

Current emission reduction commitments will not prevent climate chaos. Several options exist for bridging the gap between what leaders have promised and what they have delivered so far.



SUMMARY WITH **GREENPEACE** RECOMMENDATIONS

Mind the gap!

Scientists have calculated the amount of emissions we car afford to pump into the atmosphere between 2000 and 2050 if we want a good chance of peaking global temperature rise below 2°C and declining to below 1.5 °C.

The figure is 1500 Gigatonnes of CO₂ equivalent. So far we've used up one third of that in just ten years. If we continue on the same trajectory to 2020, as current Government emission reduction pledges would indicate, then after that date we will need to cut emissions dramatically within the next ten years in order to stay below the 2°C warming threshold.

Annual emissions in Gigatonnes (billion tonnes):

Now: 45-47 Gt Projected BAU by 2020

40 Gt in 2020; down to as close To keep below 2°C to zero as possible in 2050.

Current pledges under Accord

48-54 Gt in 2020 = 8-14 Gt a year gap.

The Copenhagen Accord,

- A declaration supported by 125 countries whose emissions add up to 85% of global emissions, sets a limit to temperature rise of 2°C.
- But will the pledges submitted since Copenhagen achieve that? No.
- The voluntary pledges, even if countries did what they promised, would lead the world to a warming of 3°C or more, a temperature increase that would lead to dangerous climate change. Already a 1.5°C is considered too dangerous by majority of countries.

Leaving it until later means:

- · Catching up later is virtually impossible, as emissions would have to collapse in a short period of time after 2020, with huge socio-economic impacts.
- · Locking in new, fossil-fuel-powered infrastructure being built in next ten years (over half the power supply needed for 2020 has yet to be built). Will we build it on coal?
- Unlikely to be able to stay below a 2°C threshold.

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The gap must be bridged now

- · Face the reality. Conduct at COP16, under Art. 4 of the UN climate convention, a review of the adequacy of current commitments, in light of the 2°C and 1.5°C benchmarks. The adequacy of commitments must become a permanent COP agenda item until countries implement science based targets and actions capable of avoiding catastrophic climate change.
- · Real targets for rich countries. Many of the A1 countries can meet their current 2020 targets with little to no additional measures, so there is room for significant improvements. Japan showed last year how "impossible" targets can be turned into possible targets overnight, when real leaders take the stage.
- · Create incentives for developing countries to go beyond their current pledges. This could be possible if rich countries increase their own targets substantially and deliver on their promises for finance and technology cooperation without delay.
- · Agree on stopping tropical deforestation in ten years, in the spirit of the UN biodiversity year 2010. It is achievable, affordable and
- · Stop peatland drainage and burning, which would deliver large
- Address hot air, i.e. paper credits that don't represent real emission reductions, by amending banking rules of the Kyoto Protocol (Art 3.13) and adjusting developed countries' targets.
- Stop cheating with dodgy sinks accounting and start maintaining and enhancing natural sinks. Agree on accounting rules that track changes in net emissions - compared to a historical baseline - and increase symmetry by including forest, cropland and grazing land management within mandatory accounting. Introduce a strict limit for how much fossil emissions can be offset by sinks credits.
- Prevent double counting of emissions and funding, which would weaken real action, with robust measuring, reporting and verifica-
- · Regulate international aviation and shipping emissions, through cap and trade or levies and recycle revenues to compensate the impacts on the poor.
- Phase out HFCs globally by 2020, as part of a wider package of reducing F-gases.
- · Tackle black carbon as a complementary measure to reducing current "Kyoto gases".

Keep the climate crisis on top of the international agenda until global emissions are in a rapid decline.

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There's a dangerous gap between what has been promised and what has been delivered

In the Copenhagen Accord a powerful group of world leaders agreed to limit global warming below 2°C and review the possibility of staying below 1.5°C by 2015. The Accord, which is politically, but not legally binding, is endorsed by 125 countries covering 85% of global emissions.1

The Accord did not specify who needs to do what to meet these goals. Instead, it asks countries to make voluntary commitments for cutting emissions. Unsurprisingly, most countries offered to do less than they are capable of achieving and definitely less than is needed. Consequently, the resulting emission reductions are not sufficient to keep warming below 2°C. Instead we would be heading towards warming of 3°C or more.

Two or three degrees C - what's the difference?

It's not about 2°C being a safe level of warming and 3°C being dangerous. It's about 2°C already being very dangerous.

"[2 degrees] is the dividing line between dangerous and catastrophic climate change."

> Hans Joachim Schellnhuber, Director of the Potsdam Institute for Climate Impact Research²

"Global warming of 2°C would leave the Earth warmer than it has been in millions of years, a disruption of climate conditions that have been stable for longer than the history of human agriculture. Given the drought that already afflicts Australia, the crumbling of the sea ice in the Arctic, and the increasing storm damage after only 0.8°C of warming so far, a target of 2°C seems almost cavalier."

> Dr. David Archer, computational ocean chemist, University of Chicago³

More than 100 of the world's most vulnerable countries are calling for warming to be limited to 1.5°C - for a reason. Reaching or

- 1 Who's On Board With the Copenhagen Accord,
- http://www.usclimatenetwork.org/policy/copenhagen-accord-commitments, cited 25 April 2010

 Hans Joachim Schellnhuber, Director of the Potsdam Institute for Climate Impact Research in
- an interview: http://universitypost.dk/article/two-degrees-warmer-may-be-past-tipping-point 3 Climate change: Too much of a bad thing. Commentary on Nature 458, 1117-1118

2 degrees risks crossing tipping points

- · Average global temperature is already about 0.8°C above pre-industrial levels.
- We are committed to at least about 0.5°C additional warming.
- A silent crisis is already ongoing, estimated to cause 150 000 - 300 000 deaths a year.
- · Some scientists fear that a warming of 2°C or less could already trigger dangerous, irreversible tipping points, such as those leading to the melting of the Greenland and West Antarctic ice sheets, committing the planet to between 6 and 9 meters of long-term sea level rise.
- · A 2 to 3°C increase could drive 30% of the world's animal and plant species into extinction with 2.5°C leading to a major (20-80%) loss of the Amazon rainforest and its species.

crossing 2°C would simply be too much. Global climate measures must ensure that warming peaks below 2°C and thereafter declines to way below the 1.5°C threshold.

The gigatonne gap: how much can

The atmosphere cannot tolerate many additional greenhouse gas emissions without causing warming of 2°C or above. Last year, scientists looked at the issue to assess how much more emissions can we add before 2050, if we wanted to limit the risk of exceeding 2°C to 25%. They came to the conclusion that we can only emit a cumulative total of 1,500 billion tons (Gt) of carbon dioxide equivalents (CO₂-eqv) from 2000 to 2050. Already a third of this budget has been spent since 2000 - in just ten years.4

The problem is that implementing the current emission reduction targets and actions countries have pledged since the Copenhagen climate conference could eat up another third of this remaining budget by 2020, because global emissions could continue to grow for another decade. The only way to then keep within this limited budget would be a dramatic collapse of emissions between 2020 and 2030, with annual reduction rates possibly exceeding 10%. This certainly is not something one could expect to happen. If we are to maintain a good chance of staying below 2°C, we in reality have no choice but to achieve faster reductions within the next ten years. We have to start cutting emissions today. We no longer have the luxury of a modest start and catching up later.

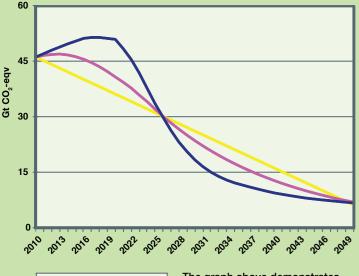
How do we stay within that limit?

Setting ambitious 2050 targets will not help if a slow start means the cumulative emissions will exceed the maximum levels years before. Today global annual emissions are about 45-47 billion tonnes of carbon dioxide equivalents (Gt CO₂-eqv).⁵ By 2020 they are predicted to grow to about 58 Gt, if no new emission reduction measures are taken.6

- 4 Meinshausen et al. Greenhouse-gas emission targets for limiting warming to 2°C.
- Nature. Vol 458. 30 April 2009. Note: The share of CO of the total budget would be 1000 Gt.
- Estimations for the current global emissions vary slightly in the recent studies
- 6 Project Catalyst. Taking stock the emissions level implied by the pledges to the Copenhagen Accord - Briefing paper, February 2010

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Comparing different pathways compatible with staying below 2°C with 75% certainty



The graph above demonstrates Copenhagen Accord different emission pathways that deliver the same end result - 75% Faster start resulting likelihood of staying below 2°C. The blue line, "Copenhagen Ac-Assuming theoretical cord average" assumes an averlinear reduction from age value for the emission reductions pledged for 2020 (bringing emissions to about 51 Gt in 2020)

and demonstrates how fast emissions would thereafter have to decline in order not to cross the maximum budget of 1.500 Gt CO₂-eqv for 2000-2050. The pink line, which would bring emissions in 2020 to 40 Gt, would maintain a tolerable annual reduction rate throughout the whole period.

Does more than 3°C meet Millennium Development Goals? - Case Study Africa

2010 onwards

If rich polluters refuse to pay for green investments, it is the poor people in vulnerable countries who are forced to pick up the pollution bill. Africa, where 33 out of the 49 Least Developed Countries are located, provides a good example.

Africa is a continent with rich natural resources and growing markets and development opportunities. However, they are struggling with a problem they did not cause - climate change - that is now eating up Africa's development opportunities, eroding decades of hard-won development gains and locking Africans into poverty. According to preliminary assessments, the negative economic impacts of climate change in the region are likely to become significantly higher than in other world regions. They could already be significant in the short-term, with estimated costs of 1.5 - 3% of GDP each year by 2030.22

The world's poorest people, not only in Africa, have a right to sustainable development and to cope with the impacts of climate change. In September 2010, the UN will host a Heads of States Summit in New York to take stock of the progress made so far with the Millennium Development Goals to halve extreme poverty by 2015. This is where leaders must assess how their emission reduction pledges (that will lead to a warming of more than 3°C) would affect the MDGs. They must increase their emission reduction targets and actions to prevent climate chaos and to provide climate resilience for the world's poorest people.

22 Estimates of the costs of adaptation in Africa. Synthesis Briefing Note of the AdaptCost

If Governments are serious about keeping temperature rise below 2°C with good certainty and want to maintain emissions reductions at a rate that is technically and economically feasible, annual emissions must come down to 40 Gt by 2020 and then continue to decline to well below 10 Gt in 2050. This way the annual reduction rate would not have to exceed 6% at any stage.

Countries' current emission reduction pledges would reduce emissions to about 48 - 54 Gt in 2020.7 Consequently there is a "gigatonne gap" of roughly 8 - 14 Gt in 2020, depending on the underlying assumptions.

Reducing annual emissions down to 44 Gt in 2020 would be compatible with so-called 450 ppm stabilisation scenarios, supported by many industrialised countries.8 However, these scenarios come with a 50% chance of exceeding 2°C and roughly 90% chance of exceeding 1.5°C. They clearly are not sufficient to meet the goal of staying below 2°C, not to mention 1.5°C.

Next decade's investments will lock in emissions for years

Over the next decade, the world will replace and add massive amounts of new energy infrastructure. Over half of the power supply required for 2020 has yet to be built. These investments have very long lifetimes, so it matters a great deal, not only for 2020 emissions but also for the decades ahead, whether these investments are channelled into highly efficient and safe low-carbon technologies or into old and dirty fossil fuel intensive infrastructure.

Weak targets could see today's governments continuing to build, for example, more coal-fired power stations, leaving future governments with the decisions on having to take *much* deeper emissions cuts while at the same time having to deal with a whole new generation of fossil fuel infrastructure (the so-called lock-in effect).9

Adopting weak targets now and catching up post-2020 - even to a 450 ppm scenario pathway - is not a realistic option. Project Catalyst has assessed that achieving the reductions needed in 2030 for a 450 ppm stabilisation pathway would mean an unlikely scenario of abandoning large amounts of capital stock (like all those brand new coal-fired power stations) before the end of its useful life, and replacing it with massive and rapid new investments. The only way to fix the gigatonne gap is to close it beforehand. 10

Goal: fix the 8–14 Gt gap

First, move way beyond the Accord.

By the next big UN climate meeting in Cancun, countries must approach the "gigatonne gap" of 8-14 Gt in several ways.

Rich countries must improve their targets - but they appear to be going backwards

Industrialised countries' pledges add up, at best, to only 15.6% aggregate reductions by 2020 from 1990 levels. At worst, these countries could end up increasing their emissions by 6.5%, if they stuck to their lower targets and exploited the accounting loopholes.¹¹ By increasing their aggregate reductions to 30% by 2020, industrialised countries would achieve 2.4 Gt of additional reductions over what is pledged now. By moving to an aggregate reduction of 40% they would increase that to 4.3 Gt.12

-30% for A1 by 2020: 2.4 Gt -40% for A1 by 2020: 4.3 Gt

Only real and permanent emission reductions should be accounted for – no cheating!

The Kyoto Protocol and its accounting rules have loopholes that allow countries to avoid real emission reductions. The most known problem is the so called hot air of ex-Soviet countries. It refers to emission allowances that don't represent real climate measures but were created through too generous target allocation. The problem is that these "paper credits" can replace real emission reductions, and if they are banked for the next phase, without limiting their trading and adjusting targets as a whole, they can undermine rich countries' actual reductions by about 1.5 Gt annually.

Eliminating hot air: 1.5 Gt

Creative accounting of land-use and forestry emissions, which allows countries to hide their real emissions and offset fossil emissions, could result in additional emission allowances globally of at least 0.5 Gt a year. A third loophole is created by the Clean Development Mechanism (CDM), which enables rich countries to avoid emission reductions at home by funding emission reductions in developing countries. However, often these reductions have not been additional to what would have happened anyway so, as a result, the atmosphere has seen more emissions than in the absence of the CDM. The potential scale of this loophole in rela-

tion to missing gigatonnes and closing the gap is not assessed here. CDM must be discontinued or replaced with a mechanism that ensures atmospheric benefits and sustainable development.

No more fiddling with sinks accounting: 0.5 Gt

Motivating large developing countries to exceed their pledges – yes they can!

Analysts who have studied developing countries' national emission reduction goals and policies estimate that they could well exceed the high ends of the pledges they submitted to the UN climate secretariat. According to Climate Analytics and Ecofys, an optimistic interpretation of developing countries' national plans would deliver 3.6 Gt of additional reductions in 2020.13 This would take developing countries' fossil and industrial emissions to about 18% below their current reference levels in 2020. Further deviation from BAU would yield additional reductions on a significant scale, but could likely materialise only with strong leadership by rich countries through more ambitious targets and provision of finance.

Developing country national plans: 3.6 Gt

Ending tropical deforestation within ten years is a must TStopping forest destruction is one of the quickest and cheapest ways to help achieving the 2020 goal. The additional, non-climate benefits of ending tropical deforestation would be invaluable, as it is estimated that some 1.6 billion people depend on forests for their livelihoods and 60 million indigenous people depend on them for subsistence¹⁴. Furthermore, more than half of the planet's land-based species live in tropical forests.¹⁵ Stopping deforestation would require annual funding of approximately \$42 billion.¹⁶

Adopting a global goal of ending tropical deforestation by 2020 would bring additional emission reductions of more than 2.1 Gt, on top of those pledged already by developing countries. 17

End tropical deforestation: 2.1 Gt

⁷ Rogelj et al. Copenhagen Accord pledges are paltry. Nature. Vol 464. 22 April 2010. Other leading carbon cycle modellers have come to very similar conclusions. Their joint presentation can be found here: http://tinyurl.com/2u8klmp. In the worst case scenario countries only implement the low ends of the ranges they have pledged and in reality would do even less because of exploiting old loopholes – i.e. reducing emissions only on paper through creative accounting and trading. In the best case scenario countries would meet the ambitious ends of their pledges without using

⁸ Project Catalyst 2010 (ibid.) and Stern N. and Taylor C. 2010. What do the Appendices to the

Copenhagen Accord tell us [...]. Policy paper by CCCEP and UNEP. March 2010.

9 W. L. Hare, M. Chaeffer and M. Meinshausen: Emission reductions by the USA in 2020 and the risk of exceeding 2°C warming. P. 13-14. Climate Analytics discussion paper. March 2009. See Figure 3 and table 2

¹⁰ Project Catalyst. 2010. (ibid.)

¹¹ Rogelj et al. Copenhagen Accord pledges are paltry. Nature. Vol 464. 22 April 2010. 12 Höhne N. et al. Copenhagen climate deal - How to close the gap? Briefing paper by Climate Analytics and Ecofys. 15 December 2009. Online: http://www.climateactiontracker.org/ briefing paper.pdf

¹⁴ World Bank Press Release, Global Forum calls to curb illegal logging and promote responsible forest investment, 23 Oct 2003 and Millennium Ecosystem Assessment, 2005. Ecosy: Human Well-being: Biodiversity Synthesis. World Resources Institute, Washington, DC

¹⁵ Millennium Ecosystem Assessment, 2005, Ecosystems and Human Well-being; Biodiversity ynthesis. World Resources Institute, Washington, DC.

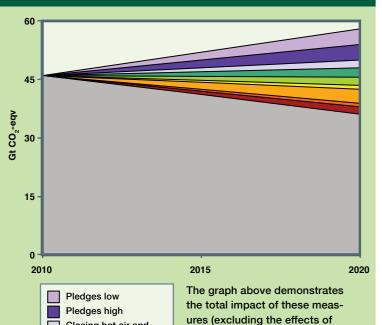
¹⁶ This figure is in the upper end of the range of estimates of four reviews (European Commission 2008, Eliasch 2008, Boucher 2008 and Meridian Institute, 2009), that assume significantly lowering of tropical deforest

¹⁷ Höhne N. et al. 2009. (ibid)



Peatland forest destruction in the Kampar Peninsula, Indonesia © Greenpeace / John Novis

Options for additional emission reductions to bridge the gigatonne gap in 2020



tackling black carbon and closing

the CDM loophole). Altogether the

measures would reduce emissions

to well below 40 Gt in 2020. The

list of options is not meant to be

exhaustive.

Emissions from peatland drainage and burning are globally about 2 Gt annually, of which more than half occurs in Indonesia.¹⁸ As some reductions are already contained in Indonesia's national pledge, a moderate estimate of 1 Gt additional reductions is assumed here, from stopping peatland drainage and burning.

Fight peatland drainage: 1 Gt

Look for additional sectors that can bring reductions - they can be cheap and effective

Countries must actively look for additional policies and measures where international cooperation could bring added value and deliver additional emission reductions. One of the obvious candidates for coordinated action is black carbon, a component of the soot emissions caused by inefficient burning of fossil fuels and biomass. Its full climate impacts are still poorly known. Achim Steiner, Executive Director of the UNEP, recently estimated that it accounts for anywhere from 10% to more than 45% of the contribution to current global warming.¹⁹ The good news is that addressing black carbon would be relatively easy and cheap and it would have quick impacts. Additionally the health benefits for poor women and children would be enormous. Cooperation around tackling black carbon should take place under several fora.

Another candidate for cooperation could be fluorinated gases. In 2020 emissions from F-gases are predicted to be around 1.3 Gt. Maintaining these emissions slightly below current levels would avoid emissions of around 0.5 Gt in 2020.20 HFCs, that are currently not regulated by the Montreal Protocol but are included in the Kyoto Protocol, must be phased out by 2020, with coordination between the two protocols. Lastly, curbing international aviation and marine (shipping) emissions - currently not regulated under the climate regime - would bring an important addition to the mix. As an illustration, a reduction target of 20% below 2005 levels would already deliver 0.5 Gt annual reductions.21

F-gases: 0.5 Gt Bunkers: 0.5 Gt

As the examples above show, there are plenty of ways to close the 8–14 Gt ambition gap in 2020. There is a huge emission reduction potential in all countries, including in developing countries. This is a challenge for all countries but first and foremost rich countries must take responsibility for closing the gap. They can do this through improving their own targets, delivering on their technology and finance commitments and by showing leadership for emerging economies, which should motivate them to improve and exceed their current goals.

Delivering on finance and technology cooperation is a must

For many developing countries, going beyond their emission reduction pledges will depend on rich countries delivering on their promises for finance and technology. Here clarity on the delivery is needed, to enable long-term planning. Developing countries need to know how much money is going to be available for them in 2013, where will it come from, how will it be disbursed and how will it develop towards 2020. The less rich countries reduce their own emissions, the more funding they must provide for developing countries, to keep below 2°C warming. The adequacy of the USD100 billion pledged annually by 2020 must be assessed in this light. Measures to prevent double counting of offset flows or ODA as climate funding must be introduced.

Clarity needed on 2013 finance

The technology mechanism that is being designed under the UN climate convention is currently missing clear, measurable and time-bound goals. It must be geared to support countries in the timely development and deployment of technologies required to meet the global goals of getting to 40 Gt in emissions by 2020 and close to zero by 2050, while at the same time improving access to clean and affordable energy for the poor. Energy efficiency has to play the most important role in reducing emissions in the energy sector and in improving energy security. Another obvious areas of technology cooperation are further development of renewable energies and reducing black carbon emissions.

Measurable goals for technology cooperation

What if the gap in required emission reductions is not bridged?

The research community, NGOs, UNEP, many developing countries and the European Union, to name but a few, have widely recognised the insufficient level of the emission reduction pledges triggered by the Copenhagen Accord.

However, not all countries seem to acknowledge it. The socalled "umbrella group" (US, Australia, Canada, Japan, New Zealand and Russia), excluding Norway, have had trouble acknowledging that just implementing current pledges is not going to be enough. Canada even *lowered* its target; its current pledge is lower than its target under the Kyoto protocol, agreed 13 years ago.

If big emitters decided to gamble our future, and ignore the missing gigatonnes, we all would lose.

- Staying below 2°C with good certainty would become
- Overall costs of mitigation and adaptation would increase
- We could cross tipping points in the climate system, without a possibility to bail ourselves out from the irreversible impacts with any money in the world
- · Instead of pursuing clean development and green jobs, we would be locked into dirty old infrastructure and unsustainable consumption patterns.
- With a world heading over 3°C warming, the UN Millennium Development Goals and biodiversity goals would slide out of our reach.
- If rich polluters refuse to pay for green investments, it is the poor people in vulnerable countries who are forced to pick up the pollution bill. Instead of focusing on building welfare for their people, poor countries would be forced to spend their scarce resources on struggling with worsening climate impacts and becoming increasingly dependent on foreign aid. Locking the global emission pathway to one that is likely to exceed 2°C warming would mean locking poor countries into poverty.

Industrialised countries can easily do more

If industrialised countries took no additional climate measures, their (BAU) emissions would be about - 6% below 1990 levels in 2020.23 In this light their emission reduction pledges do not match the rhetoric of taking leadership.

There are plenty of reasons for rich countries to do more. For the EU the cost of achieving a 30% target is now, due to the recession, estimated to be just a little bit more than the cost of achieving the 20% target, as estimated in 2008.24 When the resulting efficiencies of the low carbon economy are taken into account, the EU can achieve a 30% cut at practically zero net cost.25 In the US, energy efficiency measures in the non-transportation sectors alone can deliver 15% reductions from 2005 levels by 2020 (nearly whole of the US pledge) with net economic benefits.26 Russia, whose current target does not require any climate measures before 2020, would also benefit from much higher ambition. According to the World Bank, Russia could save as much as 45% of its total energy consumption, with significant economic and social benefits. This would translate into CO_a emissions reductions of 0.8 Gt, (about half of Russia's 2005 emissions).27

Closing hot air and

Zero deforestation,

Additional peatland

Optimistic assessmen

of NA1 plans

F-gases and inter-

national bunkers Remaining emissions

A1 to -40%

additional reductions

A1 to -30%

sinks loopholes

¹⁸ McKinsey&Company, Pathways to a Low-Carbon Economy, 2009, and Stern, 2010.(ibid.)

¹⁹ http://www.guardian.co.uk/environment/cif-green/2009/sep/11/co2-other-cause-climate-change 20 EPA. 2006: Global Anthropogenic Non-CO, Greenhouse Gas Emissions: 1990-2020. Unites States Environmental Protection Agency, June 2006, (www.epa.gov/climatechange/economics international.html)

²¹ Stern N. and Taylor C. 2010. (ibid.)

²³ Wagner, F. and Amann, M. Analysis of the proposals for ghg reductions in 2020 made by

UNFCCC Annex 1 parties: implications of the economic crisis. IIASA. November 2009. **24** Analysis by New Carbon Finance. (2009), The Carbon Markets division of Bloomberg New

Energy Finance See: www.newcarbonfinance.com

²⁵ SERPEC project. See http://www.ecofys.com/com/publications/documents/

²⁶ Choi Granade, H et al., 2009. Unlocking Energy Efficiency in the U.S. Economy. McKinsey

and Company, July 2009.

27 "World Bank & International Finance Corporation: Energy Efficiency in Russia: Untapped



With power comes responsibility – G8 and G20 must act

G8 and G20 countries play a crucial role in the fight against climate chaos and closing the current gigatonne gap. Altogether G20 countries account for over 80% of global emissions and 85% of global gross national product.

With power comes responsibility. Tackling the climate crisis must top every agenda of these groups' summits until global emissions are in rapid decline. Greenpeace calls on the G20 countries in 2010 to 1) Acknowledge that their current emission reduction targets and actions altogether are not sufficient to prevent catastrophic climate change, and commit to delivering additional reductions with low carbon development plans adequate to reach a peak in global emissions by 2015 - and keep warming below 2°C with good certainty. 2) Prove with concrete figures and implementation plans that they are delivering on their previous commitments related to climate change and to energy access, including the promise to phase out fossil fuel subsidies (with an emphasis on subsidies for production and extraction) and the promise to deliver new and additional fast track climate finance and; 3) Provide the leadership to build a green economy, create the regulatory and financial conditions to incentivise this change to a climate friendly society and invest in the future and agree on indicators against which progress in this field will be regularly monitored.

According to recent figures, the green race to the top among G20 countries has already started: in 2009 China took the top spot for overall clean energy finance and investment – nearly double the United States' total.²⁸

28 The Pew Charitable Trusts. Who's Winning the Clean Energy Race? Growth, Competition and Opportunity in the World's Largest Economies. 2010.

For further information about climate solutions on a 2050 timeframe, see the Energy [r]evolution report by Greenpeace and European Renewable Energy Council and Greenpeace's Climate Vision.

http://energyblueprint.info http://www.greenpeace.org/climatevision

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