

# What Is To Be Done? Preparing A Cool Future For Humanity

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## Abstract

Humanity faces a question of crucial importance: what should and can be done to tackle climate change? In the first section, I will suggest a political objective to guide policies for the next century towards a humanist end, from which I will derive an emblematic measure that would both eradicate misery and tackle global warming: a global basic income financed by a global carbon price. In the second section, I will review many short term actions that would bring us closer to the former objective; in particular, I will propose to foster a global civic movement, which seems crucial for global success, by building a collaborative manifesto supported by a critical mass of experts, personalities and citizens.

Humanity faces a question of crucial importance: what should and can be done to tackle climate change? If greenhouse gases (GhG) emissions continue on their **current trend**, hydrocarbons will likely be exploited until their depletion, so that global average temperature will rise by more than eight degrees,<sup>41,39</sup> and both Greenland and the West Antarctica ice sheet will completely melt, leading to a rise of sea level by about fifteen meters.<sup>19,27</sup> Needless to say, such a deep change in our climate in the following centuries would destroy infrastructures, displace millions of people, and entail massive and multidimensional crises (water shortages,<sup>24</sup> drops in crop yields<sup>42</sup> or productivity,<sup>12</sup> floods,<sup>33</sup> wars,<sup>13</sup> deadly heatwaves,<sup>38</sup> etc.<sup>20</sup>). As such, climate change is related to every other major political problem.

I argue that focusing only on climate change is not reasonable and that such a framing is likely to prove ineffective. We probably need a radical change in mind-sets to address the issues of humanity, not mere technical patches. I propose ways to do so, as well as recommend different actions, implementable under a variety of political contexts or from different positions (researcher, policy maker, citizen...), thereby diversifying the attempts so as to increase the chances of progress. In the first section, as a goal to be set regarding climate change, I suggest a political objective to guide the next century's policies towards a humanist end, from which I derive an emblematic policy that would both eradicate extreme poverty and tackle

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climate change: a global basic income financed by a global price on GhG emissions. In the second section, I review many short-term actions that would bring us closer to the former objective; in particular, I propose a way to foster a global civic movement, which seems crucial for global success.

**Literature review** The present reflection connects a variety of approaches from the literature. It defends the view that climate change is first and foremost a problem of distribution which borrows from Schelling<sup>54</sup> and from the critics of common frameworks of integrated assessment modelling.<sup>61,26</sup> The paper's humanist objective is similar to the capability and human rights approaches.<sup>45,56,57</sup> Prominent scholars already advocate its main political proposals: a global democracy,<sup>6,68</sup> a global carbon tax,<sup>18,14</sup> and a basic income in low-income countries.<sup>59,31,8</sup> Finally, the proposal to synthesize widely endorsed solutions to humanity's problems in a collaborative report is original in its scope and its political objective, but draws upon previous attempts and successes like the Wikipedia project, the Intergovernmental Panel on Climate Change (IPCC), and the International Panel on Social Progress (IPSP).<sup>30,35,46</sup>

## 1 What should be done: eradicating poverty

### 1.1 The need for a humanist mindset

Climate change raises the question of global and temporal distribution of power, wealth, opportunities, and capabilities. Indeed, the distribution of emissions is starkly unequal:<sup>32</sup> while the top 1% Americans emit on average 318 tCO<sub>2</sub>e per year, the average Indian emits 2t and the bottom 10% in Honduras or Mozambique emit only 0.1t.<sup>15</sup> And contrarily to many poor Africans or South-Asians yet to be born, the old rich Westerners with a big carbon footprint will probably not severely suffer from climate change and have thus little interest in amending their opulent lifestyle.<sup>a</sup> Recognizing that short-term financial interests of the elite go against sustainable development helps to understand that the solution is unlikely to come from current rulers. Moreover, in order to prevent the dramatic impacts of climate change, it is misleading to frame the question simply in terms of an environmental issue, as the core problem lies in the inequalities between humans differing in wealth, location, or generation. As such, a solution to climate change or its impacts cannot be fair unless it involves a substantial transfer of purchasing power from the current rich (e.g. through carbon taxes) to the future poor (e.g. through adaptation funds).

A solution to the coupled issue of inequalities and climate change will require a widening of people's perspectives. Who does one seek to favor most in their political choices? Answering this broad question, by drawing a line between "allies" and "enemies", synthesizes the political leaning of anyone. One can classify people on a scale going from the smallest to the largest supported group: one's self, relatives, ethnicity or region, nation or religion, all humans, the whole biosphere. To the point that we can only feel empathy, form ties and negotiate reciprocal soli-

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<sup>a</sup>As is shown by the differentiated **vulnerability** or **damages on GDP** by country.

clarity with those we interact with, it is understandable that humans have historically evolved in clans fighting against each other for the control of resources. However, to achieve a harmonious prosperity, we should unite in a universal group of solidarity, and fight together against external enemies (diseases, climate disasters) rather than against people with whom we could discuss and solve peacefully our conflicts. Thanks to the Internet, it is now conceivable to weave a network of interpersonal bonds needed to build a safe and sustainable society. Moreover, building trust among people is likely to elicit great positive effects on society, such as better health and lesser inequalities.<sup>23</sup> At a time when nationalistic and egoistic tendencies are gaining ground, it is thus crucial that humans enlarge their community of solidarity and think long-term.<sup>b</sup>

This kind of pragmatism needs to become dominant in the near future to get a general opinion, leaders, and institutions favoring equally all humans (including future generations) instead of defending their relatives' or their nation's short term financial interests. Such *humanism* is crucial for the fate of weak people and of climate. Moreover, understanding that all destinies are interdependent and that each one's happiness depends on the perspectives of well-being granted to anyone else<sup>49</sup> is the only spirituality whose spread can enable sustained happiness to the greater number, by *projecting* a desirable future (instead of *predicting* a depressing one). For these reasons, the solution to climate change lies more in the battle of ideas between humanists and individualists than in the diplomatic bargaining among countries.

## 1.2 Humanist objectives

If we ask the right questions, people will likely respond with humanism. Indeed, I tested in a survey to a representative sample of French adults the objective that I wish to erect as a foundational political principle:<sup>c</sup>

We want that humanity insure to all humans the *necessary conditions for well-being*: access to drinkable water, food, health care, a healthy environment, security, housing, attention, an education, information.

Only 1% disagreed, suggesting that this humanist aim is largely shared. This principle is a necessary preliminary to the flourishing of humanity: it mainly responds to the current urgency of eradicating extreme poverty. As this principle directly addresses concrete conditions of living, it has a better capacity for support and mobilization than an abstract target such as limiting the temperature anomaly to +2°C, which is at best a secondary objective, deriving from more fundamental ones. An objective expressed in disaggregated items (food, healthcare...) is also preferable to the maximization of the inter-temporal consumption of a representative agent<sup>44,65,52</sup> generally used by economists for several reasons. First, it takes

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<sup>b</sup>This applies to researchers as well, who somewhat bias scientific results towards optimism by stopping most of their simulation at 2100, whereas the worst effects of climate change will likely occur after that date.<sup>39</sup> Indeed, 2100 should be considered as a medium term benchmark (even the more so regarding climate), as it is only a human's lifetime away from now.

<sup>c</sup>The survey was conducted over 499 persons at the autumn 2016 using the quota method. Over the 93% who answered, 18% actually chose "Yes, but with some exceptions" while 81% fully agreed. See [adrien-fabre.com/sondage/resultats.php](http://adrien-fabre.com/sondage/resultats.php).

into account distributional issues,<sup>54</sup> whereas economists usually constrain their models to preserve current inequalities (by assigning lower weights to the utility of low-income people).<sup>61</sup> Second, the kind of optimization commonly used by economists relies on a very uncertain parameter: the future growth rate, and often leads to heavily discount future generations' as it is assumed that they will be better-off.<sup>26</sup> Third, the average consumption is far less related to well-being than what is commonly assumed by economists, although Easterlin pointed out this paradox long time ago.<sup>16,22</sup> However, many will argue that this objective is not ambitious enough, as it does not address inequalities nor climate change, but only deprivation. Indeed, it ought to be completed with a second principle, the *democracy* principle:

We want anyone to share the same power of decision on the decisions that affect them and interest them.

This principle implicitly refers to a notion of proportionality: “power in any decision-making process should be proportional to individual stakes”.<sup>11</sup> This principle also contains the notion of subsidiarity: the power of decision should belong to the level (village, country, world...) affected by the decision (and do so democratically). This principle thus justifies the creation of a world federation endowed with a supranational assembly competent on climate and other global issues.<sup>6</sup> In accordance with this principle, an electoral system ensuring proportional representation of political opinions is mandated. A electoral system featuring global lists would allow the proportional representation of all humans in the same political entity, but the system should also ensure that each region is represented. To that purpose, the mixed-member proportional system seems most indicated. Under this system, each person votes for a candidate of their constituency and each candidate is affiliated to a global list of candidates. Representatives from the lists complement representatives elected in the constituencies in a compensatory way that ensures proportional representation of the lists. Note that the democracy principle also entails the notion of equity, including financial equity. Indeed, too large inequalities are incompatible with the democracy principle as they inevitably lead to unequal powers of decision (if only because money is used to command actions).

These two principles are similar to the Sustainable Development Goals adopted in 2015 by the United Nations (which notably aims to lift all humans out of extreme poverty in 2030) and to the notion of “equitable access to sustainable development” introduced by India at the Cancun climate summit in 2010. Consequently, they mustn't go unheeded: they should instead constitute the core of the policies of every country. As they are demanding, they require to think global and break the silos, to efficiently design comprehensive solutions to intricate issues: choices of energy, agriculture, urbanism, trade, or financial system, to name just a few.

### 1.3 An ideal global climate policy

Now that I have defined the principles that should guide policy proposals, the latter will arise logically from scientific knowledge and risk-aversion (which can be thought as a last *precautionary* principle). Burning hydrocarbons hinders the capacities of future generations in two ways: firstly, it degrades the adequacy of

our infrastructures to our climate (e.g. by contributing to sea-level rise); secondly, it prevents them from using hydrocarbons in more productive ways or in processes where they are less substitutable than for energy production (e.g. in the production of plastic for medical equipment). Indeed, future generations cannot enter the market and raise the price of these exhaustible resources to its inter-generational optimum. As the same argument applies to deprived humans (who suffer from unfair poverty) and to other exhaustible resources, the case is strong for a quick transition towards a sustainable economy, i.e. one that is socially fair, helpful for future generations and sober in exhaustible resources. While focusing on global warming could lead to supporting a sustained injection of sulfate aerosols in the stratosphere to offset anthropogenic greenhouse effect, our comprehensive approach advises us to restrain from engaging into such a risky behavior.<sup>d</sup> Actually, even absent climate change, we would need to limit our use of fossil fuels—for inter-generational considerations—and possibly also our consumption of industrial meat—for an ethical concern (noting also that large land and water requirements might also compete with other possible uses).<sup>e</sup>

Then comes the question: how to limit our emissions of greenhouse gases? Economic analysis supports a global rising price on emissions,<sup>67</sup> to insure an agnostic, lowly manipulable and smooth internalization of climatic externalities. For several reasons, the best way to spend the money raised is through a global basic income, i.e. a regular, equal and unconditional cash transfer to all adults.<sup>f 50,59,10,60,31</sup> This system where the revenues from a global price on GhG emissions would be redistributed equally to all has been advocated by the Foundation for the Economics of Sustainability under the name of *cap and share*.<sup>2</sup> A price of \$100/tCO<sub>2</sub> would finance an income of \$30/month for every human above 15, which roughly corresponds to the absolute poverty line (below which lives one tenth of the population), or to 1.5% of the Gross World Product (see Figure 1 and Appendix A). Contrarily to other spending proposals, this scheme would eradicate extreme pecuniary poverty while decentralizing decision-making through everyone's empowerment (especially women) and would avoid the diversion of the funds through corruption. It would also compensate directly the people for the higher prices implied by the policy, and it is based on a solid principle: an equal permit to pollute for everyone. As GhG emissions are increasing with income both among<sup>32</sup> and within<sup>21</sup> countries, the policy would entail a redistribution from rich people (who

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<sup>d</sup>The only cheap known solution against global warming is the injection of sulfate aerosols in the stratosphere,<sup>58</sup> and it is only a partial and temporary solution as injecting enough SO<sub>2</sub> to halt warming and sea-level rise would entail lower precipitations and more droughts without even addressing ocean acidification<sup>36</sup>, and can help keeping the temperature low for no more than a century.<sup>55</sup> As such an additional perturbation of the climate would likely disrupt Asian and African monsoons,<sup>53</sup> compensatory transfers would still be needed to insure food supply. Besides, when dealing with such a highly complex system as the Earth, caution would recommend mastered options over uncertain ones (dismissing also other forms of climate engineering such as ocean fertilization).<sup>37</sup>

<sup>e</sup>Ruminants emit (enteric) methane.<sup>66</sup> Their emissions can be reduced by 30-40% by a change of forage.<sup>29</sup>

<sup>f</sup>It is realistic to assume that low-income countries can effectively distribute a basic income, as the Indian identification system Aadhaar (launched in 2009) can already be used for that purpose.<sup>25</sup>[reference removed for the review] Aadhaar relies on biometry, but the choice should be given to each population whether they prefer an identification system relying on biometry or on their local administration (or whether they prefer not to receive the basic income).



emit more than their permit) to poor people (who emit less). One can argue that the revenue of a Pigouvian tax of this kind should be used to compensate those who bear the damages or finance an adaptation fund. Yet, there is no guarantee that the revenues from carbon pricing would match the necessary compensation and adaptation expenses, so that such expenses better be funded differently. Besides, eradicating extreme poverty is at least as important as compensating the victims of climate change. For these reasons, a global basic income seems the most appropriate use of the revenues from carbon pricing. For the choice of the instrument, both a tax and a quota (with auctioned and tradable allowances to emit GhG) are reasonable options, but both the *correct* tax rate or amount of quota are impossible to estimate. One should keep in mind that the choice of the price or of the quantity can be regularly adjusted, and as such, a tax or a tradable quota can implement the same level of abatement. In virtue of the subsidiarity principle, the choice of the instrument and of its level should belong to a global democratic assembly competent on climate issues. As nations have already set a target of temperature, it would make sense to favor an annual global quota decreasing exponentially over time corresponding to the amount of CO<sub>2</sub>eq needed to prevent a global average temperature anomaly of +2°C (relative to 1850) with a probability of 66%. That target could then be relaxed in case it causes a major economic disruption, or on the contrary be made more stringent if the energy transition goes smoothly. The quota implied by this target as well as modalities to convert gas emissions in CO<sub>2</sub>eq would be chosen by taking the median of all climatologists' estimates in a system of delegative democracy.<sup>8</sup>

However sound the previous proposal may be, more ambitious action is needed, including those listed in **Drawdown**. First, the most rapid impact that we can have is through reducing emissions of Short-Lived Climate Pollutants (which would also improve the health of millions of poor people), by financing a shift towards efficient technologies, such as new cook-stoves.<sup>h</sup> The lack of access to credit for poor households together with their ignorance of the matter justifies the need for an external supply of these goods. Second, we shall forbid the building of new GhG-emitting power plants as soon as possible. In effect, it has been shown that our current stock of GhG-emitting electricity infrastructure alone is likely to trigger such a warming, if operated to the end of its normal economic life (i.e. during 50 or 60 years).<sup>48</sup> The reason why emitting power plants should incur a special treatment in addition to the tax is that they are long-lived. As the tax should be low at the beginning and increase over time to allow for a smooth transition, it would need to reach a higher long term level if GhG-emitting power plants were not forbidden, in order to avoid these investments by raising the cost of emissions projected for their entire life span and in so doing, make them unprofitable. Hence, forbidding emitting power plants would eventually allow to set a lower price on GhG emissions while improving welfare, by unambiguously divesting from bad investments.<sup>63</sup> In addition, the same reasoning applies to exploration of new re-

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<sup>8</sup>A *delegative democracy* is a system of vote combining direct and representative democracy: anyone eligible can vote directly, or delegate their vote to anyone (at the condition that the latter has not delegated their vote to the former, directly or through a chain of delegations). In this way, trusted people weigh more in the decision, because they express several votes. I would add a feature to the strict definition: that delegates can choose whether reveal their vote or not.

<sup>h</sup><http://www.ccacoalition.org/en/initiatives/household-energy>

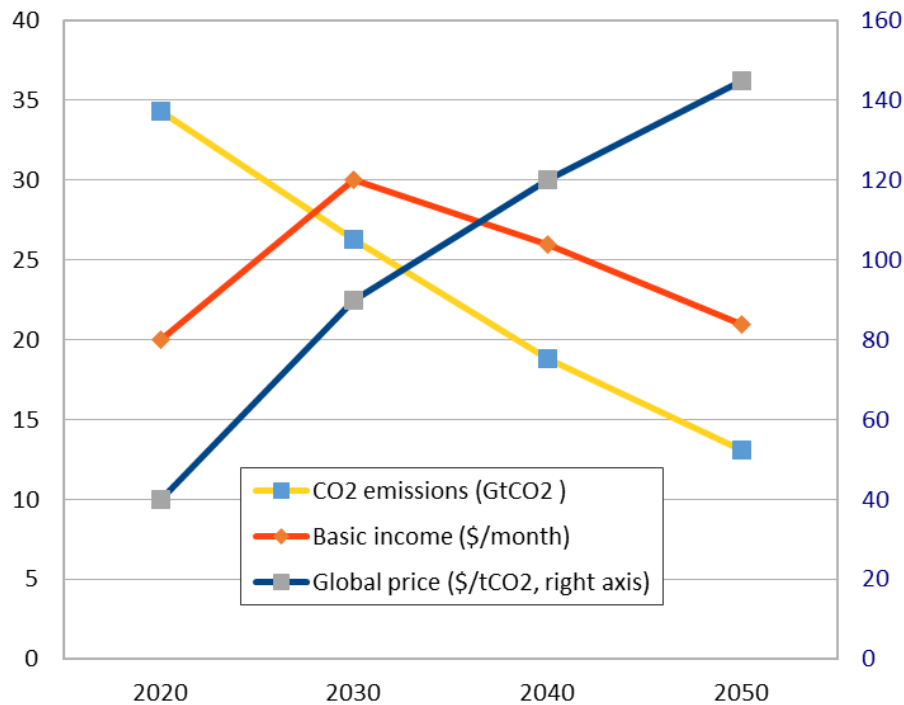


Figure 1: Estimation of the trajectory of a global basic income financed by a global tax on GhG emissions.

serves of fossil fuels, as proven reserves already exceed by a factor 3 the “budget” of emissions targeted by the international community.<sup>39,4</sup> Third, determining the global redistribution only in function of each one’s emissions is unfair, as one is not responsible for the capital inherited in their location. Hence, a redistribution of capital should take place at the same time. It could take the form of a global progressive tax on wealth (because human or social capital cannot be taxed easily), whose revenue would finance sustainable infrastructures where they are most needed. Fourth, more research and development (R&D) should be funded (e.g. by the **Green Climate Fund**) to boost promising technologies: molten salt reactors, micro-algae, carbon capture and storage... Indeed, Research & Development is underfunded in an unregulated market economy<sup>5</sup> due to its public good characteristics and to market imperfections such as lock-in induced by increasing returns to scale.<sup>7</sup>

## 2 What can be done: promoting humanist action

Although the plan detailed above would constitute a great step towards a fair society, one needs to confront it with the current balance of powers. Realpolitik advises taking little steps towards the ideal path rather than to defend it uncompromisingly. Following this insight, I will detail three kinds of actions that can be done: build awareness and solutions, pragmatically defend a *green diplomacy*, and change one’s own lifestyle. We call these actions *humanist* as they go “in the right direction”: their benefits outweigh their drawbacks as assessed through the lenses of the humanist principles just defined.

## 2.1 Plan for a global civic movement

Arguably, a sustainable development can be achieved if and only if a critical mass of humans unite and engage to the point that this fosters a global civic movement and urges governments to take ambitious actions. Here is an idea of a campaign that could be launched: universities, students and other voluntaries around the World would

1. collect, confront, structure and synthesize the experts' personal views on policies that ought to be implemented;<sup>i</sup>
2. write collectively a manifesto that will advise governments to take specific actions, and harvest as many signatures as possible, from scientists first, and then from all kinds of celebrities;
3. convince the boards of Facebook, Google, Wikipedia and the like to publish this manifesto, and ask their users if they agree with it or not. If they agree, one could even imagine that a personal commitment be proposed to them: e.g. to pay voluntarily a tax on one's GhG emissions to the **Green Climate Fund** so as to compensate their GhG footprint. As in all countries, a majority of people is aware of climate change and support many actions that would address it (see Figure 2),<sup>51,3,1</sup> we can hope that the manifesto be signed by hundreds of millions of people.

Such a combination of collective intelligence and social pressure could prove decisive for the success of our society. The manifesto would provide an ideal basis for a program of a global political movement, which would have branches in each democracy, constituted by existing parties that share a humanist perspective. Such a global coordination of the programs is likely to improve their current programs and attract a lot of interest. In addition, this movement could be extended to unions, and even engage in a worldwide strike if it were powerful enough and if no progress were made at that time on a global coordination of economic and climatic policies. In the light of the history of substantial social achievements, such a fierce battle between conservative forces and the union of the left-behind could well be the only way of obtaining a sustainable development.

## 2.2 Necessary compromises

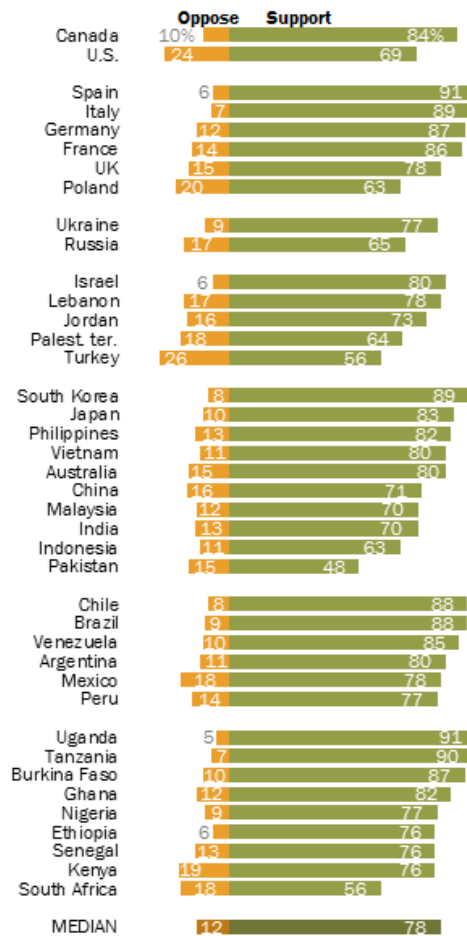
As a worldwide coalition of humanist rulers eager to build a world federation is unlikely to emerge in the foreseeable future, realpolitik might require to let go the ideal solutions of the first part and support some imperfect compromises. At the date when this article is being written (in 2021), the compromise one can reasonable hope for is actually more encouraging than ever before as the main world powers are each expressing their intention to become carbon neutral by

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<sup>i</sup>The views should concern all issues, and not only global warming, because we need a comprehensive approach, if only because a plan to stop climate change would not gain sufficient support if it was detrimental to the Western working class. Besides, these views would need to be contextualized: contributors would specify under which circumstances they support (or not) of a given policy, for example. Many proposals are already available, so the platform could be fed collaboratively with published sources.



Figure 2: “Do you support or oppose your country limiting GhG emissions as part of an international agreement?” Representative survey by Pew Research Center (2015).



mid-century. Under the leadership of Ursula von der Leyen, the European Union places decarbonization at the top of its agenda and prepares an extensive policy package called the **Green Deal** to decrease territorial emissions by 40% in the next ten years (so that GhG emissions would be 55% lower in 2030 than in 1990) with the aim of reaching carbon neutrality by 2050.<sup>17</sup> President Xi Jinping has announced at the 2020 UN General Assembly that China aims to reach carbon neutrality by 2060. In the United States, the Democrats have regained control of the Congress and President-elect Joe Biden plans to invest \$1.7 trillion in the next ten years and achieve net-zero emissions by 2050. Adding to that the recent **pledges of carbon neutrality** by 2050 of 20 countries (including Japan, South Korea, Canada, the United Kingdom, Switzerland, Norway, South Africa, Chile, Colombia...), it is a group of nations representing over 75% of the World Gross Product which aims for carbon neutrality by 2050 or 2060.

Despite this momentum for climate action, our ideal humanist solutions still seem out of reach. Most countries support a nationalistic policy and many do not value democracy, so a global democratic assembly is hardly imaginable. High-income countries do not plan to redistribute any substantial amount of their wealth to vulnerable countries and would rather use internally the revenues they can raise

with carbon pricing. This national preference is arguably the blind spot of high-income countries climate policies and the likely reason why low-income countries do not adopt an ambitious climate plan. Indeed, due to a lack of resources and by virtue of principles of justice such as the Common But Differentiated Responsibilities<sup>64</sup>, most low and medium income countries condition their Nationally Determined Contribution (NDC) to external funding.<sup>40</sup> Even if it were entirely earmarked to NDC implementation, the annual funding of \$100 billion currently pledged by high-income countries would be critically insufficient as the costs of the conditional NDCs are estimated between 1 and 4 trillion dollars.<sup>47</sup>

In order to reach the best compromise, it seems crucial to lobby for a *green diplomacy* along two directions. First, we should push for global solidarity and a fair burden-sharing. This could take the form of a “reverse conditional contribution”: a group of high-income countries would finance a group of willing low-income countries under the condition that they respect a plan to reduce their GhG emissions and improve their people’s livelihoods. Second, we should seize the current opportunity window where the main world powers commit to carbon neutrality by securing a progressive climate agenda in the long-term through a *climate club*.<sup>43</sup> To my knowledge, the treaty with the highest chance of success to establish a climate club would function in the following way: signatories agree that if enough countries join, they will enforce strict abatement policies, benefit from a *carrot* within the club, and impose a *stick* on non-compliers. If the quorum is not attained, they do not impose the *stick* on non signatories (to avoid retaliation from them, thus fostering entry). In the paper introducing this mechanism, Barrett & Dannenberg<sup>9</sup> propose free trade as the carrot and tariffs as the stick. This might work, but we can imagine other incentives: the “reverse conditional contribution” appeared as good way to bring in low income countries; while some sanctions like a ban to travel within the club for nationals outside the club may be more effective than trade tariffs as it can really annoy the elites of non signatory countries.

The plan (detailed in the previous Section) to build and voice a manifesto from a global cooperation of experts is most indicated to bring such mechanisms from universities’ libraries to the negotiating tables as well as to push diplomats towards a humanist mindset despite the intergovernmental framework that structurally encourages a nationalistic one. The more successful the plan is, the more pressure governments will face to enact the ideal solutions.

### 2.3 A commitment for everyone

Meanwhile, it is important to support any initiative that moves in the right direction. Such attempts are spreading throughout the globe, at every level. At the state level, some countries rapidly shift towards renewable energy, and prepare the transition towards electric transportation. The greatest changes may actually arise from the **cities**, which are generally more progressive: many plan a denser urbanization, favor bicycles over cars, develop public transportation networks, encourage urban farms, subsidize energy-plus-houses. Even at the lower level, a lot of progress is ongoing, especially when the ecological consciousness is aligned with financial interests: then, thermal insulation of buildings or crowdfunding of wind panels are undertaken, to name just a few.

Finally, however grim the perspective for a truly sustainable world may be

from a realpolitik standpoint, there are some actions which can be done by everyone right now to tackle climate change, and which would be decisive were everyone undertaking them. Indeed, what is collective behavior if not the aggregation of individual life choices? Besides, it is very difficult to answer the question “What can we do?” for any other “we” than ourselves. “What can I do?” seems a much more pragmatic question to address. And here, the answers are pretty straightforward: eat only little red meat (if any), avoid plane travels, reduce heating or cooling consumption (by insulating and compromising on space and temperature), choose a job or engage in activities that help humanity (like **benevolent lobbying**), invest in sustainable projects or put one’s savings in cooperative banks (instead of banks that finance polluters), vote for humanist parties around the World, cycle, recycle, use public transportation or at worst carpooling, share machines and equipment with one’s neighbors, tell one’s relative about all this, and according to one’s means, donate to charity (e.g. for offsetting one’s GhG footprint, as enabled by the organization **Climate Care**<sup>j</sup>). If one prioritizes the preservation of climate above everything else, one would not even make a child,<sup>69</sup> but such a radical perspective misses the felicity brought by a new person.

## Conclusion

If only because governmental positions seem aligned with the global elite’s interests<sup>28</sup> (or rather, what they *believe* to be in their interest), the current multilateral diplomatic bargaining is an unsuited setting for global negotiations. In effect, it produces the illusion of an international treatment while framing the issue as a game between antagonistic national motives. Both biases delay the resolution and worsen the issue. That is not to say that we should necessarily abandon the multilateral framework—indeed, the balance of powers make it very unlikely that a democratic supranational setting emerges. On the contrary, new approaches should be tried to make it work: threatening unwilling countries of sanctions is arguably the smartest. But one should not be credulous regarding a system which structurally hampers any ambitious action, such as a global price on GhG emissions financing a global basic income. Instead, one should seek and support alternative initiatives. Fortunately, there is ample room at the personal, local or organization level to build altogether a humanist future. The co-writing by experts of an all-encompassing humanist manifesto followed by a worldwide petition looks like a promising opportunity, as it could provide the same kind of impetus for a global civic movement as the IPCC reports arguably did. Hopefully, many humanist projects will succeed, and climate change will be come to an end thanks to our collective enlightenment and action.

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<sup>j</sup><https://climatecare.org/carbon-offsetting/>

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## A Amount of a global basic income funded by a global carbon price

I estimate the amount of a basic income distributed to all humans 15 years of age or older, funded by a global price on CO<sub>2</sub> emissions (Table 1). This estimate is only an order of magnitude, with a confidence interval of say, plus or minus 50%, given the uncertainties about how much emissions are acceptable and how much emissions will be reduced as a result of the price. Moreover, as I am only considering CO<sub>2</sub>, and not the methane that should also be taxed, the result is *a priori* underestimated.

	Date	2020	2030	2040	2050
CO <sub>2</sub> emissions (GtCO <sub>2</sub> )		34.3	26.3	18.8	13.1
Global price (\$/tCO <sub>2</sub> )		40	90	120	145
Total revenue (G\$/year)		1,372	2,367	2,256	1,900
Population over 15 years (Gpers)		5.81	6.53	7.17	7.69
<b>Basic income (\$/month)</b>		<b>20</b>	<b>30</b>	<b>26</b>	<b>21</b>
Basic income for Sub-Saharan Africa (\$ PPP/day)		1.38	2.07	1.80	1.45
Share of <b>global income</b> , assuming a 3.5% growth (%)		1.4	1.7	1.2	0.7

Table 1: Amount of a global basic income funded by a global carbon price compatible with a 2°C scenario.

I use the **IEA's 2DS scenario**, which is consistent with limiting the global average temperature increase to 2°C with a probability of at least 50%. The contribution by Hood<sup>34</sup> to the Stern – Stiglitz report<sup>62</sup> on carbon pricing presents a price corridor compatible with this emissions scenario. The product of these two series provides an estimate of the revenues expected from a global tariff on CO<sub>2</sub> emissions. Finally, I take the **UN median scenario** for the evolution of the population aged over 15 years, which I consider exogenous as a first approximation.

I thus obtain the basic income that could be paid to humans over 15 years old thanks to the revenues from the global tariff from 2020 to 2050: between \$20 and \$30 per month, with a peak in 2030. By taking the ratio of the World Bank series relating the GDP per capita of Sub-Saharan Africa in **purchasing power parity** (PPP) and **value**, I obtain the factor by which the sums calculated above must be multiplied to get a rough idea of the purchasing power delivered in this region by the basic income: 2.1. Since poverty lines are defined in purchasing power parity, it is useful to make this conversion to estimate the impact of global basic income on poverty.

Taking the **absolute poverty line** equal to \$1.90 per day in constant 2011 dollars at purchasing power parity, one realizes that the basic income is sufficient to eradicate poverty, since it provides an income of \$1.38 per day as of 2020, and \$2.07 per day in 2030. Admittedly, this does not take into account the additional cost on household due to the tax, but this cost probably does not exceed 25% of the amount for the poorest.