

Principle-based Annex 1 Differentiation in the Copenhagen Accord

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Framing this framing paper

This paper does not pretend to be either comprehensive or definitive. Its goal, rather, is to be useful, in the context of a straightforward discussion about fundamental things – principles, strategies, compromises, redlines and all the rest. To that end, and taking account of the inevitable fact that different people will have different views about what is fundamental, we have chosen a modular structure. The sections are intended to be useful even when taken on their own. Taken together, they are intended to support a coherent discussion rather than present a foregone conclusion.

That said, two specific framing issues must be noted at the outset: the aggregate A1 target (a proxy for scientific urgency) and the promise / goal of transparent, principle-based global differentiation.

The aggregate A1 target

This paper will say little about scientific urgency. Rather, it will assume that its readers already know the awful truth. That, since the release of the IPCC's Fourth Assessment Report, the scientific consensus has become increasingly terrifying. And that, despite all the complexity and sensitivity of the 2020 / 2050 targets debate, the general outlines of the situation are actually

quite clear. Global emissions must peak soon, and then rapidly decline. More precisely, if we are to act, together, with the urgency necessary to avoid global climate catastrophe, then, by sometime in the mid 21st century, global emissions must be approaching zero. Obviously, this means that A1 emissions must peak soon, and then rapidly drop. Less obviously, it means that developing-world emissions must do the same, and without very much room for delay.

In this context, two additional points should be made.

- At the recent climate meetings in Bonn in April, CAN International called for an aggregate Annex 1 target of “more than 40% below 1990 levels” by 2020.¹ Critically, it also specified that A1 domestic targets are but one part of a “dual quantified obligation to reduce emissions at home and support developing countries.” They should be complemented by MRV financial and technological support to meet “agreed costs” of “nationally appropriate mitigation actions.” This agreement, though sometimes unclear, is welcome for its highlighting of the “dual quantified” nature of A1 obligations, for its ambition, and for the open international debate that led to its adoption. It’s not the last word on A1 targets, but it’s a good step, and it makes it easier to take others.
- The claim that developing countries must soon take extremely aggressive emissions reduction pathways does not in itself constitute a sub-rosa attempt to slip NA1 targets onto the negotiating agenda. This charge has been made against the 2008 paper by Höhne and den Elzen², in which case it is a fair one, because the paper refers explicitly to “allocations”. The claim that global emissions must drop rapidly and soon approach zero, however, is a claim of a different type, and while it has clear implications for NA1 emissions trajectories, it does not, in itself, imply any particular effort-sharing formula.

Much more could be said about all this. But the key questions concern not the stringency of the necessary global target, but rather the political and economic framework that would allow such a stringent target to be pursued in a just and acceptable manner. Critically, such a framework must not allow the wealthy to pull up the ladder that they’ve already climbed, and by so doing consign the poor to a future that is low-carbon by virtue of being high-poverty.

Global differentiation

The Copenhagen accord will be a transitional one, and will be taken as a precedent. More precisely, Copenhagen’s A1 differentiation scheme, whatever it turns out to be, will inevitably be taken to prefigure a future scheme in which differentiation is finally global. This linkage, moreover, is universally recognized if not eagerly acknowledged, and is one of the major reasons why the A1 differentiation debate is so fraught with anxiety and positioning. To put the matter simply, the decisions we make now will constrain the decisions that can be made later, and we all know it.

We point this out so that we may go on to make an obvious but essential point – it will be necessary, after Copenhagen, to not only expand the scope of the Copenhagen accord but also to deepen its stringency. And this need, already starkly visible, has a critical short-term implication – the Copenhagen accord must, to the maximum extent possible, be based upon compelling, easily comprehended equity principles, transparently applied.

Forward from the new CAN aggregate A1 target

CAN's new position on A1 aggregate targets calls for aggressive domestic reductions to be complemented by MRV financial and technological support for developing country actions. Limited offsetting of the domestic side of these "dual quantified obligations" is allowed, but this offsetting "must be additional to existing MRV support obligations to developing countries." Thus it is clear that the total A1 target is greater than the "more than 40% by 2020 below 1990" that is specified on the domestic side. However, much was left unspecified. Several open questions/controversies remain to be resolved:

- Notwithstanding an extensive, sometimes heated discussions on the domestic reduction side of the A1 dual obligation, no quantitative objective was specified for the A1 obligation for MRV support. Rather, this the new position simply hints at the overall level of ambition, stating that reductions from NA1 "autonomous" actions and A1-supported actions should together lead to "a substantial deviation from [NA1] baseline."
- In referring to "autonomous mitigation actions in developing countries according to their capacities" and "Low-cost and no-regrets mitigation actions achieved autonomously by developing countries", the new position implies that the notion of autonomous actions for Southern nations should be enshrined in a Copenhagen agreement.
- Some influential climate organizations have judged the "more than 40%" domestic target assigned to A1 to be both unrealistic and unhelpful. Four large US-based organizations (Conservation International, Environmental Defense Fund, Natural Resources Defense Council and The Nature Conservancy) specifically bylined it.
- The exact representation of this dual mitigation obligation remains undecided. Should it be taken as two distinct obligations, on the one side a domestic target (that might be partially met via well-defined offsets) and on the other as a obligation to finance NA1 mitigation? Or should it rather be seen a single aggregate mitigation obligation that can be met by a flexible combination of domestic action and international financing?
- How should the A1 MRV support obligation, the second half of the A1 mitigation burden, be specified? Should it be in monetary terms, in which case total cost would be well-defined, but emission reductions unspecified? Or should it be denominated in tons, thus implying that costs are undefined? Unsurprisingly, governments tend to prefer the cost certainty of the monetary approach, while environmentalists, with their concern for environmental adequacy, prefer to follow the carbon.

Putting the aggregate A1 target in comparable terms

These are all important questions, but for our purposes here, the most critical questions concern how A1's overall mitigation obligation (the sum of the A1 reduction target and the A1 MRV obligation) should be allocated among countries. Presumably, an equitable A1 differentiation scheme would be one that builds upon accepted equity principles to assign comparable two-fold national obligations in a manner that can effectively drive the achievement of a stringent global cap. (Or are there less "top down" approaches to the problem?)

What has often been missing from discussions about A1 differentiation is a focus on the question which now preoccupies us: How, in a system where both a mitigation target and an MRV support target must be taken into proper account, can a fair distribution be achieved? And yet it is obvious that it's the *combined* target that must be fairly divided – “comparability of effort” cannot be meaningfully calculated at the level of domestic efforts alone, and this would remain true even if they were correctly adjusted with respect to offsets.

There are, in more concrete terms, many possible ways that a country might claim limited scope for achieving domestic cuts. It might, for example, appeal to an already high level of relative efficiency (Japan) or an extremely high baseline due to prior inaction (US), and in each case (and many others) it would find a partially convincing justification. But is it not obvious, on its face, that all such claims are irrelevant, that it should not be let off the hook, that it should rather be required to invest financial or technical resources in developing-country mitigation, which would then count as an entirely legitimate part of its effort? Similarly, REDD support, defined properly and operationalized, would be equally legitimate, and should be recognized as such. And while there are good reasons to account for all these efforts separately, they are still additive. To be pedantically clear, A1 countries have a total obligation, and it's the sum of their efforts on all fronts that has to be taken into account when calculating their total contribution to the common goal of mitigating the global buildup of greenhouse gases.

In reality, all this is of course complicated to varying degrees:

- There are good arguments (from the need for greatly accelerated change in rich-world investment patterns to international distrust) for defining a “hard minimum” fraction of A1 mitigation obligations that must be met domestically. Thus, the domestic and international sides of an A1 mitigation obligation cannot be entirely fungible.
- Offsets confuse matters, especially when they are of questionable environmental value, and when they are used as a cheap and easy way for a country to pretend it is meeting both its international obligations and its domestic obligations.
- Since different countries have domestic mitigation options with different overall cost structures, comparing “effort” is not quite as simple as comparing tons.

Still, the bottom line is that A1 obligations can be properly understood only within a “total target” frame. Which is, perhaps, unfortunate, because such a frame makes it quite clear that A1 obligations, in the context of stringent global targets, are quite large. This creates an incentive to cling to the old habit in which we “message” A1 targets as, basically, A1 domestic reduction targets, which are after all smaller, and thus more palatable (especially with offsets), in terms of domestic political acceptability. Unfortunately, this simply does not work, from the point of A1 countries stepping up to meet their international obligations.

Principle-based differentiation

The discussion of principle-based differentiation is at once extremely simple and extremely complex. It is simple because, despite the complexity of the academic literature, only a small number of equity principles have any real traction and relevance, when it comes to the differentiation debate:

- **Historical responsibility and capacity to pay** are of course first among these relevant principles, for they are encoded directly into the convention principles language of “common

but differentiation responsibilities and respective capabilities.” And they are actively in play in the negotiations, as evidenced by this quote from the G-5 Political Declaration July of 2008): “Negotiations for a shared vision ... must be based on an equitable burden sharing paradigm that ensures equal sustainable development potential for all citizens of the world and that takes into account historical responsibility and respective capabilities as a fair and just approach.”³

- **Per-capita emissions rights**, which have been constructed in various ways, and which have the timeless attraction of appearing to be simple and fair. These were classically most influential as “Contraction and Convergence,” but live on today in various statements of the Indian Prime Minister⁴, and in the Chinese drift towards a negotiating position based on cumulative per-capita emissions allowances.⁵
- **Development rights** of various kinds (essentially a need-based equity principle), as in the Greenhouse Development Rights claim that all people have rights “to dignified lives free of the privations of poverty,” and that the climate regime must, as an absolute minimum, not worsen the prospects of the poor and the vulnerable. In the more general case, of course, the notion of “development” is a contested one – do people have a right to development, however “development” is defined, or only a right to “sustainable development?”

Having said all this, one other high-level point must be made before there can be a productive discussion of principle-based differentiation. This is, straightforwardly, that many experienced northern governmental and NGO negotiators fear that principle-based approaches *of any kind* can only make difficult negotiations even more difficult, for the simple reason that all such approaches, by their nature, reveal the essential truth of the climate impasse – that the North’s obligation to pay is much larger than is its willingness to do so.

This is an important point, but also a relative one, because when it comes to the preponderant size of the North’s obligation, the cat is already escaping the bag. This is clear in the discussion of cumulative per-capita responsibility that is gaining currency in parts of the South (e.g. China, Bolivia) and even, to a lesser degree, from conventional EU analysis. Look, for example, at the “Staff Working Documents” that underlie and elaborate upon the recent EC Communication. They clearly show that the EC methodology, though not principle-based in any strong sense, still calculates the US share of a conventionally aggressive A1 target to be quite daunting, at least when taken by the terms of the current US Congressional debate, or the official US Administration target of a return to 1990 levels by 2020.

More particularly, EC staff calculates that, as part of an overall 2020 A1 target of 27% below 2005 levels (which, more transparently, equals an overall 2020 A1 target of 30% below 1990), the US share comes to a 34% reduction.⁶ This translates to a US 2020 reduction target of 24% below 1990 levels. But this, please note, can only be interpreted as a domestic reduction target, not a total target in the sense discussed above. MRV and REDD support would have to be on top of this 24%.

Another important estimate of the US’s total obligation is provided by analysis presented by South Africa in Bonn in April, which proposed a target for the US of 52% below 1990 levels in 2020.⁷

Principles, problems, indicators

As noted at the outset, A1 differentiation cannot really be discussed without taking into account the precedents that it will set for the future global differentiation debate. In this context, all of the equity principles above are immediately relevant, even in a conversation that is restricted to A1 differentiation. Moreover, and importantly, there are two problems that, while not quite rising to the level of principles and rights, bear so strongly on the problem of fair shares effort sharing that they cannot really be set aside:

- **Unequal distribution of national mitigation potential.** The issue here is that, for a variety of reasons (resource endowments, early action, willingness to make behavioral changes), mitigation costs vary significantly between different countries. Comparing “effort” is therefore not quite as simple as comparing tons. Any framework that does not take proper account of this will not be fair, at least not in cost terms, which are arguably the terms that matter the most.
- **Unmet past obligations.** The issue here is simply that countries tend to “free ride.” They deny, stall, and negotiate in bad faith. And sometimes they simply ignore their obligations. And even an otherwise fair differentiation framework, if it neglects past, ongoing, or future free riding, will not be fair.

Given this, it’s clear that the debate about A1 differentiation is still pretty open. And this is particularly the case if we look beyond the second commitment period, and thus resolve to take precedent setting and trust building into appropriate account.

Also, differentiation is a quantitative exercise, so whatever principles we choose to take as the foundations of our approach, they must be translated into robust and properly quantified “indicators” before we can put them to work. There is more than one way of defining capacity, or historical responsibility, or even marginal abatement cost. The EC Communication is a beautiful example of the problems here, for it proceeds by way of a set of four indicators that have only indirect and indeterminate relationships to the Convention principles, or indeed to principles of any kind. These relationships, moreover, are mediated by a number of additional ad hoc assumptions.

Item: The EC Communication

This paper will not discuss the EU position on differentiation and effort sharing in any detail, but because it is so significant, and especially because any serious attempt to understand the EU position – as signaled in the European Commission Communication *Toward a Comprehensive Climate Change Agreement in Copenhagen* (EC, 2009), together with the EC Staff Working Document that elaborates on it (EC, 2009a; 2009b), and the modeling analysis that explores its implications (JRC-IPTS, 2009) – requires a detailed analysis of principles, indicators, and indicator weighting, it includes a detailed discussion of the EC Communication in its appendix. See especially the section entitled *The EC approach to effort-sharing within Annex 1*, which begins on page 18.

Item: Greenhouse Development Rights

This paper will not introduce the Greenhouse Development Rights framework, except to say that GDRs explicitly calculates total national obligations rather than domestic reduction targets, that it does so on the basis of the convention principles of responsibility and capacity, and that it does so in a manner that is intended to explicitly safeguard a right to development. Making plausible assumptions (which are properly subject to discussion and debate) the GDRs analysis quantifies an indicator of obligation (a Responsibility and Capacity Indicator, or RCI) for each country. These national RCIs evolve over time, as national economies change and with them the national responsibility and capacity estimates. While the RCI is calculated for all countries, it can still be used as a useful indicator of obligation for subsets of countries, such as Annex 1 countries.

In any case, for quick reference, here are recent base case (global) calculations of the RCI. They are based on 2007 (pre-economic crisis) projections.

GDRs results for representative countries and groups (percent shares)							
	2010					2020	2030
	Population (percent of global)	GDP per capita	Capacity (percent of global)	Responsibility (percent of global)	RCI	RCI	RCI
EU 27	7.3	30,472	28.8	22.6	25.7	22.9	19.6
EU 15	5.8	33,754	26.1	19.8	22.9	19.9	16.7
EU +12	1.49	17,708	2.7	2.8	2.7	3.0	3.0
United states	4.5	45,640	29.7	36.4	33.1	29.1	25.5
Japan	1.9	33,422	8.3	7.3	7.8	6.6	5.5
Russia	2.0	15,031	2.7	4.9	3.8	4.3	4.6
China	19.7	5,899	5.8	5.2	5.5	10.4	15.2
India	17.2	2,818	0.7	0.3	0.5	1.2	2.3
Brazil	2.9	9,442	2.3	1.1	1.7	1.7	1.7
South Africa	0.7	10,117	0.6	1.3	1.0	1.1	1.2
Mexico	1.6	12,408	1.8	1.4	1.6	1.5	1.5
LDCs	11.7	1,274	0.1	0.0	0.1	0.1	0.1
Annex 1	18.7	30,924	76	78	77	69	61
Non-Annex 1	81.3	5,096	24	22	23	31	39
High Income	15.5	36,488	77	78	77	69	61
Middle Income	63.3	6,226	23	22	22	30	38
Low Income	21.2	1,599	0.2	0.2	0.2	0.3	0.5
World	100 %	9,929	100 %	100 %	100 %	100 %	100 %

To clearly see the implications of the GDRs approach, put aside the exact numbers here and only consider the RCI as an “Equity Index.” For, after all, there are other ways to calculate such an index. The question, from the A1 differentiation perspective, is how such an index would be used.

Three obvious examples may suffice for now:

- In the case of setting mitigation obligations, national obligations could be set as a fraction (given by each country's RCI) of the total amount of mitigation that needs to happen globally.
- In the case of a Multilateral Fund like that proposed by Mexico, in which all countries are expected to contribute funds according to some principle-base scale, the RCI could be used to determine the scale of contributions that would be expected from each country. In the case of a fund structured along the lines of the G77 proposal, in which only the A1 countries are expected to contribute, the A1 RCIs could be appropriately "rescaled."
- In the case of AAU auction, as proposed by Norway and identified as an option in the EC Communication, the number of AAUs withheld from each A1 party, and then auctioned to generate the funds necessary to support non-Annex 1 activities, could be calculated on the basis of national RCIs.⁸

Note that the GDRs approach is deliberately simple. While it does not in its simplest form take explicit account of the two problems noted above, they can be dealt with. Unmet obligations can be accounted for in national baseline projections, and differential mitigation potential can be accounted for by crediting countries differentially for their domestic reductions to more accurately reflect varying domestic costs. Such accommodations would require additional technical adjustments, but not prohibitively complex ones.

Item: International Mitigation Obligations

One of the main challenges of a Copenhagen agreement is introducing a solid mechanism capable of delivering adequate, predictable and MRV-able support for mitigation actions in developing countries. There are, to be sure, a number of interesting proposals on the table, all of which try to solve this problem (although sometimes only partially). For example, carbon markets, Norwegian-style auctions, and the Mexican and G77 fund proposals. None of them, however deliver a sufficient solution to the problem of providing adequate, predictable and MRV-able support. Which brings us to international mitigation obligations (IMOs), a proposal for a binding and quantified mechanism to generate support for mitigation of greenhouse gas emissions in developing countries by industrialised nations.

In principle, the IMO system works by setting an overall target for Annex 1 mitigation support in developing countries. This target (the overall International Mitigation Obligation) is set on top of and independently of the aggregate A1 domestic reduction target, is expressed in tons, and is defined in terms of the mitigation actions in developing countries requiring (financial) support.

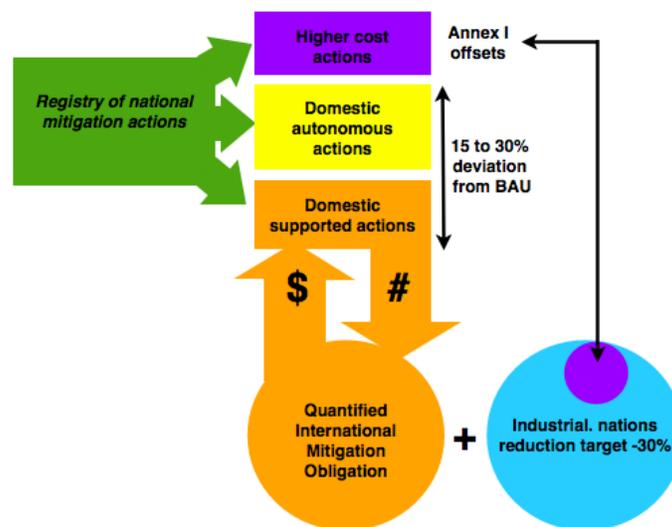
The IMOs proposal is usefully considered in parallel with the GDRs proposal, for it addresses a closely related, but substantially different, problem. More specifically, the GDRs framework is designed to calculate national fair shares of common effort. The IMOs proposal, in contrast, assumes the existence of such an effort-sharing index, and seeks to outline a mechanism which can leverage it to deliver adequate, predictable, and MRV-able support for mitigation actions in developing countries.

The goal here is political as well as institutional. That is to say, the certainty that IMOs are designed to provide is necessary both in the A1 countries, which are now expected to provide MRV support, and among the NA1 countries as well, which are expected to use that support, in measurable and verifiable ways, to deliver positive-cost mitigation. The IMOs system offers a

solid architecture to support mitigation action in developed countries by developing countries. Furthermore, this mitigation support would be truly MRV-able.

To function properly, and IMO's system must consist of the following building blocks:

- **a quantified needs based assessment** for mitigation support in developing countries
- **a quantified International Mitigation Obligation** (effort shared amongst developed countries) defined to meet this needs assessment
- **a solid compliance mechanism** for both developed and developing countries
- **a transparent and efficient governance structure**



Note, finally, that IMOs could fill the gap which might arise as a consequence of the Clean Development Mechanism reform. So in addition to provided an adequate, predictable and MRV-able support mechanism, IMOs might become one of the successors of what we now call project based CDM.

Very brief comments on two other approaches

The South / North Proposal

Of all the many “classic” equity framework proposals, the South / North proposal is unique in that it still draws real interest within the CAN community. On this front, it should be noted that NA1 differentiation is problematic in ways that go beyond its potential to weaken the southern negotiating bloc. It is also that the limits of the annexes approach – in which countries are grouped into lists that have much, but not everything in common – have become painfully obvious. We are, at the moment, trapped by the annexes, and in this context, creating more of them doesn't quite seem the way to go. The problems (e.g. the need for further differentiation within annexes, and the pervasive disincentives to graduation) are just too glaring.

Still, the South / North Proposal is notable in having a relatively straightforward multi-stage structure based upon capacity, responsibility, and mitigation potential. It has historical currency, particularly within CAN, where it appears as an elaboration of the multi-stage approach that CAN long defended⁹. And as a principle-based system that nevertheless integrates an explicit indicator of mitigation potential (emissions intensity) it looks very good indeed in contrast to the chaos of the EC Communication.

The per-capita rights theme

Per-capita approaches keep coming up, for a number of good reasons. The most important among them is that the convergent per-capita emissions rights approaches are transparent, simple, easy to explain, and appear to be fair and thus, perhaps, good enough.

Unfortunately, they are not, for the simple reason – now widely understood – that most of the global emissions space has already been consumed. In this context, equal emission rights are manifestly unfair and, more to the point, do not promise developmental equity. And gradual convergence to equal emission rights is even worse.

Still, the per-capita idea lives on in two important ways. The first is the promise, often made by India, to never allow their per-capita emissions to exceed the average per-capita emissions of the A1 countries. We'll say little about this, however, for the simple reason that while it sounds good, it does nothing to guarantee global adequacy – this condition could be met at emissions levels that would guarantee global catastrophe.

More significantly, the notion that *cumulative* per-capita rights would be fair, and that they could be taken as the basis of a global effort-sharing architecture that is based upon a quantification of “carbon debt,” has recently re-emerged, both in recent Bolivian interventions and in Chinese support for the approach. This approach appropriates the per-capita principle as part of a responsibility-based system and, more importantly, is potentially consistent with the physical necessity of sharp emissions limitations.

And it deserves an extended analysis that is, unfortunately, not possible at this time, though we will make two points: 1) There is no structural reason why this approach cannot be evolved to take long-term and projected efficiency improvements into account, and 2) It may turn out to make other proposals (e.g. GDRs) look like pragmatic compromises.

The sequencing problem

It is a measure of our predicament that, even now, the negotiations are crippled by a North-South trust deficit so deep that even if we had a proper, principle-based effort-sharing system at hand, one that was universally agreed to be fair, we could not use it in a straightforward manner. This is because the North / South trust deficit effectively rules out the simplest way forward, in which the nations of the North and the South each commit to carry their “fair share” of the climate burden, however it is determined. And because southern distrust, far from being a negotiating strategy, is rooted in the fact that the A1 (actually A2) countries have not met their obligations under the UNFCCC and subsequent agreements.

In particular, A1 has failed to live up to its legal obligation to “take the lead in combating climate change and the adverse affects thereof” (UNFCCC, Art. 3.1). More precisely, A2 countries as a group have not only failed to live up to their commitment to meet the “agreed full incremental

costs of implementing measures” (UNFCCC, Art. 4.3), they have even failed to make good faith efforts to return their collective emissions to 1990 levels.

To be sure, progress is being made in both the US and the EU, but it is coming late, it is far from decisive, and it does not suffice to refute the view, widespread in the South, that any willingness to accept legally binding commitments would, at this point, put it at the mercy of a northern bloc that is far more attentive to its own local realisms than to the global necessities of climate-constrained development.

What does this mean for Copenhagen? That it will have to be a trust-building period, and since the only effective way to build trust at this point is by acting to bend the global emissions curves, that we will have to find a variety of arrangements, some of them more implicit and de facto than we might wish, by which to do so. That, in particular, these arrangements will have to be the kind specified in the Bali Action Plan, in which NA1 action is voluntary, and NA1 “enhanced action” is directly contingent on measureable, reportable, and verifiable A1 support. The bottom-line criteria for success in Copenhagen must, inevitably, be in terms of just such support.

This claim, please note, is different from that made by the new CAN position, which says that “The combination of MRV-supported NAMAs and autonomous mitigation actions in developing countries according to their capacities should lead to a substantial deviation from business as usual emissions growth.” The problem is that “autonomous mitigation actions...according to their capacities” seems to imply globally differentiated *commitments*, of just the kind that the trust deficit makes unlikely until and unless the A1 countries meet their UNFCCC commitments.

The way forward? Moral and political seriousness on all sides. In particular, the South must act, but it must be clearly understood that such action will only take place on the necessary speed and scale if there is a sufficient finance and technology package from the North. And if such a package is not possible without an EU / US accord on comparability (which appears to be the case) then this must be the focus of the A1 differentiation debate. And, to complicate matters, it is too late to pretend that such an accord can be based on a contrivance, however clever, that lets the United States “off the hook.”

It is not too much to say that, when it comes to the terms by which A1 comparability of effort calculations are made, the whole world is watching. Given this, the US, long the defining free rider, will have dug far deeper than it thus far been able to go, and at the same time the global community must find legitimate ways to create new degrees of freedom. “Automatic” funding mechanisms (like an aviation levy, or AAU auctions) may well be part of the answer. So might flexibility in the intermediate target; it may, for example, be possible for the US to find its way to comparability if it has until 2030 to catch up. What is certain is that the accommodations that allow the US to reenter the regime will establish a critical precedent, and that others will demand equivalent forbearance.

Precedent is a key issue. For while Copenhagen will not focus on global differentiation, it can and should, in the context of A1 differentiation, make bold progress toward a transparently fair thus potentially viable global climate regime. Specifically, the elaboration of robust “equity indicators,” and their operationalization within the Copenhagen accord, would be strong evidence that we have turned the corner and were on a path forward. In fact, if the Copenhagen negotiations succeed, we will know this in part because a coherent and public conversation about fair shares of the global effort has come into far greater prominence around the world, and in the

process given credence to the use of explicit quantitative indicators for assessing national performance with respect to such fair shares.

Principles, indicators, indicator weightings

In planning this workshop, Dale Marshall asked the following: “Can we arrive at a common position on what the exact indicators and weightings should be? What do different weights mean for differentiating A1 targets? Do we want to choose an approach that has greater rigor, based on principles, or do we want to explore more pragmatic and saleable approaches that are broadly reflective of overall principles?”

In approaching these questions, it makes sense to distinguish high-level principles like those in the convention from “factors” or “indicators” that, while relatively low-level, nevertheless capture important aspects of the situation. In both cases, weighting is important.

Example 1: High-level principles: How can responsibility and capacity be combined? Should they count equally? Is one more important than the other?

The convention principles of responsibility and capacity can usefully be combined into a single equity indicator. But what weightings should be applied to each side of such a composite indicator? To illuminate this question, which is of general interest, consider two cases. In the first, R and C both count as half the composite indicator. In the second, C is dialed down to 0 while R does all the work. (This is not a random case, but rather illustrates an “ecological debt” or “cumulative per-capita responsibility” approach that is gaining currency in China and other southern countries).

Comparing Japan and Russia		
	Percentage of global population	Percentage of global obligation
CASE 1: Responsibility and capacity equally weighted. Index calculated for 2010		
Japan	1.9%	7.7%
Russia	2.0%	4.0%
CASE 2: 100% responsibility (1990 start date). Index calculated for 2010		
Japan	1.9%	4.9%
Russia	2.0%	7.2%

This example is calculated using the Greenhouse Development Rights system¹⁰, but the point here is a general one. Weighting matters, even when we’re dealing with high-level principles. More specifically, the Russians would clearly think it unfair to calculate an equity index solely on the basis of responsibility, rather than on a combination of responsibility and capacity.

Example 2: A number of low-level “factors” are potentially relevant to the calculation of national allocations. Here, for example, is a suggestive list of such factors. As you read it, consider: can the issue be captured in terms of a high-level principle? And if so, how would it be defined and weighted?

- Actual or projected emissions in year X, where X could vary between 1990 and 2020. This is the “base year.” For example, 1990 favors the EU. But the U.S. would clearly benefit from 2005. Should different countries be able to use different base years?

- Emissions per capita in a recent year. If Canada emits twice as much per person as Western Europe, then there is a strong case for greater effort by Canada, right?
- Projected population change between the base year and 2020. Shouldn't countries that welcome a lot of immigrants get a break?
- GDP per capita, in PPP terms. This is the most common measure of capacity to act. Is it good enough? That is, should the limited income of extremely poor people count towards a country's capacity? What about in the South?
- Should other measures of wealth be considered? For instance, what about wealth as opposed to income? For example, does a country with massive foreign exchange reserves have enhanced capacity to act?
- Marginal or total cost of abatement. We cannot assume that unrestricted international financial flows to achieve targets are politically feasible. Capacity to achieve targets domestically is therefore important. How should it be represented and dealt with?
- Attribution of lifecycle emissions to consumers. This would address the problem of emissions being exported from rich countries to emerging economies. But it would also be methodologically formidable, make attainment of targets difficult to measure and therefore enforce, and give a big break to oil exporting countries.

Discussion and conclusions

There are lots of questions here, and we will not all agree on the answers. Indeed, the situation is so complex, so fraught with conflicting national and sectoral interests, that it's sometimes difficult to even agree on the nature of the central disputes. As it is to remember that we, as NGOs, are not actual negotiators.

What we must absolutely remember is this is an emergency. And that this has implications. What are they? One point is critical – the usual debate between principles and pragmatism is too trivial for our purposes. We need the right principles, for without them we are doomed to vacillation and impasse. But pragmatism is also indispensable, and, indeed, in an emergency, pragmatism is its own justification. Thus, to state the obvious – we have to move forward by way of careful principle-based positions that are then “operationalized” in practical and realistic ways. This is the way for us in any case, because it's the way to think big, and to do so in an effective and meaningful way. As NGOs, this has to be our job.

In debating the issues above, we must remember the severity of the challenge. But we must also remember the depth and bitterness of the history that has brought us to these straits, and the degree to which justice is essential to success. The climate solution will be one that maximizes our sustained collective effort, and as such it will demand unprecedented levels of cooperation and cohesion. The Copenhagen regime, if it is to succeed, will be called upon to support that cohesion by laying down terms in which true cooperation – global cooperation – is possible. Given the structure of the sequencing problem, it's going to be a real challenge.

Back when the Kyoto Protocol was the issue, the right-wing attack in the US was that “It's not fair and it won't work.” Given the vision of a Copenhagen accord that, similarly, places a dual obligation on A1 to reduce its emissions and to help non-Annex 1 countries to reduce theirs, how

will a replay be avoided? This is a huge question, but one thing is clear – we must be equipped to defend the A1 differentiation system that comes out of Copenhagen, including the fact that it will not involve NA1 commitments of the same type and stringency. We must be able to say that “It’s fair” and that “It will work,” and we must be able to defend both claims with conviction.

This means two things. First, Copenhagen must yield a differentiation system that is robust with respect to extremely stringent targets, a system that contains a truly substantial finance and technology package to make possible the dramatic measures necessary in NA1 countries. The A1 differentiation scheme must support that package, and it must do so in a manner that is reasonably robust. This latter point is a difficult one, for, of course, the list of countries within Annex 1 is quite incoherent with respect to key equity principles like capacity. (e.g. it contains Ukraine, but not South Korea.)

And there are as well the procedural questions: How will we discuss the issues here in a productive way, while taking account of both the short-term imperatives (what needs to be accomplished in Copenhagen?) and the logic of the longer term? How will we agree to as much as we can while disagreeing as we must?

One approach is to start with the general and move to the specific, as we are able. For example:

1. Can we agree only on a set of vague principles?
2. Can we go further, agreeing to a list of problems and situations that these principles must help us sort out, and exactly how we expect them to do so?
3. Can we advocate a particular strategy, and a set of indicators that goes along with it?

Can we say, for example, agree to stand with the responsibility and capacity approach, but that it must be extended to account for differing domestic mitigation cost curves? Or, for that matter, that it need not be?

Or can we at least take the opposite tack, aiming to insert some substantial principled elements into an otherwise ad hoc framework, providing something that is more transparently fair and thus more politically compelling?

Whatever position we take, it will have consequences. And we should not only imagine them as happy ones. Indeed, at the moment, the most likely outcome of the Copenhagen negotiations appears to be an inadequate compromise that we are all, then, strongly tempted to present as a success. So, a final thought experiment – assume that this is the case, and that you, after a hard reckoning, rather decide to publically judge the results to be a failure. Then look back at the differentiation debate, and at our position on A1 differentiation as part of it. Was it all it could be? Was it helpful?

These, finally, are the kinds of questions that we will have to answer.

Tom Athanasiou, EcoEquity, May 6, 2009. Thanks to Dale Marshall, Sivan Kartha, Tomas Wyns, Matthew Bramley, and Paul Baer for specifications, thoughts, fragments, and debate.

Note: The GDRs authors group was key to the composition of this paper, but we have worked hard to be objective, fair, and helpful. If we have failed, our apologies.

Appendix: A critique of the EC Communication

The EU has now clearly signaled its position in the run-up to Copenhagen. The European Commission Communication Toward a Comprehensive Climate Change Agreement in Copenhagen (EC, 2009), together with the EC Staff Working Document that elaborates on it (EC, 2009a; 2009b), and the modeling analysis that explores its implications (JRC-IPTS, 2009), serve as an unambiguous initial negotiating stance. The message of the EC Communication and its background documents may have been subtly recalibrated by Environment Council and the Economic and Financial Affairs Council in their March 2009 statements. But the core position of the EU has remained clear.

We lay out in this appendix a critique of that position. While we are critical, we do want to clearly commend the EU on certain points. It has steadfastly stood by the 2°C objective, even as doubts are increasingly voiced that it is no longer in reach. The EC Communication even acknowledges that the emerging science demands an increase in ambition, and warns that concentrations may have to be reduced to even “as low as 350 ppmv CO₂ equivalent”. This is a brave statement, as is clear to anyone who even vaguely understands its implications with regard to the available global GHG budget, and the extraordinarily ambitious climate regime that will be needed to keep us within such a starkly limited budget.

Also admirable is the fact that, in light of this limited global GHG budget, the EU has treated very seriously the question of effort-sharing. It has addressed this issue head-on, recognizing that a repeat of Kyoto – where targets were established through an entirely non-transparent negotiations process unanchored by any explicit set of foundational principles – is simply not an option. Its Communication therefore attempts to lay out an alternative, a seemingly transparent, fair, and principle-based approach to effort-sharing in general and national emission targets in particular.

However, notwithstanding the ambitious objective and the promising rhetoric, the substance of the EC communication ultimately falls far short. Indeed, we argue that the EC approach does not provide a helpful basis for consensus on global climate action during this critical Copenhagen phase, and has deepened the trust deficit that plagues the climate negotiations.

Recalling recent history

The overarching problem is the EU’s neglect of recent history. It approaches the Copenhagen negotiations as if the Annex 1 countries, which committed in 1992 in Rio to “take the lead in combating climate change and the adverse affects thereof” (UNFCCC, Art. 3.1), have actually done so. But it is clear that Annex 1 countries neglected their commitment to return emissions to 1990 levels by 2000 (notwithstanding their formal compliance, unwittingly delivered by the Soviet economic collapse), and it is even clearer, and even less excusable, that they then reinforced this failure with the past decade’s half-hearted efforts to meet their Kyoto commitments (and, in the case of the United States, a willingness to entirely shun them).

No less importantly, the North has neglected its UNFCCC and Kyoto commitments to provide technological and financial support for mitigation and adaptation in the South. Here, at the risk of appearing pedantic, it is useful to review the commitments formally made by developed countries under the UNFCCC. In particular, and unambiguously, the (Annex II) developed countries agreed

(UNFCCC, Art. 4.3)¹¹ that they shall “provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of implementing measures” including, *inter alia*, taken to fulfill obligations to:

“Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change.” (UNFCCC, Art. 4.1(b))

and

“Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors,” (UNFCCC, Art. 4.1(c))

The UNFCCC underscores that the provision of necessary funding “shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among the developed country Parties” (UNFCCC, Art. 4.3), and it emphasizes that developing country implementation is contingent on the availability of developed country funding:

“The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.” (UNFCCC, Art. 4.7)

Notwithstanding the fact that these same agreements were reiterated in the Kyoto Protocol (Article 11.2(b)), the amount of financial support for mitigation, adaptation, and technology transfer delivered over the past seventeen years has been wholly inadequate, and certainly insufficient to support any argument that the developed countries have made a good faith effort to fulfill their UNFCCC and Kyoto Protocol financing and technology-transfer commitments.

Implications for Copenhagen

This tells us that, above all, the Copenhagen period must be one in which the Annex 1 countries finally and definitively fulfill their UNFCCC commitment to “take the lead.” The Copenhagen period is a critical late opportunity, a window within which Annex 1 can still build confidence, through concerted action, in the feasibility of a global climate transition. Through aggressive and sweeping mitigation initiatives at home, and through good-faith assistance to non-Annex 1 countries seeking financial and technological assistance to mitigate and to adapt, it can still decisively launch the transition to a post-carbon world. There is still time, but not much, and failure to seize this opportunity will almost certainly put a 2°C path out of reach.

It also tells us, with equal clarity, what a Copenhagen phase is *not*. It is not a time for Annex 1 countries to try to minimize their own responsibility by pointing fingers at others, regardless of

how many coal-fired power plants those others may be building. Nor for Annex 1 countries to make their own efforts contingent on the efforts of others. Nor for Annex 1 countries to plead hardship amidst the current financial crisis, while pressuring much poorer nations to take on binding commitments. Rather, the Copenhagen period is one in which Annex 1 should simply and straight-forwardly affirm its acceptance of the “full incremental costs” of climate actions, globally. Only this is consistent with the UNFCCC, with Kyoto, and with Bali. Only this will decisively break the impasse.

Which is not, we hasten to add, to excuse the South from earnestly engaging. Not only do the more affluent of the southern countries, such as South Korea, have a significant capacity to act, but so does China, despite its very poor majority. Such countries must indeed act, and unless they do, progress on a global climate response will be stymied. The question is how they must act, and here we are compelled to emphasize one word above all others: *voluntarily*.

The EC Communication in the run-up to Copenhagen

In this light, the EC Communication is an unsatisfactory opening offer in the Copenhagen negotiations. First, it is disappointing that the EU proposes only to cut emissions to 30% below 1990 levels, which lies toward the less ambitious end of the oft-repeated 25-40% range of Annex 1 targets. (Cited as an equitable range of Annex 1 commitments “consistent with the 2°C objective,” this range reflects a seriously flawed interpretation of IPCC’s Table 13.7, as previously noted.) But the greater problem is on the financing side, where the EU strongly signals that its willingness to provide support to developing countries remains limited and contingent. The EC Communication bluntly states that all “low-cost” and “net benefit” mitigation options should be borne by developing countries, and that developed countries should provide only “financing beyond the domestic capabilities of the respective developing country.” This is quite problematic for several reasons. For one thing, “low-cost” is entirely ambiguous term. For another, even many “net benefit” mitigation options are difficult to implement because of numerous well-documented barriers (technological, institutional, financing, etc.) Also, and critically, the key phrase “domestic capabilities” is left undefined, and when the Environment Ministers softened it in their March 2nd statement,¹² suggesting that the EU would support only actions “which will result in positive incremental costs that cannot readily be borne by the country itself,” the EU was widely seen as back-pedaling from an untenable position. Still, the underlying problem remains: the EU is unequivocally stating that the developing countries should themselves pay for a large fraction of their positive-cost mitigation. Indeed, if we look for clarification to the modeling analysis that backs up the EC Communication (JRC-IPTS, 2009), it appears that developing countries would be obliged to undertake “autonomous actions” that amount in aggregate to approximately one-quarter of the global costs of mitigation.

Just as problematically, the EC Communication suggests that support for adaptation may be limited to the “most vulnerable and poorest,” a seemingly generous statement that simultaneously asserts sharp limits to the South’s legitimate claims on adaptation assistance. This apparent restriction on the eligible recipients of adaptation funding is easy to read as a further evasion of Europe’s UNFCCC and Kyoto obligations. While this text, too, was improved (“priority being given to the most vulnerable ones”) by the Environment Ministers, the overall import of the EU’s recent positioning cannot be mistaken. The EC is clearly staking out a position that falls far short of the “full incremental costs” agreed to under the UNFCCC.

The developing countries have very clearly stated that good-faith steps by Annex 1 countries toward fulfillment of their Rio commitment to “adequate and predictable” financial resources and

technical support is an absolute priority for them, and a necessary condition for significantly stepped up engagement. If anything was hoped for from the EC Communication, it was a strong signal regarding the willingness to support developing country actions. This, unfortunately, has not yet been delivered. By this omission, the EU has failed to set the stage for the simultaneous action and trust building that must characterize the second commitment period.

The EC approach to effort-sharing within Annex 1

Despite these shortcomings, it is still worth assessing if the EC has made useful contribution to the discussion of effort-sharing within Annex 1. Between the Communication, the Staff Working Documents, and the JRC-IPTS analysis, the EC has elaborated a detailed approach to effort-sharing, complete with underlying principles, quantitative indicators, and indicative results. Unfortunately, a close scrutiny of them indicates that, despite its laudable concern with developing a rigorous effort-sharing proposal, the EC fails to provide a coherent, transparent, or rigorous approach.

First, at the most fundamental level, the EC's effort-sharing approach is structurally disjoint. In fact, it is a muddle of at least three disparate effort-sharing schemes:

(i) In the first, it interprets the IPCC 4th Assessment Report Table 13.7 (the "Bali Box") to share the global GHG budget between the Annex-1 and non-Annex 1 countries. The result is a proposed reduction target of 27.5% below the 2020 baseline for Annex 1 (30% relative to 1990 emissions), and an indicative non-Annex 1 reduction (presented in the EC Staff Working Document) based on "autonomous actions" of approximately 16% below the 2020 baseline. (This non-Annex 1 reduction consists of a 13% reduction in energy and industrial sectors along with a halving of emissions from deforestation.)

(ii) It next applies a set of four quantitative indicators to set emission targets for individual Annex 1 countries. Critically, in the background documents to the EC Communication, it also takes the further step of proposing analogous indicators to set emission targets for non-Annex 1 countries.

(iii) As a third step, it outlines two options for establishing obligations for developed countries to fund adaptation and mitigation in developing countries.

The result of mixing these three different effort-sharing approaches is a needlessly complex system. There is no compelling reason why a single effort-sharing methodology, based on a single set of transparently defined and principle-based indicators, would not work at least as well. In particular, a single composite indicator of capacity and responsibility can be used to allocate both the mitigation and adaptation sides of the global climate obligation. Alternatively, the same sort of principle-based indicators can be used to determine contributions to any one of a variety of international funding mechanisms. So why did the EU, instead, choose to conflate distinct indicators at various levels of analysis? We do not know, but one point at least is clear – by so doing, and contrary to any claims to transparency, the EU has created a system in which it is unnecessarily difficult to gauge the meaning of "comparability of effort." Though it appeals to underlying principles at certain points, ultimately it is far from transparent, and perhaps by design, it is extremely ad hoc.

Consider the set of four key indicators that the EC Communication presents as its basis for setting fair and comparable Annex 1 emissions targets¹³:

- **“GDP per capita:** reflecting the capability to pay for domestic emission reductions and to purchase emission reduction credits from developing countries;
- **GHG emissions per unit of GDP:** indicating the domestic GHG emission reduction potential;
- **Trend in GHG emissions** between 1990 and 2005: recognising domestic early action to reduce emissions;
- **Population trends** over the period 1990 to 2005: taking into account the link between the size of the population and total GHG emissions.”

These may at first sight seem appropriate indicators, for they are transparent, practical, and directly related to GHG emissions. However, and critically, the EC at no point coherently argues that these indicators usefully represent the equity principles upon which effort-sharing in the climate regime should be based, and in fact there are strong reasons to doubt that this is the case. In particular, this set of indicators is at best only partially consistent with the Framework Convention’s fundamental equity principles of “common but differentiated responsibilities and respective capabilities.” In particular, if this phrase is understood to refer to countries’ responsibility for contributing to climate change (i.e. their historical emissions), then it is simply not captured by any of the four indicators. And even if it is understood to merely refer to countries’ *current* (rather than historical) emissions, it is still not adequately captured.

GHG emissions do appear in the context of **GHG emissions per unit of GDP**, which is presented as an indicator of emission reduction potential, as it often is. However, as an indicator of reduction potential, *GHG per unit of GDP* falls short in two ways. First, as the EC Communication itself notes, this indicator is an exclusively domestic measure of potential to reduce, and says nothing about national capacities to enable international reductions (i.e. to contribute to MRV financial support), which constitute a large portion of developed countries’ total climate obligations. Here, the appropriate measure would be an indicator of ability to pay. Second, even as a measure of potential for domestic emissions reductions, it is not clear why *GHG per unit of GDP* is a more appropriate measure than *GHG per capita*. Indeed, it implies that two countries, one with twice the emissions and income of another, have an equal potential for domestic reductions, which is obviously not the case. The effect of normalizing by GDP is to obscure the potential for the higher emission, higher consumption lifestyle patterns of wealthier populations to be mitigated by lifestyle changes. The end result is to shift obligation away from wealthier countries, and toward poorer countries.

The EC identifies **GDP per capita** as an indicator of capacity to pay. But while this might seem a reasonable choice, it is inconsistent with how nearly all societies actually interpret capacity to pay when it comes to allocating public costs among private citizens. Setting climate obligations proportional to *GDP per capita*, as presented in the EC Communication, is equivalent to a “flat tax”, which is nearly universally seen as being, if not actually regressive, then certainly insufficiently progressive. In other words, it is generally accepted that individuals should bear tax burdens that are more than proportional to their income. Most countries implement such taxes through tax schedules with a zero tax bracket (that protects the limited incomes of the very poor from taxation) and by way of tax rates that rise (in percentage terms) as income rises. If the EC were to assign its targets more progressively based on a more conventional interpretation of capability to pay, it would yield a significantly different allocation of effort among countries. The “flat tax” approach implied by the GDP per capita indicator shifts effort away from wealthier countries and toward poorer countries.

The EC has also used the 1990-2005 **population trend** as one of its four indicators, explaining that “Countries with an increasing population will have more difficulties to reduce their emissions than countries with stable or declining populations, assuming per capita income, carbon and energy intensity are all stable.” This is a recognition of an essential fact: when a future emission target is expressed with respect to a base year, the relative effort that will be required to meet that target depends critically on the factors that drive future emissions trends, and these can vary considerably between countries. Which raises the question of why only population trends are taken into account here, and whether such a partial measure of baseline emission trends is reasonable and fair. Some countries, for example Ukraine and China, have relatively low (or negative) population trends, but might be expected to have high economic-growth and energy-intensity trends, as more people rise out of poverty and gain access to energy services. In general, a more defensible way of ensuring comparability of effort would be to assign targets relative to business-as-usual emission trajectories, rather than on the basis of any single emissions driver or base year. For example, the EC (and many others) refer to a 15-30% “deviation from business as usual” when discussing non-Annex 1 emission pathways¹⁴. And, finally, while there are serious difficulties in determining business-as-usual pathways, the problems associated with base years (see for example Kyoto itself) are worse.

The fourth and final indicator presented by the EC is the 1990-2005 **trend in GHG emissions**, chosen for the purpose of “rewarding early action by developed countries to reduce emissions”. The intent here is reasonable, and fully consistent with the overall notion of responsibility of nations for historical contributions to the climate problem (and, conversely, to the climate solution). But the particular indicator chosen is nevertheless problematic because it does not distinguish between countries which took early action to reduce emissions, and those that saw emissions decline due to economic collapse.

The above problems are fundamental. The former two indicators (**GDP per capita** and **GHG per GDP**) systematically shift effort on to poorer countries, while the latter two (population and recent emission trends) introduce problems of rigor and transparency. Proposed indicators should be clearly derived from the principles they are intended to express, and their justification – in the face of other possible indicators – should be clearly laid out. Not having done this, the EC approach inspires little confidence in its consistency with the core principles of “common but differentiated responsibilities and respective capabilities.”

These problems are compounded by the manner in which the EC then goes on to use these indicators. The procedure for setting targets does indeed start with the specified four indicators, but it then aggregates them with a set of further weightings that are almost entirely ad hoc. The final algorithm ends up being a black box that is very weakly linked to the principles that were used to justify the effort-sharing procedure in the first place. The table below lists these additional weightings and their values, the justifications for which do not appear in either the EC Communication or its supporting documentation. Nor is this a complete list, since the target-setting algorithm relies as well on yet more weighting that specify the relative importance of each of these four indicators, and the degree to which a target and an indicator deviate from a linear relationship¹⁵.

ad hoc weightings in the EC model of effort-sharing	
1. Aggregate allocation for Annex1	- 30 % (relative to 1990)
2. Aggregate allocation for non-Annex1	16 % (relative to baseline*)
3. Average as a function of GDP per capita	-11.5 %
4. Range as a function of GDP per capita	20 %
5. Average as a function of CO2 per unit of GDP	-11.5 %
6. Range as a function of CO2 per unit of GDP	24 %
7. Average as a function of early action	-8.5 %
8. Range as a function of early action	28 %
9. Average as a function of population growth	2 %
10. Range as a function of population growth	10 %

* See the EC Communication supporting analysis by the JRC-IPTS. Figure includes additional land-use reductions.

The initial allocation between Annex 1 and non-Annex 1 countries is not justified, nor is the particular choices of average (which varies from negative 11.5% to positive 2%) or range (which varies from 10% to 28%) for each of the four indicators. Needless to say, it is possible to generate entirely different effort-sharing allocations among countries by picking different values. Yet, no explanation is given for the particular choice of these all-important weightings. Nor is any explanation given for why the targets deviate from a linear relationship with the indicators in the particular idiosyncratic manner that they do (see Figure 7, Staff Working Document, part II), despite the quantitative significance of these deviations. For example, eliminating the kink in the population indicator would relax Ukraine's target by approximately 10%, and eliminating the kink in the intensity indicator would relax Australia's by about 10%.

In other words, the target calculated for a particular country depends as much on the arbitrary choice made for each of these w as it does on the value of the country's four quantitative indicators. Thus, the specific targets derived by the EC analysis cannot in any way be said to be a straightforward or unambiguous result of the indicator values. The same criticism can be raised about the algorithm (even less completely explained) by which indicative targets for developing countries are determined (Section 4.2, JRC-IPTS report).

Finally...

After laying out the four-indicator proposal for target setting, the EC Communication goes on to briefly discuss "Innovative International Funding Sources." These are critical to the EC's vision of a viable Copenhagen agreement, for they are its central response to the core element of the Bali decision, wherein the developed countries committed to providing measurable, reportable, and verifiable financial and technological support for developing country mitigation actions, and improving access to "adequate, predictable and sustainable financial resources and financial and technical support" for mitigation and adaptation (Bali Action Plan, UNFCCC Decision 1/CP.13).

Here, the EC Communication Staff Working Documents, if not the Communication itself, helpfully reaffirm that "a composite index that reflects responsibility and capability might be the most suitable and political acceptable way forward."¹⁶ This vastly improves upon the disjoint, random, and inadequate manner in which Annex 1 countries contribute to the existing UNFCCC

and Kyoto Protocol funds. Adding some concreteness, the EC Communication outlines two options. The first is a quantitative formula, which the EC suggests could be based on national emissions allowances and GDP/capita, as indicators of “polluter pays” and “ability to pay”, respectively. For the second option, a percentage of national allowances could be withheld at the international level and auctioned, (as in the “Norwegian proposal”) though possibly with the percentage increasing with GDP/capita.

These are both plausible if not ideal approaches, and the EC Staff Working Document expands upon them both, presenting quantitative examples of the national shares implied by various choices of indicators for different countries.¹⁷ These examples deserve some of the same criticisms that the EC’s approach to reduction targets received just above. They use GDP per capita as an indicator of national capability, which we would criticize as equating to a “flat tax” and thus being inconsistent with the degree of progressivity adopted in virtually all countries’ approaches to taxing its citizens. (The UN budget assessment appears, in some cases, to be more progressive, but is notoriously non-transparent.) And they do not consider historical responsibility, in that they use annual rather than cumulative emissions as an indicator of responsibility.

The bottom line in all this is that principles matter. And that, particularly because there are so many parties to the climate negotiations, and their national interests and national circumstances vary so widely across so many dimensions, principles cannot be chosen blithely. The challenge, rather, is to find someplace solid to stand, and this leaves us little choice but to return to fundamental things.

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¹ Climate Action Network – *International Position on an Annex I aggregate target*, 7 April 2009. http://climatenetwork.org/climate-change-basics/by-meeting/bonn-i-mar-apr-2009/CAN-AIaggregate_target_position7Apr09-FINAL.pdf

² den Elzen, Michel and Niklas Höhne, “Reductions of greenhouse gas emissions in Annex I and non-Annex I countries for meeting concentration stabilization targets,” *Climatic Change* 91:2490274, 2008. The point is that, since even before the Bali COP, the IPCC’s “Box 13.7” of the report of working group III to the Fourth Assessment Report has been widely, though incorrectly, cited as justifying “25-40% reductions below 1990 in 2020” for Annex 1 as “what the science requires” to stay below 2°C, with a concomitant “substantial deviation below baseline” in most non-Annex 1 regions. As has subsequently been pointed out, the trajectories reported have at best a 50% chance of staying below 2°C, and embody political assumptions about burden sharing rather than simply “science.” Thus the numbers represent neither a well specified set of tradeoffs between where emissions reductions should be made, nor a transparent assessment of the options for equitable or politically acceptable burden-sharing of the allocation of emissions rights.

³ G-5 Political Declaration in Sapporo Japan, (8 July 2008). Also note this comment from Al Gore: “Countries will be asked to meet different requirements based upon their historical share or contribution to the problem and their relative ability to carry the burden of change. This precedent is well established in international law, and there is no other way to do it.” (New York Times Op-Ed, 7/1/2007).

⁴ See for example the text of the speech by Prime Minister Manmohan Singh on release of India’s Climate Change Action Plan on June 30, 2008, available at <http://pmindia.nic.in/lspeech.asp?id=690>

⁵ See for example Chris Buckley, “Top China think tank proposes greenhouse gas plan,” reuters.com, March 25, 2009. www.reuters.com/article/environmentNews/idUSTRE52O1IZ20090325?sp=true

⁶ “EC, 2009a. Staff Working Document, Part 1. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Towards a comprehensive climate change agreement in Copenhagen - Extensive background information and analysis, issued in Brussels on 28 January, 2009. COM (2009) 39 final. See table 5, page 53 and table 6, page 54.

⁷ Amendment to the Kyoto Protocol pursuant to its Article 3, paragraph 9, Proposal by South Africa, 3, April 2009. (<http://unfccc.int/resource/docs/2009/awg7/eng/crp03.pdf>)

⁸ Norwegian Church Aid is developing a proposal with this exact structure. It will be released very soon.

⁹ CAN International, “A viable framework for preventing Dangerous Climate Change,” December 2003, available at www.climnet.org/pubs/CAN-DP_Framework.pdf

¹⁰ In fact, it was calculated using the Greenhouse Development Rights Online Calculator. See the basic version at <http://www.gdrights.org/interactive/basic.Rpad>. The advanced version will be released soon.

¹¹ See Mace (2003) and (2005) and UNFCCC (2006) for a comprehensive treatment of adaptation funding commitments in particular.

¹² *Council Conclusions on the further development of the EU position on a comprehensive post-2012 climate agreement* (Contribution to the Spring European Council). Environment Council meeting, March 2, 2009. The relevant text is in point 13.

¹³ Note that in the March 2 statement of the EU environment ministers, these principles are repeated, though in pointedly more general terms. For example “**GHG emissions per unit of GDP**: indicating the domestic GHG emission reduction potential” becomes “the GHG emission reduction potential.”

¹⁴ The EC’s supporting analysis considered population growth from 2005 to 2020 when calculating non-Annex 1 country targets. Since non-Annex 1 targets were defined relative to business-as-usual, which already takes into account population trends, it is actually redundant to use population trends as a determinant of reduction targets.

¹⁵ This deviation appears visually as a “kink” in the line with different slopes on either side, as seen in Figure 7 of the EC Staff Working Document (Part 2).

¹⁶ Commission Staff Working Document, Part 1, Executive Summary, p. 11.

¹⁷ Staff Working Document, table 22, Part 1.