



**Claus Leggewie**

## From carbon insolvency to climate dividends

*How observing the 2° target may lead to a new global order*

If the G8's goal of limiting global warming to 2°C is to be more than just lip service, radical decisions will need to be taken at the climate change conference in Copenhagen in December. An emissions-trading system based on a national per-capita emissions budget and tied to historical responsibility would offer enormous opportunities to developing countries and provide the key to a new low-carbon global order.

Something happened at the G8 summit in L'Aquila in July 2009 that could be called an historical caesura: the heads of state, with US president Obama and German chancellor Merkel at the fore, but significantly also the leadership of China and India, have taken up the cause of the "2° target". What that means is that they want to limit global warming to 2°C above the 1880 level, as scientific bodies have long been recommending and the policy adopted by the UN's Intergovernmental Panel on Climate Change.

If the "Declaration of the Leaders of the Major Economies Forum on Energy and Climate" is to be more than just lip service, the consequences will be radical — something unlikely to have been entirely overlooked in Abruzzo. In order to hold global warming below 2°C, then between now and 2050 only around 200 billion tons of carbons (around 700 gigatons of CO<sub>2</sub>) may be released into the atmosphere worldwide. At the current rate of emissions, this budget will be exhausted in twenty-four years; if emissions increase as expected, the world will become "carbon insolvent" even sooner. Hence cuts to CO<sub>2</sub> and other greenhouse gas emissions<sup>1</sup> must begin as quickly as possible, since a delay in reversing the trend by 2020 would necessitate annual global cuts far greater than those agreed upon by the industrial countries in the 1997 Kyoto Protocol for the initial five-year contract period. Any further time wasting will cause costs to skyrocket and render the 2° limit obsolete once and for all. What was "resolved upon" in L'Aquila was no less than a blueprint for a new world order. Where Wilhelm Fucks' "formulas for power" (*Formeln zur Macht*) were once calibrated against energy consumption, at the centre of international politics in the future will be competition for the best and the quickest climate innovations. This Herculean task brings a "major transformation" in carbon-impooverished societies across the world. The rich North cannot continue as before, the developing countries must leave the old industrial path immediately, and the rest of the world may not even embark upon it.

### **For a new world climate contract**

Yet the negotiations on emissions limits with each of the 192 signatory countries in the run-up to the Copenhagen Summit in December 2009 have so far given no indication of anything so radical. A simpler, fairer and more flexible global climate treaty must be drafted to replace the current system of negotiations with each of the 192 signatory states on individual emissions limits. The **budget formula** proposed by the German Advisory Council on Climate Change (Wissenschaftliche Beirat der Bundesregierung Globale Umweltveränderungen — WBGU) is a step in this direction. Its core idea is that in the future, all states are allocated a national per-capita emissions budget that links historical responsibility with the current performance capacity of the state and global provision for the survival of mankind.

It identifies three "**climate worlds**": *Group 1* contains around sixty states that currently produce than 5.4 tons of CO<sub>2</sub> per capita: the industrial nations as well as a series of Arab states, Iran, Venezuela and South Africa. How low this limit is drawn can be seen in the cases of the US and Australia (which have the highest CO<sub>2</sub> emissions level of 19 tons per capita per year): both countries' budget will last no longer than six years, and even with linear cuts as from 2010, theoretically they must already have reached zero emissions within 11 years. The budget allocated to Germany (11 tons of CO<sub>2</sub> emissions per capita per year) and the EU (9 tons) will be exhausted within ten to twelve years at the current rate. All industrial nations must push forward with a quick and comprehensive de-carbonization of their economies by 2050 — in other words, they must cut down on fossil fuel energy and switch to renewables. However, since these countries will overrun their budgets even after making far-reaching cuts of greenhouse gas emissions, they are committed to cooperating with developing countries that still have budget leeway.

*Group 2* contains around thirty states (all currently producing than 2.7 tons of emissions per capita). By far the biggest producer of emissions is China, whose budget will last only for the next 24 years (equal to the world as a whole). China must also cut its emissions rapidly and massively; newly industrializing countries such as Mexico, Argentina, Chile and Thailand are in a similar position. Contrary to what the Copenhagen negotiations suggest, this group cannot go on doing "business as usual" and must step up its "green business" significantly.

*Group 3* includes all other states with emissions under 2.7 tons of CO<sub>2</sub> emissions per capita. Currently, they contribute only 12 per cent to the global emissions total, while making up more than half of the global population (and thus the emissions budget). Taken together, these countries, which will be the major sufferers of the consequences of dangerous climate change, still have significant scope for higher emissions. However, because of the global bottom margin of a maximum of 1 — 1.5 tons per capita required by 2050, must also cut back on emissions by then. At the top end of this group are countries such as Brazil, Egypt and Peru, whose budget, at the current rate of emissions, will last for 42, 56 and 59 years respectively. These countries, in other words, must begin to uncouple greenhouse gas emissions from economic growth in order to be able to remain within their budgets. At the bottom end of the group are 45 countries, mostly from Sub-Saharan Africa, whose CO<sub>2</sub> emissions level is at present lower than 0.5 tons per capita.

The formula needed to break the Gordian knot of climate negotiations is called: **technology and financial transfer in return for budget overrun**. Exemplary and particularly interesting in this respect is India, the biggest producer of emissions in group 3 (with 1.2 tons CO<sub>2</sub> tons per capita). In the

framework of the current global budget, the country could double its emissions by 2030 and then reduce more or less symmetrically so that by 2050 it returned to current levels. However India also needs a demanding low-carbon strategy if it is to achieve this trend reversal in twenty years.

The Indian case shows that it is from the third group that the budget reserves come that are necessary in order to offset, via emissions trading, the budget overruns of the industrial nations. This must be tied to concrete plans for climate protection, so that low-emissions nations do not just sell "hot air", in other words stage massive financial transfers that have no impact on climate protection. Emissions trading understood correctly leads to strategic climate partnerships between nations with high and low emissions, so that developing countries are able to complete the transition into sustainable, low-carbon economies. This deal makes climate protection immediately attractive to all countries, even if their per capita emissions level is today still low. The crucial object of negotiation is therefore the size and the structure of the financial transfer.

### From burden sharing to benefit sharing

The Kyoto process and the Copenhagen negotiations have up to now come under the heading of "burden sharing"; the reduction of greenhouse gas emissions has been considered a handicap and an unfair demand, even as being fatal to growth and prosperity. Thanks to this point of view, nations are **imprisoned in a dilemma**, a situation in which single actors place greater weight upon individual advantages than upon the collective benefits of a possible cooperative solution. Attempts motivated by short term self-interest to minimize one's own climate-political commitments, in other words to negotiate a discount here and an emissions rebate there, have the net result of causing irreversible damage, not only to global society as a whole, but also to each individual nation.

Instead of burden sharing, the world climate treaty drafted by the WBGU proposes a system of **benefit sharing**. The givers and takers of classical development cooperation will become partners with complementary interests. The world map will be redrawn and with it the "formulas for power": Sub-Saharan Africa can offer the most emissions rights, while India (whose budget if emissions remain constant will last another 112 years), Bangladesh (384 years), Pakistan (124 years) and Ethiopia (1200 years) will become strategically important actors in the global emissions market, which will offer them immense opportunities for development.

Emissions trading between the countries in the first two groups, on the other hand, will be limited because of their tight budgets. Nevertheless, industrial countries will have a major interest in **technology partnerships**, especially with China. These are necessary in order to prevent competition erupting between the countries in groups 1 and 2 for the emissions credits of group 3, the effect of which would be to raise prices so that that the industrial and industrializing countries were no longer interested in buying. Hence it is necessary from the outset that strategic climate alliances are formed between China, the EU and the US. Because of China's high rate of economic growth and relatively high per capita rate of emissions, it is already under time pressure to develop a comprehensive de-carbonization strategy, and it is in the interests of the US and the EU to encourage and accompany this.

The crucial change in world society lies in the mid-term uncoupling of economic growth and fossil energy extraction. Until now, the wealth of nations has been based upon the combustion of coal, gas and oil; however the twenty-first century — as long as the 2°C target is taken seriously — will witness an **inversion**. Nations less advanced down the path of carbonization (such as large parts of Africa), or those that leave the path in time (such as India and Pakistan), will now also be able to become wealthy by assisting societies that must de-carbonize rapidly. A responsible global climate policy entails a fundamental change in international relations, one that entails not only what are perceived as unreasonable austerity requirements, but also a kind of indirect climate dividend, in other words a certain quality of life. For a long time, climate change has for most people been a scientific abstraction. It only began to take concrete shape when the signs became tangible and the costs calculable. People become active when they recognize the material — but not only the material — benefits of their actions.

### The devil is in the detail

Of course, this is still a utopia. In its current state, cap-and-trade schemes to reduce emissions are far from being fair and effective; making the necessary institutional innovations in the field of "global governance" would require significant courage. Ottmar Edenhofer and the WBGU suggest setting up a **central climate bank**, which as a global budget controller would supervise the transfer of emissions credits. This bank would also have the job of making sure that emissions trading did not oppose the goal of remaining within the entire global budget, for example via the complete sale of unused emissions credits by individual developing countries at the beginning of the contract period. In order to achieve this, the Central Climate Bank must have the power to do its job. That, in turn, implies that as an institution of global governance, it is accountable and that it has democratic legitimacy — something fundamentally lacking in transnational agencies such as the World Bank.

What is needed is a financing mechanism bound by international law, which — according to the logic of the budget system and the principle of liability — is essentially fed by countries with historically higher emissions. Countries' financial input might be generated by means of a national carbon tax or via the auctioning of national emissions credits. This mechanism would have the advantage of being measurable, reportable and verifiable. The global central climate bank can collect these funds in a central pool and distribute them according to an agreed method; it must be able to effectively sanction countries that fail to meet their payment commitments. Conceivable here are liability regulations for certain countries, temporary exclusion from the flexible mechanism or fines (as in the EU). The necessary funds can by no means be put up entirely by the public purse: **private investors**, especially in industrializing and industrialized countries, must be attracted via low-interest loans and investment security. Matching funds are another financing option: here, private income is raised by a certain percentage via a state share.

Three further requirements must be met if the budget-based world climate treaty is to succeed:

1) *Global milestones*. It should be fixed upon that by 2020 at the latest, global emissions must no longer continue to rise. Another milestone for the maximum rate of global emissions is needed for 2050, otherwise limiting the global temperature increase to 2°C would be almost impossible.

2) *National action plans*. All states must commit themselves to developing national plans that make transparent how they intend to manage their national budgets: independent international bodies must check these plans for their plausibility and practicability. This would limit the risk that national governments shift responsibility for the necessary steps onto future generations. Increasing national independence (through greater flexibility in the choice of the course of transformation) and the commitment to accountability towards the global community are thus linked.

3) *Interregional flexibility*. The worldwide management of national budgets in the framework of a global CO<sub>2</sub> emissions trading system requires that the national emissions budgets are divided up into emissions credits that can be traded. Emissions-trading between countries enables and even encourages a wide variety of bi- and multi-lateral transactions.

### Another world is possible

The "normal mode" of international cooperation is too slow for this re-structuring: as the Copenhagen climate negotiations have proved, the tendency is to agree on the lowest common denominator. The predominance of national interests and the logic of competition between nations is demonstrated in the ineffectual negotiation rounds of the World Trade Organization, the merely rhetorical nature of the Millennium Development Goals, not to mention the political processes within the most advanced arena of cross-border cooperation — the European Union. Although the view is widely held among political decision-makers that in an interdependent world the growing number of global problems can only be solved by means of global governance, this has yet to translate into an acceleration of the routines of global negotiation.

A successful climate policy based on the 2°C target therefore depends upon a **revolution in international cooperation**, both in its content and in its institutional form. Historically, there are very few positive images for such a revolution; perhaps the utterly unexpected reform course of Mikhail Gorbachev would be one. As is well known, the Soviet head of state admitted that the real-socialist model had become bankrupt and that maintaining the rigid model of confrontation between East and West would accelerate the political downfall of the Soviet Union and its associates and increase the danger of international confrontation. The climate crisis demonstrates parallels: the high-carbon model of development equally close to bankruptcy, and an international negotiation tactic based on short-term interests will prompt the collapse of the carbon economy and generate immense international tensions and conflicts. The parade of nations laying claim to the Arctic is an example of this, as is the increasing pressure of migration from island and coastal regions.

A world climate treaty will inevitably involve some degree of conflict. However the predominant dilemma in which countries are caught can only be overcome once all become aware of the impending danger, rather as if a meteorite were on collision course with the earth. Is this not to dramatize an increase in the average global temperature of 2°C? Most would say so. However it is obvious that the indisputable effects of global warming upon the natural world (rising sea-levels, increase in extreme weather phenomena, extinction of species and eco-systems, etc.) and upon human society (supply crises, forced migration, destabilization of political systems, etc.), even if these differ from region to region, will mean extremely negative consequences for all climate zones and all societies. In this sense, the climate change problem

can indeed be compared with a large meteorite hitting earth, which would cause gigantic flooding and an abrupt change in the global climate (an "impact winter"). In other words: the effects of unhindered global warming are a **problem for humankind at large**. There is no "outside" where negative consequences can be distributed. In this instance, there are good grounds for applying the oft-abused concept of the "community of fate" to the climate problem. It is only when this realization asserts itself that there will be a chance of breaking the global climate deadlock. When it becomes clear that no country will ultimately be spared from the consequences of an increase in global temperatures between 4°C and 6°C, then the willingness to enter into the international cooperation that is necessary if dangerous climate change is still to be prevented dangerous must grow.

However there are no historical precedents for the technical-financial efforts now required. One could (following Al Gore) compare it to the US government's Apollo programme in 1960, when a clear and what at the beginning also seemed a utopian goal (a human being on the moon) was announced. In order to realize this within ten years, resources and human capital on a scale entirely unheard of until then (25 billion US\$, 400 000 people) were deployed; equally crucial was the clear engagement of the Kennedy administration, which set clear targets and schedules.

Today, the completely different premises of climate politics require a significantly more far-reaching (geographically and in content) combination of **political leadership, technical innovation and social mobilization**. The programme of worldwide de-carbonization is motivated not so much by the technological optimism of the "open frontier" that has pushed the US into the fore in the past, as an exorbitant threat to humankind in the form of dangerous climate change and the acute urgency of political action. Seen historically, turning away from fossil fuel politics requires a similar act of moral-political will as the abolition of slavery and child labour in the eighteenth and nineteenth centuries. The motor of these initiatives was not the anticipation of technological and economic advantages (which first emerged over the course of the industrial revolution), but rather an intentional break with a habit and its accompanying social environment that had become morally and politically untenable.

*Institutionally*, the L'Aquila resolve to raise the 2°C target to a global measure of climate politics implies a **new formation of global government**. This includes the consolidation of "eye to eye" negotiations between the old and the new hegemonic powers (the US, the EU; China) on the one hand, which as the G2 or G3 and in the UN World Security Council have the power of veto, and the developing and emerging countries on the other, including new regional powers such as Mexico, Egypt, Turkey and Indonesia. In this framework, the old G-7/8 can no longer function as a hegemonic centre, but rather as a kind of broker and preparatory body. Simultaneously, within a variable architecture of negotiation, links must exist with the numerous conference institutions of the United Nations, which continue to carry the full weight of the G192. Partnerships will also arise with political-economic regional associations such as the EU, Mercosur, or the African Union. And that is not all: in the framework of emissions credits-trading, future global climate policy will also be determined by bilateral treaties. This flexible (and, alas, fragile) architecture of multi-level negotiation can function only as long as it is oriented towards clear moral bases for negotiation, has sufficient democratic legitimacy, and is supported in national and local arenas of action. Power structures like the G20 imply a kind of democratization paradox: they include nations and agendas

that until now have not been sufficiently included, and in the ideal case, in the sense of a democracy—producing multilateralism, provide global public goods. However they themselves do not possess a mandate that accrues to them, at best indirectly, via non—governmental organizations.

### How much democracy can climate protection tolerate?

The transformation of societies into low—carbon societies can certainly not succeed solely from the top down. Consumers as well as voters must reach decisions in such a way that their long—term benefits are maximized, even if in the short—term this appears to entail costs. In order to overcome blockades, "**change agents**" — or strategic persons and groups operating at the forefront of social transformation and disseminating an awareness of its chances — take on an important role. All periods of major transformation were historically marked by new technologies and leading sectors of the economy, but even more so by upwardly—mobile social classes that challenged patterns of thought, institutions and mentalities. Strategic groups and networks operated within and across national boundaries as role models and trendsetters, thus achieving cultural hegemony through isolated (or what appeared at first to be hopeless) improvisation impulses.

"Change agents" induce innovation insofar as they call into question world—views, challenge ingrained attitudes and behavioural patterns, depart from well—trodden paths and motivate sustained change among "followers". Today they can be found in environmental and citizens' initiatives, in NGOs (including churches and foundations), in academia, in political parties as well as among engineers, city—planners, architects and other professionals, who see in the de—carbonization of the economy and the use of space and mobility **enormous chances and creative challenges**. This "sustainable intelligentsia" can be found in the energy sector and in self—employed professions, in the departments of environment (though not only there) of local and regional government, in the specialist departments of national government and in the general directorship of the European Commission, and not least in energy associations, pilot projects and applied research projects. These protagonists often work in isolation, doubt the possibility for broad political alliances, and feel that a great distance separates them from the top ranks of leadership. The latter, in turn, often fail to recognize that these pioneers could be strong allies in the communication and implementation of allegedly unpopular policies.

The Kyoto process, which the majority of people could barely to understand, was doomed to fail as long as the technical terminology and the formulas for diplomatic compromise was all that was perceived, and when climate protection was misunderstood as being purely an official, top—down process. Certainly, climate protection requires decisive action on the part of the courts and from business, however these initiatives will only be successful if the population sees itself from the "bottom—up", as being responsible both historically and in the present. This necessitates a **regionalization** of climate protection goals to the district level, and a linkage of climate politics to the higher echelons of public and private action. It is about reviving a local Agenda 21.

All important, then, is the way that the subject is "framed": energy efficient and climate—friendly behaviour becomes more likely when the costs to be expected in the short—term recede behind the advantages that will emerge in the mid— to long—term. The consequences of implementing the steps agreed upon in Copenhagen must be discussed openly; parliamentary debates, NGO

expertise and district action plans are just as important as proactive consumer advice and political-cultural information and education, which above all anchor a sense of responsibility over time in the minds of younger generations. A climate policy from below must involve knowledgeable "laymen" as multipliers.

A new, positive culture of participation is articulating itself at all levels: in elections and in membership of clubs, associations and political parties, as well as in non-governmental campaigns for climate protection, alternative energy and sustainability. Important is the growing group of **strategic consumers**: those who not only shop, move about, build and heat in an environmentally-aware way, but who also call into question dominant models of consumption and submit them to the criteria of sustainability. A tangible financial incentive supported by public sponsorship and reliable information is certainly helpful, yet a considerable number of consumers also change their consumer behaviour on the basis of general norms. For example, the benefits of participating in a public project are often seen not only in terms of results achieved, but also in terms of taking part, in other words the satisfaction in having done something for the environment, and the confidence gained in being recognized for this.

Global leaders will find it significantly easier to steer towards big cooperation targets if they are supported by visions of the future within civil society. The Copenhagen targets should not be portrayed as sheer austerity measures, but rather as a chance for benefit-sharing and for the long overdue entry into a climate-friendly global society. A low-carbon society is not a crisis scenario, but rather the realistic vision of **liberation from the path of expensive and risky over-development**. In 1963, when the world narrowly escaped nuclear catastrophe, the physicist Max Born wrote: "World peace in a world that has grown smaller is no longer a Utopia, but rather a necessity, a condition for the survival of mankind." Those words have never rung truer.

*Based on a special report of the WBGU ([www.wbgu.de](http://www.wbgu.de)) "Kassensturz für den Weltklimavertrag: Der Budgetansatz", published 1 September 2009.*

---

<sup>1</sup> Other greenhouse gases (such as methane or nitrous oxide) have a greater numerical climate change potential pro ton, however because of its large quantity and enormous longevity in the atmosphere, CO<sub>2</sub> is the crucial factor when considering climate change.