

50 days to the Paris Climate Summit

A review of commitments and funding

Analysis by the Fondation Nicolas Hulot – October 9th, 2015

Main updates since the last version:

- *Assessment of the 148 contributions submitted since February 2015, including :
Detailed analysis of G20 countries;
Global analysis by geographical area*
- *Reevaluation of total emissions by 2030.*
- *An update on climate finance: OECD report / Lima / policy of France and other major donors.*



FONDATION
NICOLAS HULOT
POUR LA NATURE
ET L'HOMME

Executive Summary

Increased emissions in 2030 for the 148 countries that have submitted their contributions

10 billion excess tons of CO₂ equivalent by 2030

Greater ambition is necessary to advance towards a +2°C limitation

Funding plan: \$100 billion by 2020 are essential

France could be exemplary by announcing that 20% of its climate fundings by 2020 will be donations to the most vulnerable countries.

- ⇒ 148 countries, representing 85% of global greenhouse gas emissions (GES) in 2012 have already submitted their commitments (INDC, Intended Nationally Determined Contributions). On the basis of these INDCs, emissions will increase to 60 GT CO₂eq by 2030, a +3°C scenario. Warning: several big emitters and especially India and China have submitted INDCs with very optimistic growth scenarios and emissions reduction objectives well under what they could be with currently implemented policies. More realistic hypothesis for those two countries would lead to 56 GT CO₂eq by 2030.
- ⇒ Developing countries have also submitted their contributions. Some or all of those commitments are conditional on the existence of a solidarity mechanism (financial means, technology transfers...). Since the respect of those countries' commitments depends on securing funding, it should be noted that those commitments are consistent with the international community's will to fight against global warming. Among those countries, 28 have committed to emissions lower than 2 tons CO₂eq per capita by 2030, with Bhutan and Costa Rica pledging to be carbon-neutral by 2030, a model to be followed. Those initiatives should encourage France, Europe and more generally Annex 1 countries to set a clear path on climate finance in the coming months.
- ⇒ Despite too conservative commitments, China and India are turning towards energy transition. As a great power, China has notably pledged \$3 billion to help developing countries with their energy transitions. India has committed to generate 40% of its electricity from non-fossil energy. Regrettably, it has not rejected at this stage the development of nuclear energy or "clean" coal plants. However, Indian plans for massive solar and wind energy development and soil and forest rehabilitation objectives should be noted.
- ⇒ All G20 countries (except for the EU, Mexico and Brazil) submitted commitments that do not align with a +2°C-compatible trajectory: current commitments lead to emissions of 6 teqCO₂ per capita to 10 teqCO₂ per capita for some, when they should be around 5. The Fondation Nicolas Hulot calls upon G20 countries (which represent 3/4 of global emissions) for more ambitious contributions to get back on the +2°C road. A virtuous scenario, based on a 10 to 15 points additional effort by G20 countries, would bring emissions back into the 2°C-

compatible scenario, with around 46 GteCO₂ in 2030. Is a 1% per year additional effort really so inaccessible for G20 countries?

- ⇒ Current commitments are of different ambitions (from 1,1 teCO₂ per capita for Ethiopia to 16 teCO₂ per capita for Australia), disappointing for some among which Russia, Canada, Australia and Japan, and more satisfactory for others, but in any case not enough to put us on the road to limiting global warming to +2°C. They are closer to scenarii leading to global warming above +3°C (or even +4°C), with emissions around 56 GteCO₂ by 2030. We are going towards a 15% GES emissions increase between 2010 and 2030, when we should at least stabilize our emissions compared to today, and even see a 20% decrease.
- ⇒ Local governments have also taken quantified commitments, like California, the Canadian provinces of Quebec and Ontario, but also recently some major Chinese cities. The multiplication of such commitments must have a mobilizing and accelerating effect on international negotiations but should not replace State commitments.
- ⇒ Making commitments is obviously not everything. They will have to be checked and the countries given means to implement them, including by providing a roadmap towards a +2°C economy.
- ⇒ A large majority of developing countries have conditioned their commitments upon the reception of the funds pledged in Copenhagen. 39 countries, among which 20 least developed countries (LDC), have already quantified their financial needs. According to estimations by the FNH on the basis of those first countries, \$100 billion would cover just under half of the identified investment needs. The rest will have to come from national investments, private sectors investments not counted in the \$100 billion, or from other developing countries such as China. Those funds should be allocated in priority to the least developed countries, to fund projects enabling populations to adapt to the consequences of rising temperatures.
- ⇒ Annex 1 countries should advance quickly to mobilize the \$100 billion per year by 2020 that were pledged during COP15 in Copenhagen. These funds - which would include public funds but also private funds leveraged from public funds - will grow rapidly after 2020 to enable all developing countries to set out on a path to low carbon economy.
- ⇒ Before the Lima conference, which started on October 7, the OECD has reviewed accounting issues. It estimates to \$62 billion in 2014 existing public and private climate funds, up sharply from \$52 billion in 2013, with an expanded role of multilateral development banks. Private funding is not improperly recorded (27% of the total in 2014). The recorded public funding is mostly made up of loans. Adaptation funds (16% of the total) are clearly insufficient, as funding adaptation calls for more grants (or donations). It is unfortunate that the OECD does not publish data on the funding recipient countries.
- ⇒ To reach \$100 billion a year, annual public funding on climate, estimated by the OECD to \$43.7 in 2014, should increase by \$25 to \$30 billion (out of \$100 billion) by 2020. This increase should not be exclusively made up of additional loans. \$20 to \$30 billion must be earmarked to fund adaptation in the most vulnerable countries by 2020. New announcements by donor countries must make more room for donations.
- ⇒ France, through the voice of President François Hollande at the United Nations General Assembly, has announced that its climate public funding would go from \$3 billion currently

to \$5 billion in 2020. He also confirmed that for those additional \$2 billion, priority would be given to adaptation funding, to the most vulnerable countries and to donations. But the drop of the Official development assistance in the 2016 budget contradicts this announcement. To this day, the government plans that those additional \$2 billion should exclusively be new loans via the AFD (with the Caisse des Dépôts). France must change its course and ensure that 20% of its climate funding in 2020 should be donations.

- ⇒ But France should also make sure that these climate funding most largely benefit the most vulnerable countries. A senatorial report published recently shows that LDC have only benefitted from 9% of AFD funding, with the major part going to big emerging countries.
- ⇒ The United Kingdom has pledged to augment by 50% its total effort for climate by mobilizing £5.9 billion from 2016 to 2021. This is positive news, despite the fact that it will come not from additional but existing budgets.
- ⇒ China has committed to providing €2.8 billion to help developing countries. Other countries, not tied to the \$100 billion, but voluntary and capable of contributing to the effort, could do the same in the future.
- ⇒ Those \$100 billion only represent 0.2% of Annex 1 countries GDP, but the climate investments they will make possible represent on average 8% of the current GDP of the 39 developing countries that have calculated their needs. These figures enlighten the need for this promise to be kept. It is the price of solidarity and of ensuring a viable future.

Table of Contents

<u>CURRENT COMMITMENTS ARE NOT ENOUGH TO BE IN PHASE WITH THE OBJECTIVE OF LIMITING GLOBAL WARMING TO +2°C</u>	6
WHAT WE CAN DEDUCT FROM THE WORK DONE BY THE IPCC:	6
WHAT CONCLUSIONS AFTER 148 CONTRIBUTIONS?	6
HOW TO GET BACK ON TARGET FOR THE 2°C?	7
MOST G20 CONTRIBUTIONS ARE INCOMPATIBLE WITH A +2°C SCENARIO	9
TOO HESITANT COMMITMENTS FOR NORTHERN G20 COUNTRIES	9
SOUTHERN COUNTRIES: DIVERSE COMMITMENTS	11
DIFFERENT COMMITMENTS IN DIFFERENT COUNTRIES AND REGIONS OF THE WORLD	16
<u>CLIMATE FUNDING, KEYSTONE OF AN AMBITIOUS AGREEMENT IN PARIS</u>	17
\$100 BILLION PLEDGED IN COPENHAGEN, SHOULD WE COUNT ANYTHING AND EVERYTHING?	17
WHAT IS EXPECTED OF FRANCE AND OTHER MAJOR DONATING COUNTRIES TODAY?	18
THE \$100 BILLION BY 2020 COMMITMENT IN LIGHT OF THE FIRST INDCs BY SOUTHERN COUNTRIES: IS IT ENOUGH?	19
WHAT FINANCIAL COMMITMENTS IN THE PARIS AGREEMENT?	21

Current commitments are not enough to be in phase with the objective of limiting global warming to +2°C

As of October 9, 2015, 148 countries (28 of which from the European Union), representing over 85% of global emissions¹ have submitted their contributions - known as INDC - for the Paris agreement.

It is regrettable that some particularly high-emission states have not yet submitted their contributions, especially oil-rich countries (Saudi Arabia - although a member of G20, Qatar, the UAE, Venezuela, Iran, Oman, Nigeria, Angola...) but also highly populated countries such as Egypt or Pakistan. Overall, all the contributions submitted, and despite some ambitious ones, are largely insufficient and put us on the path of an increase of over 3°C in temperatures. Indeed, while the IPCC provides a very clear road map (see table 2 below), the current commitments, if they are met, mean 10 billion excess tons of CO₂ equivalent by 2030. And yet, if southern countries funding requests were met and if G20 countries increased their efforts by just 1% on average, we could get back on a 2°C-compatible trajectory.

What we can deduce from the work done by the IPCC²:

- In order to succeed in limiting the rise in temperatures to +2°C³ (scenario RCP2.6), we must reduce global emissions by 40-70% by 2050 compared to 2010.
- The scenarios enabling this objective are projected to 2030, with global greenhouse gas emissions of 30-50 GteCO₂/year, with an average value of 40GteCO₂/year, hence a 20% reduction in emissions. GHG emissions were of 49 GteCO₂/year in 2010.
- In these scenarios, counting 8.4 billion human beings on Earth in 2030, each individual should emit a maximum of between 3.6-5.9 tons equivalent CO₂ per year (average value 4.8 teCO₂/cap) by then.

	2010	2030	2050
Emissions (GteCO ₂ /an)	49	40 [between 30 et 50]	20 [between 15 et 30]
World Population (billions)	6,9	8,4	9,6
Emissions per capita (teCO ₂ /cap)	7,1	4,8 [between 3,6 et 5,9]	2 [between 1,5 et 3,1]

Tableau 2. Source: FNH calculations from GIEC data

- Conversely, scenarios leading to a rise in global emissions by 2030 (compared to 2010) will lead to global warming of 3 to 4°C.

What conclusions after 148 contributions?

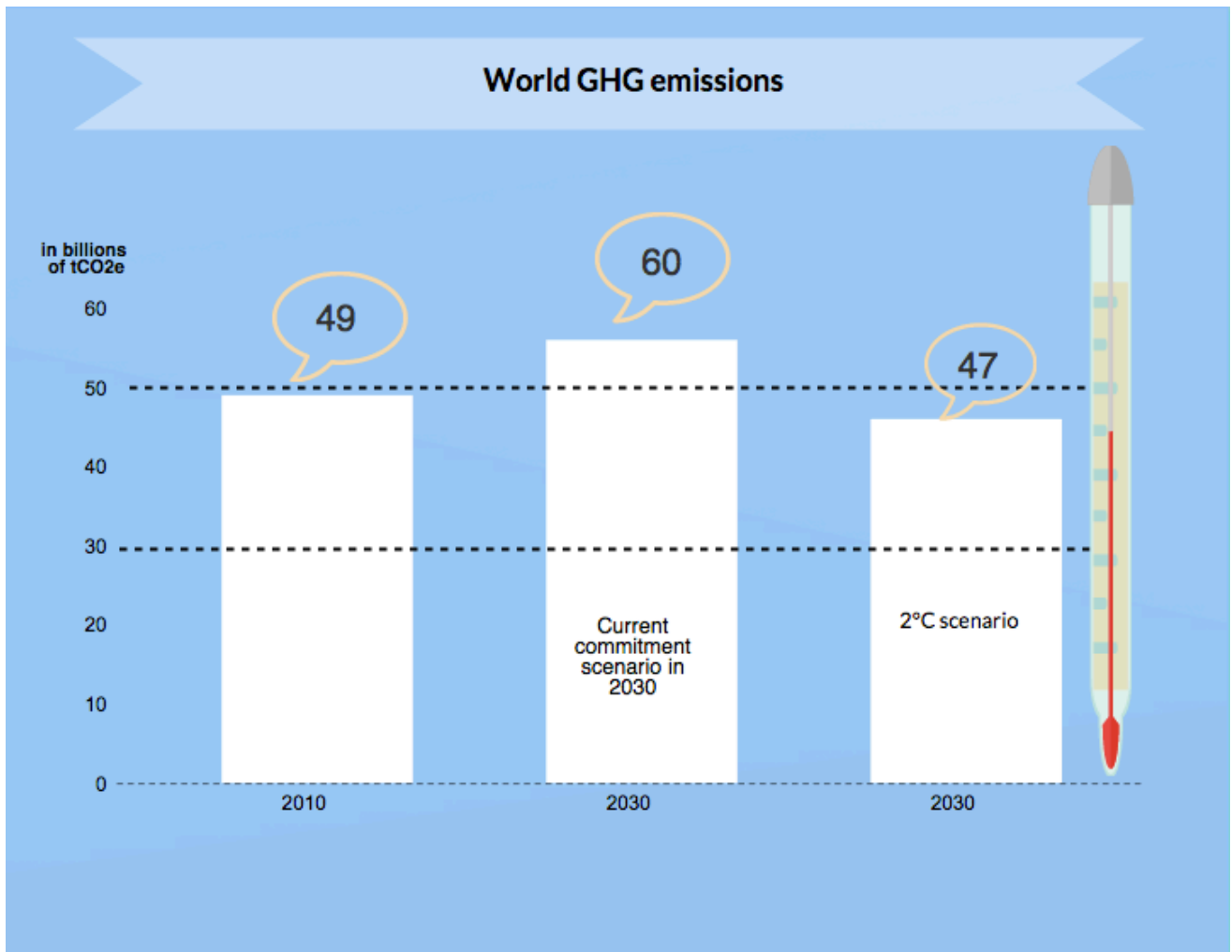
Current commitments by 148 countries correspond to a 22% increase in their total emissions by 2030. For those countries, it leads to emissions of around 7,2 teCO₂ per capita with great

¹ Source : WRI CAIT. All emissions percentages include all greenhouse gases and the modifications on land use for the year 2012

² report ipp /wg3 / ar5

³ Or more precisely to have 2 out of 3 chances to succeed

disparities, from 0 to 45 for some countries! On the current basis, according to FNH projections, the world would bear a 22% increase in GHG emissions by 2030 (see table 4), which is close to IPCC RCP4.6 to RCP6 scenarios, with a global warming of 3 to 4°C.



How to get back on target for the 2°C?

As already presented, in order to have 2 out of 3 chances of succeeding in limiting the increase in temperature to +2°C, global GHG emissions would need to stay between 30 and 50 GteCO₂ by 2030.

Adding the different contributions (already submitted INDCs but also estimations of awaited contributions from currently available information) takes us for now to greenhouse gas emissions of about 56 GteCO₂⁴ in 2030. Those excess 7 GteCO₂ (compared to the upper limit of the range "compatible +2°C", i.e. 50 GteCO₂) are considerable, as they entail a temperature increase of +3°C or even +4°C. The IPCC reminds us that such an increase would have **very serious consequences**, due to the fact that climate risks increase in a non-linear way, especially in terms of water resources, biodiversity, extreme heat waves or health risks. Nevertheless, several major emitters, including India and China, have submitted INDCs with very optimistic growth scenarios and emissions reduction objectives well under what they could be with currently implemented policies. More realistic hypothesis for those two countries would lead to 56 GT CO₂eq by 2030.

⁴ FNH estimations based on data from WRI CAIT

Why must we act now?

The next 10 to 15 years are of capital importance because by delaying our efforts we reduce the chance of getting close to the +2°C limit;

- By taking immediate action that would bring about a stabilization or even a reduction in greenhouse gas emissions and to achieve the recommendations of the IPCC, we would have to reduce emissions by 3% per year between 2030 and 2050, a pace never achieved to date.

- If we wait before acting and if emissions continue to increase between now and 2030, it would require a reduction at a twice as fast pace (-6% per year) between 2030 and 2050, with much higher costs and risks.

With a little more ambition from major countries, we can get on the road to a +2°C limitation in temperature increase by limiting **emissions to 47GteCO₂ in 2030** (in the upper level of the range for scenarios compatible with the +2°C limit), for example with the following **+2°C-compatible scenario**:

- China implements very ambitious environmental politics to attain its peak CO₂ emissions by 2025 and thus not exceed 11Gte by 2030.
- The European Union increases its INDC to -50% greenhouse gas emissions compared to 1990, as proposed notably by Sweden.
- The United States, Canada, Japan and Australia commit to a real energy transition and increase their commitments, compared to their respective commitment to date, to -45% for the USA and Canada and -40% for the two others.
- India invests even more in renewable energies and decreases the carbon intensity of its economy by 45% compared to 2005.
- Russia gains awareness of climate change risks and pledges to decrease its GHG emissions by at least 50% (as opposed to -25% to -30% currently).
- Indonesia, Argentina and South Africa respect their highest conditional commitment.
- Turkey lowers by 50% its GHG emissions compared to a BAU⁵.
- South Korea lowers by 60% its GHG emissions compared to a BAU.

The Fondation Nicolas Hulot thus calls on the biggest emitting countries in the G20 to set an example and increase now their commitments by 10-15 points, in order to respect the commitments taken at Copenhagen by the 195 signatory states to limit the temperature increase to +2°C. If all the richest countries in the world make slightly more ambitious commitments, we could get ourselves back on track for the 2°C.

⁵ For « business as usual », i.e. a scenario based on the continuity of current policies.

⇒ Soil restoration: a solution to states' lack of ambition

Today, nearly two billion hectares of land have been degraded on the planet, that is to say 40% of the total land area, among which 500 million hectares of farmland. According to Monique Barbut, Executive Secretary of the UN Convention on the fight against desertification, the annual rehabilitation of 12 million hectares of land over the next 10 years (reforestation, restoration of degraded lands and wetlands) would store nearly 3.3 GteqCO₂ by 2030 for an average cost of \$150 per hectare. A proactive approach in this area would consistently reduce the gap between the roadmap drawn by the IPCC and the commitments made by states in their INDCs.

Furthermore, the restoration of degraded lands coupled with the development of agroecology would also have the advantage of feeding some of the hundreds of millions of people who are still suffering from hunger.

Most G20 contributions are incompatible with a +2°C scenario

Too hesitant commitments for Northern G20 countries

Generally speaking, Northern countries have taken insufficient commitments despite the fact that they have a historical responsibility in global warming. If China and India are to become the two biggest GHG emitters in 2030 in absolute value, some countries will go on being even bigger emitters in terms of emissions per capita, among which Russia, Canada, Australia, the United States, Japan and South Korea. The European Union aims to lower its GHG emissions under the 6 teqCO₂ limit, a positive objective. This is still not enough though; real per capita emissions (including importations) are much higher.

It is necessary that these countries commit themselves financially to help the least developed countries adapt to climate change by moving forward on the pledged \$100 billion and also quickly review their contributions to the downside. It will also require that these countries implement the means to meet their commitments. The fact that Canada and Japan have not met the commitments made at the signing of the Kyoto Protocol does not facilitate the creation of a climate of confidence, conducive to a breakthrough in international negotiations.

The European Union (8,5% world emissions, 8.1 teCO₂/capita), **Norway** (0.1%), **Iceland** (0.01%), **Liechtenstein and Andorra** have committed to at least a 40% reduction in greenhouse gas emissions (36% for Andorra) by 2030. **Switzerland** (0.1%) has committed to a 50% reduction by 2030, 30% on the ground and the rest in carbon credits. According to the Fondation Nicolas Hulot, these commitments inspire a positive dynamic to the international negotiations. Nevertheless these countries **need to improve their contributions** between now and the Paris summit, especially if other countries make more ambitious commitments. These countries could usefully improve their contributions by the time of the Paris summit, notably by increasing their commitments to -50% and by doubling their climate finances which would enable an energy transition towards the southern countries. The Principality of Monaco has already agreed to a reduction of greenhouse gases. **Serbia** however, even though a candidate for entry into the EU, has only committed to a decrease of 9.8% in 2030 compare to 1990. This effort seems modest: it would lead to emissions of 9.6teCO₂/capita, almost twice as much as other European Union countries. Finally, Macedonia has committed to a reduction of between 30 and 36% in CO₂ emissions (which represent 80% of Macedonia's total emissions in a country with no policy on reducing emissions).

The United States (12%, 18.3 teCO₂/capita) confirm unsurprisingly their commitment to a reduction of between 26 and 28% in 2025 compared to 2005 figures (let's not forget that the original objective for this country was -17% by 2020). In order to achieve the objective of 2025, **the American government is counting on a doubling of the pace of emission reduction between 2020 and 2025**, until reaching -2.8% / year over these five years. Another noteworthy point: a reference (without commitment) to an 80% reduction in emissions by 2050. Meanwhile the commitments taken by the Obama administration are not in line with the stated ambitions by the President to achieve an agreement in Paris, allowing a temperature increase limited to +2°C. Americans will have to increase their contribution and stand firm on big environment-impacting projects, such as the keystone pipeline which is totally incompatible with an ambitious environmental policy. Hats off to **California** who has just committed, more strongly, to decrease their greenhouse gas emissions by 40% by the year 2030, compare to 1990 figures. Also, the USA's commitment has had a real impact on other Northern countries' INDCs. Indeed, Japan, Canada and Australia have taken on similar commitments but on a much longer time period. An increase in the USA's commitment would therefore send a powerful message to countries that until now have pledged very little. Obama's administration has however not given a clear message in terms of environmental change. While they did present an ambitious plan to reduce greenhouse gas emissions at the beginning of August, it has also authorized oil drilling in Alaska.

Canada (1.8%, 24.6 teCO₂/capita) announced a **disappointing contribution** considering it's one of the planet's biggest polluters per head of population. It committed itself to a **30% reduction in greenhouse gas emission by 2030, based on 2005 figures**. This commitment is especially disappointing given that on a local level, some towns and provinces have already started their energy transition. In fact, Vancouver for example has recently committed to functioning 100% on renewable resources and Ontario is set to join Quebec and California in their Carbon Emissions Trading.

The Fondation Nicolas Hulot is calling on Canada to increase its commitment to line up with the United States and to achieve the same reduction by 2025, or better still, -40% by 2030.

Russia (4.8%, 15.8 teCO₂/capita) pledged a decrease in greenhouse gas emissions of between -25% and -30% in 2030 compared to 1990. **It means a stagnation of total emissions compare to today's figures and an increase in per capita emissions since the Russian population is declining**. Moreover, the Russian INDC is almost only based on an augmentation of its dedicated ground to forestry, even though a study undertaken by the "World Resource Council" (WRC) acknowledged the drastic forest fires in Russia over the last few years. In 2013, Russia lost 4.3 million hectares of forestation, equivalent to a quarter of the world's forest total loss.

Japan (2.5%, 9.5teCO₂/hab) has announced a 26% drop in greenhouse gas emissions compared to 2013. The Japanese contribution has not achieved what was expected of one of the richest countries in the world. Indeed, the promises made have achieved less than those made by Europe and even the United States, which were already insufficient. Japan's difficulty in decreasing its greenhouse gas emissions is partially due to the choice to keep a high carbon electric mix in 2030 (56% of fossil resources of which 26 % is coal.) It must also be noted that the impact of the Fukushima incident caused greenhouse gas emissions in Japan to increase between 10 and 15% because of an increase in electricity production from fossil fuels. The Japanese government has in addition used this as an argument to present the year 2013 as a turning point in energy production, although in reality Japan intends to return to an energy mix similar to 2011. It must also be noted that the new target is lower than the previous Japanese target, which aims to decrease emissions by 25 % in 2020 compared to 1990. More commitment was expected of the seventh most emitting country in the world.

South Korea (1.4%, 13.5 teCO₂/capita) a member of the G20, delivered a particularly disappointing INDC for such a rich country. **It committed to a -37% decrease relative to a BAU scenario** (even though it had voluntarily committed to -30% in 2020). It's a very limited ambition for a country with one of the highest greenhouse gas emissions per person in the world. Such a modest commitment would leave South Korea with per capita emissions superior to 10t in 2030, almost twice as what it should be if we follow the guidelines of the IPCC.

Australia (1,4% 29,7teCO₂) has published lower INDC's than was expected from the country that releases the highest proportion of greenhouse gases per inhabitant in the G20. Australia has committed itself to a reduction of between 26 and 28% in greenhouse gas emissions by 2030 in comparison to 2005. It also promises that 23% of its energy mix will be derived from renewable energy sources. These commitments are far from the objectives set by the Climate Change Authority which proposed an initial decrease of 30% in greenhouse gas emissions by 2025 and a second decrease over the period 2025-2030, to be followed by a final decrease of between 40 and 60% by 2030. However, Australia's commitments are not unexpected given the Prime Minister's open hostility to any climate change policy – he notably declaring himself to be in favor of the development of coal mines in the country.

⇒ **G7: Will positive declarations be followed up by action ?**

The Fondation Nicolas Hulot praises the fact that climate has become a recurring topic in all institutions of governance, such as the G7 or the G20. The G7 declaration, held in Germany on June 7 /8, referred to "decarbonizing the economy over the course of this century". Member states declared themselves also to be "attached to the elimination of subsidies of inefficient fossil fuels". These two elements are indispensable but the plan of action for actually arriving at this result has not yet been defined.

The G7 countries have also set a target of achieving "the high end of the range" advocated by the IPCC (between - 40 to - 70% GHG emissions by 2050 compared to 2010 figures). Unfortunately, current **INDC are not compatible with this objective**. With this declaration, G7 members give themselves the objective of being around 15GteCO₂ in 2050, but current commitments would only take us to 56GteCO₂ in 2030.

It is necessary that G7 countries set an example and finally put their words into actions.

Southern countries: diverse commitments

Developing G20 countries have submitted very unequal contributions: very ambitious ones for some, such as Brazil, and very disappointing ones for Argentina and Turkey.

China and India, which have a major role to play in the fight against global warming, have submitted contributions in which they commit to energy transition, but in an insufficient manner with regard to their capacities and their already implemented policies.

Brazil (3,8% 9,2 teCO₂/cap) is a nice surprise for having submitted a very ambitious contribution. It is indeed one of the few Southern countries to have committed compared to a reference year and not a BAU scenario. Thus, Brazil has pledged to reduce its GHG emissions by 43% by 2030 compared to 2005, to a soil restoration of 12 millions of hectares and to the end of illegal deforestation. It will obviously be needed to check that Dilma Rousseff's government hold true to that promise, already made several times but never kept. Respecting this commitment is essential, as Brazilian GHG emissions are, unlike most, composed for 2/3 of changes in land use, linked to deforestation and

agriculture. Moreover, a current 82% of Brazil's electricity production comes from renewable (especially hydro) energy, and biofuels made from sugarcane alcohol are largely developed. However, the environmental benefits linked to the choice of Brazilian energy policies are to be put into perspective, since the construction of dams and deforestation for sugarcane plantation has significantly increased Brazilian GHG emissions. If Brazil achieves its goal, then its per capita emissions will be 5.3 tCO₂eq per capita, in line with the recommendations of the IPCC and the lowest level of G20 countries after Mexico.

Mexico (1.5%, 6.2teCO₂/capita) is the first developing country to have published its contribution. It commits to a 22% reduction of greenhouse gas emissions by 2030 (-25% with black carbon) compare to 2013 and with an emissions peak in 2026. An interesting point regarding the Mexican contribution is that **the country will increase its commitment to -36% (-40% with black carbon)** if it would get financial aids, transfer of technologies and if a price was more broadly given to carbon.

Argentina (0.85%, 9.9 tCO₂ / cap) submitted a contribution that is not consistent with the +2°C objective chosen by the international community. Indeed, the Argentinean government has committed to reducing by 15% its GHG emissions compared to a BAU, and a 30% reduction in case they receive international funding. In both cases, the government of Cristina Fernández de Kirchner expects an increase in emissions compared to today and this despite the fact that the country's population does not increase anymore. This contribution is a very bad signal, for Argentinean per capita emissions are already high and will continue to increase, or at best stagnate.

China (22%, 7.7teCO₂/capita) is the largest greenhouse gas emitter in the world.

It committed to four main points:

- An emissions peak at the latest in 2030
- 20% renewable energies or nuclear in its energy mix, compare to 11.2% in 2014
- Increase forestation by 4.5 billion square meters compared to 2005
- Decrease the carbon intensity of its economy threefold compare to 2005 (between -60 to -65%)⁶

These commitments are leading to the right direction. In fact, since 1990 China has multiplied its emissions by four per person. Although not revolutionary, China has endorsed a change in its economy through a lower carbon economy and is sending a strong signal to the other big emitters of the G20 which will need to reinforce their commitments. According to these engagements, the FNH estimates that **China would emit in 2030 between 13.6 and 15.5 billion tons equivalent CO₂**⁷ Nonetheless, China has the ability to go even faster as we can see from its investments in renewable energies, notably wind turbines. Indeed, since 2009 China has been the world biggest producer of wind turbines. **It has thus achieved its objective for 2020 to produce 30GW on its home territory ten years in advance and has taken it to 150GW (95 GW land turbines already in place in 2014), a power equivalent to the current world output (157GW).** At the same time, China's investments in coal are diminishing quickly and it could have aimed to a decrease of 80% of its carbon intensity and an emissions peak by 2025 with a rapid decrease thereafter.

In view of the great capacity for action that China demonstrated, one could justifiably be disappointed that it has maintained such conservative intentions. In fact there is every possibility that China, as before with the wind turbines, achieves its objectives earlier. It is rather surprising that China commit to such a weak decarbonization level, given that indications suggest it will achieve its target very quickly. In addition, the other commitments include in the Chinese INDC are

⁶ In 2014 the carbon intensity was already decreasing to -33,8% relative to 2005

⁷ FNH calculations based on a growth of 6% for the period 2015/2020 and 5% for 2021/2030

not in line with such a low rate (particularly the commitments about the non fossil energies.) By giving itself the objective of a faster decrease than its carbon intensity (by aiming for -75% in 2030), **China could have committed to an emissions peak around 2025 which would have led to limit emissions around 10,5 billion tCO₂ in 2030 (see table below)**. Moreover one can only regret that China didn't commit to any specific figure for reduction. In fact, in case of powerful economic growth the Chinese greenhouse gas emissions could continue to rise steeply. China could have taken a real "world leader" stance on climate issues and hence put positive pressure on Western countries.

Estimates of China's GHG emissions in 2020 and 2030 under several scenarios

Year	INDC scenario		2°C scenario
	GHG emission (in GtCO ₂) (scenario 1)	GHG emission (in GtCO ₂) (scenario 2)	GHG emission (in GtCO ₂) (scenario 3)
2005*	7	7	7
2012*	10.7	10.7	10.7
2020	14.3	13.1	11.2
2030	15.5	13.6	10.5

Table 4.

For each of the following scenarios the growth rate retained is 6% for the period 2015/2020 and 5% for the period 2021/2030

Scenario 1: decrease in carbon intensity by 40% in 2020 relative to 2005 and by 60% in 2030

Scenario 2: decrease in carbon intensity by 45% in 2020 relative to 2005 and by 65% in 2030

Scenario 3: decrease in carbon intensity by 45% in 2020 relative to 2005 and by 75% in 2030

* Source : WRI

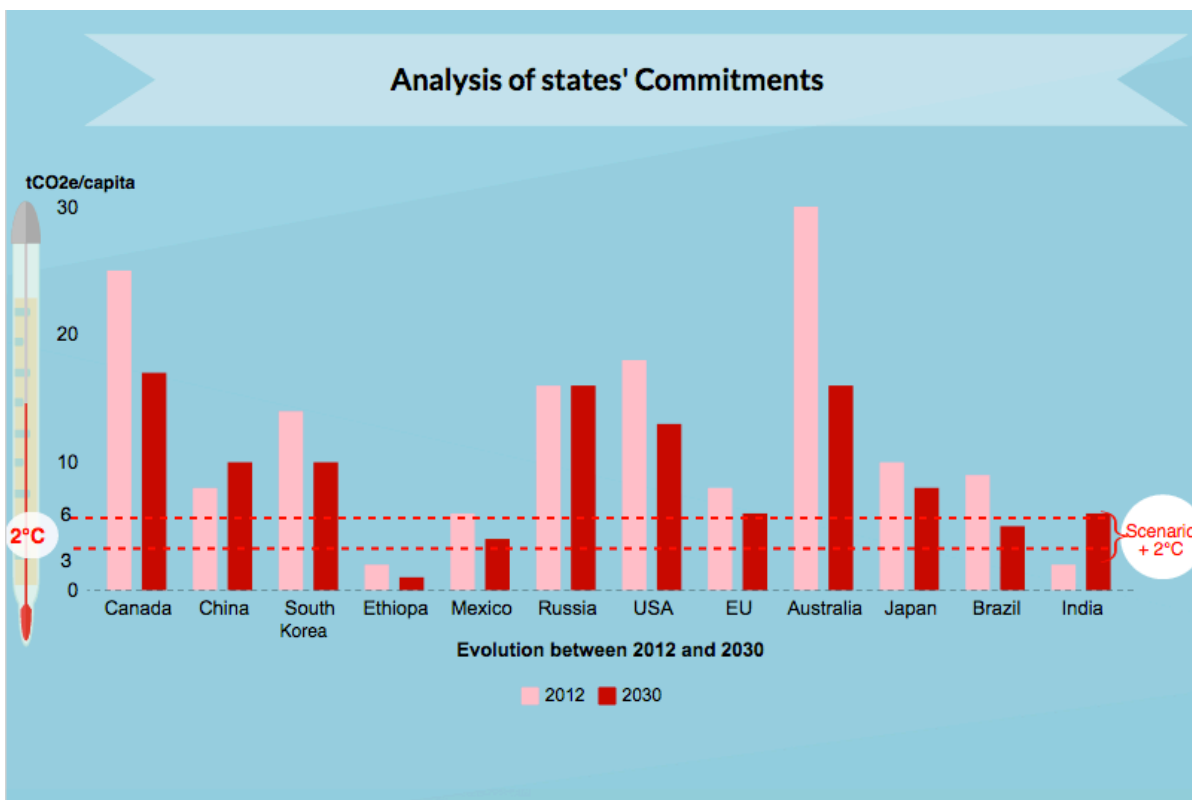
In **India** (6.1%, 2.2 tCO₂eq/cap), an inhabitant emits on average 2.3 tCO₂e per year, 5 times less than a European and 10 times less than an American, and to keep in mind that figure when analyzing their INDC. India has committed to a 33% to 35% reduction of the carbon intensity of its economy, taking 2005 as the base year. Moreover, India aims for non-fossil fuels to account for 40% of its electricity mix, which given expected growth figures would be very good news. In early 2015, the Indian Prime Minister had already announced plans to install 100 solar energy GW by 2022. In addition, India has set a target to capture 3 billion tCO₂eq by 2030 through reforestation. Nevertheless, it is regrettable that India has not defined a year for its emission peak. According to the INDC, 1.4 billion Indians should emit approximately 9.2 billion tCO₂eq in 2030, which would make India the second biggest emitter behind China, just ahead of the United States. In that scenario, every Indian would emit an average of 6.2 tCO₂e/capita in 2030, incompatible with the +2 ° C scenario. It should also be noted that the country has just ended its support for diesel fuel, saving \$10 billion in 2015. **Yet, like China, India should and could do better by reducing its carbon intensity by 45% compared to 2005, setting a year for its peak emissions, committing to 40% of renewable energy and eliminating from its energy plan the construction of nuclear power plants and "clean coal" plants.** India has conditioned the fulfillment of its commitments to international financial support, without specifying how much international funding it would need. What is clear is that, given the estimated investments (2.5 trillion by 2030), India will have to rely mainly on private investment.

Turkey (0.8%, 5.3 tCO₂/cap), made a contribution far from what was hoped for that candidate country to the European Union. Indeed, it has committed to a 21% decrease in greenhouse gas emissions in 2030 compared to a BAU. This BAU being very high, that commitment means that **the Turkish government plans to more than double its emissions by 2030**, bringing the emissions to more than 10 tCO₂e/capita. Commitments for renewable energy (+ 10GW of solar energy by 2030 and +16 GW of wind energy) are significantly lower than the existing potential. Moreover, it is regrettable that the Turks are planning to build 75 additional coal plants, which explain such an

increase in Turkish emissions. Finally, let us be reminded that Turkey is to host the G20 summit to be held two weeks before the start of COP21.

Indonesia (4.2%, 8 tCO₂/capita) is the sixth largest GHG emitter on the planet, ahead of countries such as Japan or Brazil. This emerging country, relatively unknown in France, experiences significant growth and a sharp rise in its population (+ 19% by 2030). These two elements make it a key player in international climate negotiations. The country had already committed in 2009 to reduce its GHG emissions by 26% by 2020 compared to a BAU scenario⁸, and by 41% if sufficient funding is received. Unfortunately, the Indonesian government has simply repeated similar commitments in the country's INDC: it committed to a 29% decrease in GHG emissions on a BAU and a 41% decrease in case of international financial support. The Indonesian INDC is not very detailed and does not explain the solutions that the government wants to put in place to stop deforestation and land degradation, which account for two thirds of the country's emissions. Besides forest protection, Indonesia must implement public policies to withdraw from coal, which currently represents 68% of the energy, to turn to still under-exploited renewable energy. In February 2014, the Indonesian government has taken a step in that direction: while updating its "National Energy Policy", it adopted the target of increasing renewable energy to 23% of its energy mix by 2025.

South Africa (1%, 8.6 CO₂ / hab) submitted a contribution difficult to analyze, because the South African government provides an extremely wide range of commitments. Indeed, it has pledged to reach its emission peak in 2025 or 2020, which would locate emissions in 2030 somewhere between 398 and 614 million tCO₂e depending of the year of the emission peak. In the second option, the South African population would emit 10.6 tCO₂e/capita, while the first option would amount to per capita emissions of 6.9 tCO₂e. In both cases, it will be necessary for emissions to decline rapidly after 2030. The INDC states that the country's investment levels will depend on Northern countries' technology transfer and access to international investment.



⁸ Business As Usual.

Emissions by country in 2030

« current commitment scenario » and « virtuous scenario »

Country	Current Commitments	GHG emissions in 2030 (millions of teCO ₂) «current commitment scenario »»	Virtuous scenario for the +2°C	GHG emissions by 2030 (millions of teCO ₂) « virtuous scenario»
USA	Between -26 and -28% in 2025 compared to 2005.	4 795	-45% compared to 2005	3 564
EU	-40% compared to 1990.	3 083	-50% compared to 1990	2 569
Turkey	-21% on a BAU	928	-50% on a BAU	587
Canada	-30% compared to 2005	692	-40% compared to 2005	550
Mexico	- 22% compared to 2013	584	-36% compared to 2013	480
Russia	-25% in 2030 compared to 1990	2 082	-50% compared to 1990	1 130
Japan	-26% compared to 2013	930	-40% compared to 2013	750
Australia	-26% compared to 2005	450	-40% compared to 2000	260
South Korea	-37% compared to BAU	535	-60% compared to BAU	340
India	-35% carbon intensity compared to 2005 (INDC provisional growth of about 7,7%/year)	9213	-45% carbon intensity compared to 2005 (growth of 6,5%/year)	5222
South Africa	Emissions peak in 2025	614	Emissions peak in 2020	398
Brazil	-43% compared to 2005	1172	-43% compared to 2005	1172
Indonésie	-29% on a BAU	2046	-41% on a BAU	1700
China	Emissions peak in 2030, 20% non fossil-energy in its energetic mix and a decrease of it carbon intensity between - 60% and -65% in 2030 compared to 2005	14 575	Emissions peak in 2025, 30% non fossil-energy in its energetic mix and a 75% decrease of it carbon intensity in 2030 compared to 2005	10 883
Rest of the world	Non-conditioned commitments and estimations for not yet submitted INDCs	17704	Conditioned commitments by other states	16609
Sea and air transportation	Expected	1 300	-25%	1 000
Total		59976		47014

Table 3: Initial estimations by the FNH on the WRI CAIT database. These figures are to be taken with necessary caution and will be updated in the coming weeks in accordance with additional analyses and the INDC analyses as well as other sources

Different commitments in different countries and regions of the world

Africa is a continent particularly important for the future because while it still represents a small share of global emissions, its demographic weight should make it a major player in global warming. Indeed, Africa (excluding South Africa) emits only 7% of global emissions today. It may be noted in the many African INDCs that most countries are ready to start an energy transition, if funding promises are kept. Some countries were particularly ambitious, like Ethiopia (-64% compared to a BAU, a stabilization of emissions with a 50% growth in population). This commitment confirms that the economic development of a country is not necessarily conditioned to a significant increase in greenhouse gas emissions. If these commitments are met, an Ethiopian would emit an average of 1.1 tCO₂e in 2030, 15 times less than a Canadian.

South America, Central America, the Caribbean region and Asia (excluding G20 countries) have, like Africa, taken many commitments conditional on receiving international funds. It is necessary that those financial commitments are met in order for these countries to overcome poverty in a sustainable and clean manner. We praise Costa Rica's pledge to have neutral emissions by 2020, just as Bhutan has been since 2009. Both countries are models for the international community to follow.

Several island countries have made just as ambitious contributions and aim for very low per capita emissions. Rising sea levels could lead to a partial or complete disappearance of their territory, even though they represent a negligible share of global emissions. It is therefore vital that the international community provides significant help for them to adapt to climate change. Kiribati for example aims to have per capita emissions close to 0 but they ask for the majority of that adaptation funding (over 93%).

The Near East and Middle East are for the moment noticeably absent from international negotiations; while some countries have submitted unambitious contributions (Israel and Lebanon), the majority of countries in this region has not submitted a contribution at all. And yet this region holds the majority of hydrocarbon reserves on the planet, and thus has a fundamental role in limiting global warming to +2°C. It is important that the international community encourage them to commit in the fight against global warming and mobilize their investment capacities to increase international aid to the LDCs after 2020.

The former Soviet area has a special place in international climate negotiations; in 1990, countries in this region were part of the USSR, with highly polluting industries and high GHG emissions. On par with Russia, these countries have subsequently seen their emissions decline sharply with the end of the USSR, allowing them to make GHG reductions in commitments compared to 1990, that in fact correspond to a stagnation or even an increase in GHG emissions compared to today. It is important that this area of the world revises upward its commitments, taking into account current base year emissions and not those measured in 1990 that do not correspond to the current reality.

⇒ Local governments' commitment : an example for the States ?

While national States have taken often not ambitious enough commitments, local authorities (cities, federal states, provinces...) are mobilizing to implement environmental policies for lower GHG emissions. Some of them have taken quantified commitments before the COP21, such as California (-40% compared to 1990) or Quebec (-37.5% compared to 1990). Cities, too, have taken commitments for lower emissions ; in addition to pioneering cities that have long engaged in sustainable development policies, such as San Francisco's target to recycle 100% of its waste by 2020 or Vancouver's commitment to operate 100% on renewable energy by 2020, other have recently made strong commitments, starting with the ten Chinese cities that have pledged to reach their emission peaks by 2020, ten years before the rest of the country. Those contributions are part of a US-China agreement signed mid-september between American and Chinese cities. Those commitments have infused some momentum to a summit held in Lyon on July 1 - 2 that led to a joint statement in which territories pledged to act for climate, and stated that their current efforts would save 1,5 GtCO₂ by 2020. These local commitments should be reflected in the agenda of solutions of the Paris agreement. However they can not replace the commitments of States and must instead have an accelerator and amplifier effect on national policies.

Climate funding, keystone of an ambitious agreement in Paris

During the 2009 Copenhagen COP15, developed countries committed to collectively provide \$100 billion to developing countries to help them reduce their greenhouse gas emissions and adapt to the consequences of the global warming. This promise has led most developing countries to condition their commitments (INDC) in terms of GHG emissions on obtaining international funding. The OECD reported on funds accounting and estimated at \$62 billion public and private climate funds in 2014. \$40 billion are still missing to reach the \$100 billion target. Despite reassuring speeches by developed countries, many questions remain to be resolved about these \$100 billion, pillar of the future agreement of Paris.

\$100 billion pledged in Copenhagen, should we count anything and everything?

According to the Copenhagen agreement, « *This funding will come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance.* »⁹ Including all types of private financing is not acceptable. Only private funding driven by public financing (leverage effect)¹⁰ must be accounted for.

This approach was upheld by the OECD. In its report, private funding represents approximately \$17 billion in 2014, slightly more than a quarter of the total. **For the Foundation Nicolas Hulot, if we stay in the same proportions, the \$100 billion should be made up of about \$70 billion of public funding per year until 2020. They accounted for just over \$43 billion in 2014.**

⁹ The Copenhagen agreement <http://unfccc.int/resource/docs/2009/cop15/fre/11a01f.pdf>

¹⁰ Either because they reassure private players or because they allow the disappearance of obstacles which would make investing almost impossible, report by Pascal Canfin and Alain Grandjean to the president of the Republic, 2015, (Part 3.5.1).

Furthermore, it is not acceptable that the missing public funding come from **transferring existing budgets for other public development issues into climate funding**.

Last but not least, for the Fondation Nicolas Hulot, public climate funding should be go in a greater proportion to grants to fund adaptation in the most vulnerable countries According to the OECD, only about 16% of climate funding goes to adaptation when it is a critical issue. The OECD does not publish data on which countries receive existing climate funding, but most of it goes today to the biggest developing countries. In the future, assistance to LDCs must increase.

Several organizations have accounted for the public climate founding of developed countries. (See chart below), evaluated to between \$14 and \$34 billion in 2012.

Different estimates of financial flows from developed countries to developing countries in 2012 (\$ billion)

	<i>UNFCCC STANDING COMMITTEE ON FINANCE (SFC)</i>	<i>WORLD RESSOURCE INSTITUTE</i>	<i>OXFAM</i>
Multilateral climate funding	16,4	15	5,9
Climate funding by Multilateral development banks (MDB)	15	15	4,5
Multilateral climate fund	1,4		1,4
Bilateral climate funding	18	17	8,2
Climate funding of bilateral financial institutions	14		4,2
Funding for States with climate as a “principal” objective	4	17	4
TOTAL	34,4	32	14,1

Table 4 : Source FNH

Results differ depending on whether different types of loans are accounted for in addition to donations. Concessional lending by MDBs and bilateral financial institutions represent on average 30%¹ of the loans from international financial institutions. The rest is made up of non-concessional loans at market rates mainly benefitting the largest emerging countries, which Oxfam chose not to consider. Concessional loans are really advantageous very long-term loans at very low rates, which is why the most vulnerable countries may use this type of loans, including for adaptation actions. That is why developing countries may use this type of loans. But only grants can fund efficiently adaptation in the most vulnerable countries.

* i.e. subsidized compared to market rates

What is expected of France and other major donating countries today?

Two months away from COP21, **it is essential to finally record progress on the issue of funding**, and not be limited to issues of accounting or recycling of already allocated funds.

Germany has paved the way by announcing an additional effort of \$2 billion. The United Kingdom has pledged to augment by 50% its total effort for climate by mobilizing £5.9 billion from 2016 to 2021. This is positive news, despite the fact that it will come not from additional but existing budgets. Other major investors must do the same.

China has committed to providing €2.8 billion to help developing countries. Other countries, not tied to the \$100 billion, but voluntary and capable of contributing to the effort, could do the same in the future.

France, host country of the COP21, announced during the UN General Assembly on 26 and 27 September an increase in its climate funding, from 3 billion currently to 5bn in 2020. The President of the Republic emphasized in its announcement the willingness of France to fund more adaptation and make more donations. The FNH welcomed this announcement.

A senatorial report published recently confirms this by revealing that, over the last few years, only 12% of French climate funds (via AFD) have benefited adaptation actions. It also points out the weakness of French commitments towards LDCs, which only received 9% of total funds.

But then the government clarified that those additional \$2 billion would only be loans, and announced a decrease of €170 million of the ODA mission in the 2016 budget (PLF). This is unacceptable. For the FNH, additional French aid should be targeted primarily towards adaptation in the most vulnerable countries. It therefore cannot be reduced to an increase in non-concessional loans from AFD. French aid must put more emphasis on donations to fund adaptation. In Lima, France must clarify its announcement at the UNGA. The FNH asks the government that at least 20% of climate funds in 2020 - €1 billion - should be grants to the most vulnerable countries.

To fund this effort, France can intensify its efforts so that the 11 European countries working on a tax on financial transactions may finally converge towards the implementation of an ambitious tax by 2016, which could yield several billion. Talks could be concluded on Nov. 10. Other leads were developed in the recent report by Alain Grandjean and Pascal Canfin¹¹, among which reducing fossil fuel subsidies, revenue from carbon offsetting in the aviation sector, or using IMF special drawing rights.

The \$100 billion by 2020 commitment in light of the first INDCs by Southern countries: is it enough?

A clear trajectory on the mobilisation of those \$100 billion is an essential condition for an ambitious agreement: all the Southern countries which submitted INDCs¹² have made part or the totality of their GHG emission reduction pledges conditional on access to international funding.

On the basis of the 39 developing countries that have submitted an INDC quantifying their funding needs to meet their reduction objectives, the following points should be noted:

- Generally, and **contrary to Northern countries, Southern countries have taken reduction commitments compatible with the objective set by the international community in Copenhagen to limit the rise in temperatures to 2°C.**

¹¹ CANFIN Pascal and GRANDJEAN Alain « Mobiliser les financements pour le climat – Une feuille de route pour financer une économie décarbonée » (2015, june)

¹² These contributions (Intended Nationally Determined Contributions) one for each country a presentation of their action plan to reach them. Their scale dates and referring scenarios being not precisely defined, the addition of these INDC will be a delicate task

- Those countries evaluate on average their total investment needs to \$25 billion a year, about \$78 per capita per year. The range is wide: from one country to the next, needs vary from \$25 to \$289 per capita.
- Reported to the 2.6 billion people in developing and less advanced countries in 2020, the \$100 billion envelope would correspond to an average aid per capita of just under \$40 a year.
- **It should be noted that current climate funding benefit more large emerging countries than less advanced countries.**
- On the basis of those 39¹³ first countries, and given the needs to fund adaptation, it is estimated that in 2020, **\$100 billion will cover just under half of the necessary investments in developing countries and less advanced countries.** Given the investment capabilities of those countries, \$100 billion are therefore absolutely necessary. **The rest should come from national investments, additional private investments, and South-South funding. It is therefore particularly important that only public investments and publically leveraged funding should be included in the \$100 billion.**
- Those \$100 billion were pledged by Annex 1 countries. After 2020, other states which have already gained sufficient financial power – among which China – will also have to take part in climate investments so that funding possibilities may be multiplied for other Southern countries.
Those \$100 billion only represent 0.14% of global GDP and **0.2% of OECD countries GDP. However, the climate investment they would make possible represent on average 8% of the current GDP of those 39 developing countries. We can therefore measure through those figures how important it is that the funding pledge be honored: it is the price of solidarity and of ensuring a viable future.**
- Those \$100 billion will have to **be primarily directed towards less advanced countries**, and more generally towards countries that are not capable of mobilizing funds by themselves. INDC are very different from each other, and funding needs do not cover the same areas. For example, except for Kenya, Benin and Ethiopia, **current funding needs should include necessary adaptation funding not quantified by other countries.** It is important that a significant part of those \$100 billion, maybe half, should be reserved for adaptation projects that often do not draw private investors.

13 309 million inhabitants by 2020, equivalent to 12% of the population of developing and less advanced countries

What financial commitments in the Paris agreement?

In Paris, it will be necessary to think about climate finance evolution and evaluation mechanisms. Climate finance, especially for adaptation and loss and damages should augment after 2020, **whence the necessity that financial contributions be regularly re-evaluated. The FNH pleads for a reevaluation every 5 years of global objectives on public funding only, to avoid the haziness around the \$100 billion. Adaptation should make up a specific funding objective, clearly separated from mitigation.**

Eventually, new countries will in turn have to take financial commitments, such as China.

⇒ What about the Green Climate Fund?

- The Green Climate Fund is one but not the only tool to help developing countries in the fight against global warming. It constitutes an important channel –the Copenhagen agreement mentions a “significant part” – to maintain the \$100 billion per year by 2020.
- To this day:
 - 33 countries have announced a contribution, among which 8 developing countries.
 - The total of the initial contributions, which constitute the initial capitalization of the fund, is of **\$10,2 billion, 58.5 % of which have been materialized** by commitment letters. 6 countries (USA, Japan, the UK, Germany, France and Sweden) provide 80% of the current sum.
- - Almost all the contributions are in the form of **donations to fund the projects**.
- Three countries are also considering other modes of intervention: loans for France, capital for the UK, and methods still to be defined for Canada.
- - **Those pledges are highly variable from one country to the next**. They represent an effort per capita exceeding \$50 per capita in Sweden and Norway, \$9.3 per capita in the US, and in Europe, \$12 per capita in Germany and \$16 per capita in France (or only \$8.9 counting only donations).
- - **The launch of the first projects funded by the Green Climate Fund before the COP21 would be a significant symbol**, especially if they are adaptation projects in less advanced countries or small insular countries.

* With contributions obviously very limited for those countries, under \$0.2 per capita

** But until now only about 15 EU countries have submitted their contributions.

Table

	<i>Population (in millions)</i>		<i>Total emissions of GHG (in million of teqCO2)</i>		<i>Emissions of GHG inhabitant (in teqCO2/inhab)</i>	
	2012**	2030**	2012***	2030*	2012*	2030*
Canada	35	41	856	693	24,6	17,1
Ethiopia	92	138	144	144	1,6	1,1
Gabon	2	2	7	8,8	4,3	3,7
Mexico	121	144	749	584	6,2	4,1
Marroco	33	39	73	148	2,2	3,8
Norway	5	6	24	21	4,8	3,7
Russia	143	134	2254	2083	15,7	15,6
Switzerland	8	9	48	36	6,0	3,8
South Korea	49	52	661	536	13,5	10,3
Japan	127	121	1 207	930	9,5	7,7
China	1 385	1 462	10 684	14 575	7,7	10
USA	318	363	5 823	4 795	18,3	13,2
Colombia	48	57	200	268	4,2	4,7
Dominican republic	10	12	31	24	3,0	1,9
Bénin	10	16	22	28	2,2	1,8
Djibouti	1	1	3	2,7	3,0	2,5
D. R. C	66	104	202	357	3,1	3,4
Tunisia	11	13	31	62	2,8	5,0
Ivory Coast	20	29	36	30	1,8	1,0
Comores	1	1	1	0,1	0,8	0,1
Macedonia	2	2	12	10	5,9	4,8
New Zeland	4	5	58	42	13,1	8,0
Australia	23	28	685	450	29,7	15,9
Kenya	43	66	70	100	1,6	1,5
EU	511	521	4 123	3 083	8,1	5,9
Total	3 099	3 405	28 075	29 156	9,1	8,6

Table 5.

* FNH calculations according to INDC (for the countries for whom the dates of commitment are distinct from 2030 or for whom the commitments are given relative to a scenario of reference, we have made the decision in this table to conserve the same emission level as their year of commitment but other hypotheses have been tested. When the countries' commitments are made of a range of values, we have taken the minimum.

** UN source

*** Source WRI CAIT source (composing the whole range of greenhouse gases and including the modifications of soil use)

50 days to Paris Climate Summit

A review of commitments and funding

Fondation Nicolas Hulot's analysis - October 9th 2015



FONDATION
NICOLAS HULOT
POUR LA NATURE
ET L'HOMME