especially for the poor, aiding development
- Opportunities for more dispersed ownership of energy system
- Greater cooperation rather than competition for resources

Better environment

- Potential synergies for action on other planetary boundaries
- Less polluted seas and waterways
- Productive and biodiverse forests and land use
- Less toxic waste legacies
- Fewer extractive processes carving up landscapes and communities

EXECUTIVE SUMMARY: DRAFT FOR REVIEW

WHO'S GETTING READY FOR ZERO?

PDF copies of our full report, *Who's Getting Ready for Zero? – A report on the state of play of net zero carbon modelling*, can be downloaded free of charge from www.cat.org.uk/readyforzero and <http://track0.org/whos-getting-ready-for-zero/>



WHO'S GETTING READY FOR ZERO?

NEXT STEPS

A global zero emissions target increases domestic ambition & sets the frame for short-term action

Getting to zero is a task for everyone. INDC's need to be real-life action plans rooted regionally, nationally & locally

Every country must be supported to access the data, skills and resources required for zero emissions scenarios

A new **'Zero Practitioners Network'** arising from COP21 to share insights & expertise - catalysing collaborations across borders & across disciplines to accelerate progress