WHO’S GETTING READY FOR ZERO?
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<table>
<thead>
<tr>
<th>Country</th>
<th>Who</th>
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<tr>
<td>Croatia</td>
<td>University of Zagreb</td>
<td>Planning for a 100% independent energy system [in Croatia]</td>
<td><a href="http://www.sciencedirect.com/science/article/pii/S1359431111001463">http://www.sciencedirect.com/science/article/pii/S1359431111001463</a></td>
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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.
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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.
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CASE STUDIES

GLOBAL

When: 2011.

REGIONAL

Who: Lappeenranta University of Technology, Finland; Mizhu Information & Research Institute, Tokyo; Silla University, Korea & National University of Mongolia.
When: November 2014.

COUNTRIES

Country: Ethiopia.
When: 2011.

CITY

City: Berlin, Germany.
What: Climate–Neutral Berlin 2050.
When: March 2014.

The government of Ethiopia aims to achieve carbon-neutral middle-income status before 2025 and build a climate–resilient green economy.
1. Climate action is pro-human development 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 rethinking 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 zero emissions 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 at minimal extra cost.

4. If we manage the transition well, we can reach zero emissions without disruption to industry or consumers: 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. Multiple co-benefits: In addition to the benefits of stabilising our climate, pursuing the goal of zero emissions offers a huge opportunity to achieve a wide range of co-benefits, from stronger and more stable economics, to increased access to energy without air pollution and productive and biodiverse forests and land use.

7. 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 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 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 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
A global zero emissions long-term goal 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 ‘Zero Practitioners Network’ arising from COP21 to share insights & expertise - catalysing collaborations across borders & across disciplines to accelerate progress
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