

RECOMMENDATIONS

FOR ALL NATIONAL POLICY MAKERS

COMMIT FIRMLY TO LOW-CARBON PROSPERITY

- Breaking free from the climate crisis will save lives, improve health and extend the lifespan and well-being of entire populations
- Tackling climate change results in net economic benefits and can reduce instability and system-level market volatility, restore domestic energy independence and jobs, while boosting business productivity and enhancing trade balances and economic competitiveness among major economies
- A low-carbon economy *will* reduce the stunning rate of contemporary environmental degradation, deforestation and irreversible biodiversity loss that is crippling the world's ecosystems with serious economic repercussions
- A global commitment to a low-carbon economy could strand half or more of all hydrocarbon reserves, rendering them unmarketable and potentially creating space for regulatory actions with very low costs not yet factored into economic modelling on low-carbon transition costing

PRIORITIZE PARALLEL MEASURES TO ADAPT TO CLIMATE CHANGE

- Adaptation cannot be a stand alone response to the climate challenge: treating only the symptoms but not the cause of the climate crisis would result in spectacular economic losses for the world economy – not all the effects of climate change can be adapted to; some come at a pure sunken cost, while uncertainty in many cases doubles the costs of adaptation since the possibility of random outcomes (e.g. more or less rain) require parallel measures in opposing directions
- Adapting to climate change is expensive, but not doing so is even more costly – on the whole, adaptation is cost effective and, if strategically programmed, may result in productivity boosts that more than compensate for any investment made –

governments are accordingly advised to close the adaptation gap

- Not investing in convincing adaptation responses will increasingly hold back country-level business and investor confidence, especially for highly vulnerable countries where climate change is already one of the most significant economic challenges
- Climate change is radically more dangerous and damaging for the world's poorest populations than for any other groups. Not empowering marginalized communities to overcome the daunting new challenges only multiplies economic, social and political risks and instability, and will guarantee a steady erosion of longstanding poverty-reduction investments
- International funding and resources of all kinds need to be anchored both in the best possible understanding of the probable distribution and severity of vulnerabilities and impacts attributable to climate change and the highest co-benefits of supported mitigation actions in terms of human health and the environment

UNITE STRENGTHS IN INTERNATIONAL PARTNERSHIP

- A new international partnership is called for based not only on essential mutual trust and reassurances but also on pure common interest and shared economic, environmental and social benefits
- The climate crisis has emerged as one of the greatest common challenges of humankind: in a planet at risk, with death and damages in pandemic proportions and humanity and justice tested to the limits, not even half of the world's powers are capable of solving the problem alone
- Working in partnership, any costs associated with a low-carbon transition are minimized as the global comparative advantages of emission reduction and removal are fully leveraged, while the dividends of climate action for sustainable human development can be maximized in greater fulfillment of human rights

- That partnership can build on the significant energy already invested by the international community over the course of nearly two decades and 17 major UN climate conferences dealing with every conceivable technical aspect of the climate problematic in great detail and to the steady improvement of complex but vital institutional instruments such as the Clean Development Mechanism

FOR GOVERNMENT GROUPS

DEVELOPED COUNTRIES

1.1 Support the vulnerable *effectively*:

Decades of investment in poverty-reduction efforts largely on the basis of public taxpayer resources have been seriously undermined by climate change and environmentally unsound development. Explosive climate stress and what are often termed its “risk multiplier” ramifications for health, social and political security, migration and global prosperity are also likely to indirectly endanger the already slow growth prospects of many developed countries. Act effectively by ensuring efforts are aligned with an evidence-based prioritization that places vulnerability up front, support promising local government initiatives, and reach for the last mile of impact.

1.2 Deliver fully on Copenhagen/Cancún

commitments: Full delivery of climate finance is an essential component for meeting ambitious emission-reduction objectives. The prevailing financial climate is unfavourable, but climate finance has been largely transposed from parallel planned increases in Official Development Assistance committed or announced prior to and separately from international climate change agreements. Current flows are heavily imbalanced, with only marginal support for vulnerable countries to adapt to escalating damages. While mitigation actions can have very substantial benefits for sustainable human development, diverting resources intended for urgent poverty

reduction priorities penalizes the world's poorest groups as more than one billion people are still living with hunger on a daily basis. The global response to climate change cannot be taken out of the international community's commitment to eradicate extreme forms of poverty, a project now seriously endangered in large part precisely as a result of climate change. Despite the prevailing macro-economic difficulties, developed countries are urged to convene an extraordinary session of OECD Development Assistance Committee and to subsequently communicate a joint and time-bound action plan for delivering on the full set of collective climate finance and sustainable development commitments, much of which would otherwise go unmet by the end of 2012 and thereafter.

1.3 Rescue the MDGs: The Millennium Development Goals (MDGs) would have had significantly greater chances of being met globally in the absence of the climate crisis. The MDGs may not now be fully attained unless additional resources are devoted to the cause, targeting in particular progress specifically jeopardized by climate change impacts not accounted for when the MDGs were developed. With only a few years remaining before the foreseen conclusion timeframe, substantial emergency resources should be put into efforts to achieve the MDGs on the basis of goal specific, geographic and income-group lag. The evidence for seriously compromising effects for key MDGs and progress in priority regions as a result of climate change underscores the critical importance of mainstreaming climate change considerations into national-, provincial- and even town- or village-level development policies. An MDG rescue fund could constitute an early thematic funding window for the newly established Green Climate Fund set to be established within the framework of the UN Climate Change Convention (UNFCCC). While the international community is now

busy designing the successor "Sustainable Development Goals" that will take over from the MDGs after 2015, this important process should nevertheless not detract from the vital importance of first ensuring success by 2015 on the original MDGs.

DEVELOPING COUNTRIES

2.1 Prioritize climate policy with highest co-benefits: Faced with limited capacities and resources, policy makers should deliberately target high-impact actions with multiple societal benefits in human, economic and environmental terms. One example is the promotion of efficient and clean-burning cooking stoves, which addresses indoor smoke-linked disease and deforestation, as well as supporting gender development and labour productivity. Promoting clean-burning stoves also limits potent particulate emissions which could help slow the aggressive short-term increase in temperatures. Dozens of other high-impact policy options abound. Pursuing low-carbon development strategies across the sectors of construction, forestry, water and agriculture in addition to the electricity-generation industry will broaden the possible development dividends yielded.

2.2 Pledge strong national action: Strong leadership can pay dividends. Above all, it is in the firm interests of developing countries to create a domestic environment of predictability as to the direction and intent of national climate change policies. More ambitious climate change policies will reassure foreign investors that climate risks are under control and that steps are being taken to ensure economic competitiveness and risk diversification with respect to energy usage and forward planning. With climate change already firmly embedded in the contemporary economic system, strong national action plans are an assertive starting point for reassuring key stakeholders in the economic and social prospects of an economy in the near term.

2.3 Invest in national risk analysis:

Developing countries are overwhelmingly more vulnerable to climate-related impacts than industrialized nations. This is not only due to income inequalities and poverty but is also a product of heightened environmental vulnerabilities since the majority of developing countries are tropical or sub-tropical, where the implications of climate change are most severe. The high carbon intensity of economic activities common to many developing countries is a further disadvantage. As such, climate-related concerns are an important emerging factor for macroeconomic planning and the pursuit of optimal economic competitiveness. Effectively addressing climate-related risks requires sustained investment in local expertise, educational programmes, civil society groups and specialist technical networks. Ideally, reference climate change and emission scenarios, the backbone of climate change response planning, would be updated every 2-3 years and involve wide-ranging stakeholder groups in the development of each new iteration. National governments are best placed to foster the development of the most sophisticated country-specific climate-related analysis possible. Solid reference scenarios and analysis supports more accurate and efficient national policies and solidifies support for its implementation, including among development partners.

HIGHLY VULNERABLE COUNTRIES

3.1 Prioritize adaptation: Climate change is already a major determinant of the prosperity of economies most vulnerable to its effects. A highly robust climate change adaptation strategy and implementation plan is an essential safeguard for national development progress and economic growth prospects. As the knowledge base expands, country risk will increasingly factor in the diverse negative and positive effects of climate change to the economic prospects of nations, with direct

financial implications for investor confidence and foreign investment. Vulnerable countries need to learn from each other's successes and reassure the global economy that climate-related risks are well under control. Regional and localized knowledge tools, such as focused climate models, warrant serious investment in order to improve localized analysis as best as possible.

3.2 Boost domestic capacity:

Considerable institutional competences are required to manage costly adaptation programmes necessary to limit damages and productivity losses due to climate change. If institutional arrangements are not in place, serious opportunities for participation in the global low-carbon transition may be foregone. Just one example relates to the Clean Development Mechanism (CDM). National authorities responsible for the registration of projects that could enable local environmentally sound energy-related projects to access financial resources from international carbon markets are still absent in a number of highly vulnerable countries. Capacity goes beyond the public sector too: no point in establishing a national CDM authority in the absence of any local entrepreneurial activity for developing low-carbon projects in the first place. Moreover, making the most of vibrant civil society interest on climate change will only add value and legitimacy to the climate change policy development process and is a valuable asset to governments that should be cultivated and strongly promoted.

3.3 Strengthen climate governance:

The diffuse nature of climate change means its varied effects cut across the institutional divisions of policy both vertically, from national to provincial and district or municipal levels, as well as horizontally, encompassing government departments ranging from environment agencies to foreign, finance or planning ministries, resource management, civil defence, labour relations, agriculture, forestry, fisheries, commerce, science and education, health and safety, national meteorological services, to name just a few. Implementing meaningful policy requires extraordinary levels of coordination and stewardship. The most successful examples, such as the Philippines, thrive because of a deliberate high-level consolidation of national responsibility on climate issues in legislatively-mandated central authorities backed by direct executive involvement. The success of countries like the Philippines in implementing effective domestic climate change policies shows that improved climate change governance is a more significant determinant of climate policy success than the level of national domestic resources committed to climate policies.

FOR CIVIL SOCIETY AND THE PRIVATE SECTOR

COMMUNICATORS AND THE MEDIA

4.1 Question received wisdom: It has often been argued that green policies “curb economic growth”, “increase gasoline prices” or “destroy jobs”. Taxes on carbon do increase certain costs, namely by putting more of the burden of the negative affects of pollution back onto its sources. For most economies,

an ambitious response to climate change would only attenuate dependency on costly and insecure imported fuel supplies in favour of locally developed energy solutions, such as energy efficiency upgrades to buildings. If the US was able to cut its trade deficit in half purely by shifting to domestic solutions for meeting and reducing energy requirements, would that not increase domestic prosperity, rather than curtail it? If half or more of the world's existing stocks of hydrocarbons, such as oil, were rendered obsolete, might not their market price just as well plummet not rise? If climate policy is only another ruse in support of “big” executive government, why in the US are individual states taking the legislative initiative and not the capital? When the local building and automobile industries actively lobby in favour of national legislation on climate change while hydrocarbon businesses would the opposite, to what extent are policy outcomes being determined by vested influences as opposed to domestic economic interests?

4.2 Promote awareness on risks as opportunities: Risks are opportunities.

Serious environmental and health impacts of the carbon economy will abate as low carbon development progressively dominates economic activities. The same for climate change impacts. In almost every case, taking measures to limit damages due to the warming the world is already committed to will improve competitiveness and minimize any losses. The Monitor emphasizes that it is no longer credible that mitigation of climate change will lead to reduced economic growth. Indeed, the benefits of reducing the

carbon intensity of growth far outweigh any small and artificial premium in profit margins associated with carbon-based development strategies. The dividend of mitigation furthermore is most pronounced in fast-growing, newly industrialized developing countries.

4.3 Take a stand: Time is running out, and the stakes are tremendous, if not incalculable. If a low-carbon transition is not engineered within the decade, the consequences will be dire regardless of the ultimate magnitude, since they involve irreversible damage: the extinction of whole species, and thousands upon thousands of human lives lost. In worst cases, not solving climate change could render large areas of the planet unsuitable for human existence outdoors. The injustices, environmental irresponsibility and inhumanity involved are simply staggering. A nearly unparalleled body of scientific and observational evidence now amassed and plain for all to see with the steady disappearance of Arctic sea ice and glaciers. The dramatic weather-related adjustments and extremes repeated around the world are difficult to ignore. Despite the complexity of the topic, ignorance is no excuse for inaction, and indifference can be tied to complicity. With this report, there is now a comprehensive current-day economic justification for action in addition to the human, ethical, environmental and rights-based arguments already in wide circulation. Civil society groups, communicators and people of all kinds in positions of public influence or authority within their communities, whether in faith-based groups, municipal or educational establishments, should find no further obstacles to taking a stand in tackling climate change.

INVESTORS

5.1 Perform comprehensive risk

analysis: Corporations reliant on business models based on carbon assets, such as reserves of oil, are taking a daily gamble that a low-carbon economy will never prevail and those assets will never be stranded unable to reach markets due to regulation. Certainly, the structural features of the global economy and every mainstream energy outlook analysis back the narrative of the low-carbon economy as a pipe dream. But only a very narrow window of legislative action in favour of a firm response to climate change would strand half or more of the world's existing stockpiles of carbon-based fuels as unmarketable. To what extent are investment portfolios exposed or not to that possibly marginal but phenomenal risk? Are those risks worth bearing? How might they be minimized?

5.2 Encourage diversification

strategies: Hydrocarbon companies should be capable of presenting comprehensive diversification strategies into low-carbon alternatives. If no convincing diversification strategies have been developed, it is clear that corporate leadership are carrying investor resources along a risky political gamble. Detailed economic modelling by major pension funds has demonstrated that a diversified portfolio should reap more benefits for investors in the case of a low-carbon transition than under business-as-usual conditions. Few companies in the energy sector rival the omnipotence of hydrocarbon businesses, mainly state-owned as they are. Therefore, whether or not the future energy requirements of the planet are met through renewable sources or via point-supplied carbon

intensive fuels, the leading global energy corporations of today are still the best equipped to service the world's energy requirements of a low-carbon economy. Not preparing the ground for a potential low-carbon transition only builds up risks that need not exist. Coal businesses, for instance, with strong investments in carbon capture and storage (CCS) and employee and environmental safety research and development, would most likely benefit from a low-carbon transition rather than suffer.

5.3 Foster transition stability:

Legislative steps that entail irreversible change to the landscape of the world's energy industry are a systemic risk embedded in global markets, just like climate change is already an inescapable and growing determinant of market prosperity itself. The energy sector constitutes the primary or at least a major share of virtually every major stock exchange. Abrupt policy action that results in a stranding of a majority of carbon assets could cause serious instability. And yet changes are very specifically a contingent necessity to the constraining of climate change, which in spite of current business trends is nevertheless a widely ratified international priority. In a globalized economy, it is a sovereign regulatory concern for any party to the UNFCCC. Equity market regulators across the 194 parties involved should be monitoring and publicly reporting on the extent to which systemic carbon-linked risks might jeopardize national and global prosperity. This would enhance investor visibility to the risk profiles of entire indexes and encourage better carbon risk management. Regardless of the motivations, regulators unwilling to

publicize relevant information on such hazards might be suspected of purposely concealing inordinate risks, which may only compound exchange-specific risks and compromise investor confidence here.

RESEARCH COMMUNITY

6.1 Encourage attribution research: Imperfect data sets, confounding parallel effects, basic empirical limitations and otherwise, thwart the identification of climate change's role (or lack thereof) in any socio-economic or environmental phenomena. Yet the exercise is highly relevant and significant. Hundreds of billions of dollars of taxpayer resources virtually everywhere are already being diverted each year, consciously or not, to address the sprawling repercussions of a hotter planet. Knowing where these resources should or should not be deployed is of prime concern. Just one example serves to illustrate why. If climate change is assumed solely responsible for localized coastal degradation in a river delta due to a subjective rise in sea levels, a concrete wall along the foreshore might conceivably be built. However, equal or greater blame may well be attributable to upstream dams, hydro stations, irrigation, or localized ground-water pumping that would continue to cause land to sink further behind a prohibitively expensive, infrastructure-heavy coastal fortress aimed at containing sea-level rise. Furthermore, coastal defences in one area often accelerate degradation in adjacent coastal zones by inhibiting the natural dissipation qualities of tidal energy, spreading inadvertent losses further still.

6.2 Expand global analysis: Global estimates and models of the impact of climate change are so complex and subject to such a wide array of assumptions and proxies by the experts or research teams involved in their development as to be almost irreproducible by third parties, even when full transparency is provided on the methodological steps involved. And yet understanding the costs and benefits involved in addressing any serious policy concern is ordinarily an unavoidable imperative. Climate change proposes nonetheless perhaps the most ambitious policy agenda the modern world has had to decide on. The dearth of recent analysis on the question has no doubt lessened confidence in global policies capable of enabling a major macroeconomic restructuring crucial to the initiation of a low-carbon transition. The Monitor's reassessment of the costs of climate change would best be judged through comparison with other similarly updated studies. Where future studies include also carbon economy side effects, such as carbon fertilization, they should also include the full range of carbon economy side effects, including ozone toxicity, acid rain, pollution issues relating to health and other relevant impacts such as those assessed by the Monitor.

6.3 Avoid misrepresentation of risks: The level of confidence and agreement among academic specialists and their models is less important for vulnerable communities than the potential risks implied by science. Understating risks by stressing instead the uncertainties associated with attributional association to climate change is irresponsible because the implication

is to displace concern, entailing potentially deadly and economically debilitating ramifications if policy makers fail to act on risks. While many risks cannot be affirmed as stemming from climate change with a high degree of confidence, neither can their causal association to climate change be discounted with any better degree of confidence. Future reference reports should aim to highlight first the range of risks, then the levels of confidence and uncertainty associated with them, and not the other way around. It is safer to risk being over prepared than under.

FOR THE INTERNATIONAL DEVELOPMENT AND HUMANITARIAN COMMUNITY

DEVELOPMENT ACTORS

7.1 Focus on economic development, education and environmental governance: Any strategy that boosts economic and human development will almost certainly also reduce climate vulnerability by some degree. This is highlighted by the very low levels of climate impacts assessed for the few high-income tropical countries that share environmental vulnerabilities with lower-income neighbours, such as Brunei, Saudi Arabia or Singapore. Education is also critical so that communities experiencing a growth of income are equally equipped with high degrees of awareness of the risks faced and the means available to mitigate these. Educating children, especially girls, may be the most cost-effective method to spread awareness, since the school system, as well as informal educational avenues, is a sustainable conduit to invest in, and children are

more likely to further pass on their knowledge to other groups, namely adults. Environmental governance is equally key, since the unsustainable exploitation of natural resources, above all fisheries, forests and water, might occur regardless of the level of education and may even intensify as incomes rise. But environmental governance should look beyond simple protection towards actually enhancing the public goods natural resources have to offer. This might include the construction of dams to trap water from heavy downpours for irrigation during drier spells, or the expansion of natural reserves or wetlands for pollination, waste water treatment or wind protection.

7.2 Raise the disposable income

of farmers and fishermen: Support national efforts to establish appropriate national government policies and investments that yield for the lowest income groups. The groups most consistently and heavily exposed to climate-related impacts are small-scale or subsistence farmers and fishermen, and especially their children. The greatest challenge faced by the lowest income bracket of these groups is to reverse the vicious cycle of decline that climate-related risks are constantly feeding. In order to break out of decline, farmers and fishermen need to expand their incomes and profitability. If not, even the most cost-effective of opportunities to protect against damages may remain out of reach on purely financial grounds, such as higher quality seeds, clean burning stoves, irrigation equipment or crop insurance. Education and rural extension training has a role to play in helping farmers

to boost productivity so that more can be achieved with the same resources available. Expanding market access for the raw or finished goods produced by this group is another option of growing interest as the world's markets continue to globalize. Providing financial stimulus and training to local entrepreneurs or cooperatives to establish light agro-fishery industries capable of packaging these goods for admission to global supply chains would allow local producers to appropriate a greater share of the value chain and maximize the commercial value of their goods.

7.3 Integrate climate strategies to revitalize development: Access to carbon markets via the reformed CDM, which allows the pooling of micro-level activities into one larger and therefore collectively financeable project, and the possibility of a global carbon market for forests, represent new sources of long-term income streams that could enable a host of fresh sustainable development initiatives to take hold in developing countries. Simple large-scale energy projects like hydro dams or extensive concrete sea defences may be attractive climate-related initiatives for administrative or other reasons, but energy-efficient cooking stoves and mangrove plantations would likely accomplish the same objectives – reduce emissions, protect against coastal degradation – but bring much higher co-benefits – for health, biodiversity, forests, carbon sinks, or wind protection, to name just some key advantages. Several successes in payment for ecosystem services systems, Costa Rica's scheme being a prime example, also provide templates for governments to regulate and incentivize the protection and growth

of valuable environmental assets in an integrated and self-sustaining way. International policy makers should prioritize high co-benefit initiatives and integrated programmes that deal simultaneously with multiple issues in order to maximize the scarce resources available for tackling climate vulnerability while making the most out of the transition to a low-carbon economy in terms of sustainable human development at a global level. With far fewer resources available for adapting to climate change, prioritizing mitigation projects that also boost local adaptive capacity or directly result in adaptation dividends could double or more the possible extent of adaptation efforts. As an example, retrofitting buildings with thermal insulation would reduce cooling energy loads, and therefore emissions, but also safeguard health and labour productivity from rising temperatures.

THE HUMANITARIAN SYSTEM

8.1 Brace for change: Change is already underway. That change is also significant: as heat rises, parts of the world will experience climates with no analogue in human history. It is still extremely difficult to confidently attribute a specific extreme weather event in part or entirely to climate change, especially not close to the time of its occurrence. Certain types of events, such as extreme heat leading to drought or flooding triggered by heavy rains, nevertheless carry the classic hallmarks of disasters suspected to have been caused or aggravated by climate change. On the basis of the classical laws of physics, moreover, it is nearly impossible that, for example, more abundant, frequent and concentrated heavy rainfall or severe hot and dry spells would not result in a

general increase in flooding or drought. As such, the humanitarian sector needs to be capable not just of preparing for but also responding to weather-related emergencies on larger scales and at more frequent intervals. Likewise, all development and humanitarian partners should increasingly realize the value of building, together, the resilience of communities to avoid simply racing to respond to emergencies and maximize the effectiveness of development investments.

8.2 Establish a thematic funding window for climate-linked emergency response:

The damage caused by the general increase in the extremity of certain types of weather already accounts for a significant and growing share of human and economic disaster losses. The concern falls squarely within the competence of the UNFCCC and is a legitimate target for climate change finance, especially for developing countries with marginal capacity that are penalized by current finance flows, which seek out strong “absorptive capacity”. Persistent Horn of Africa and Sahel food security crises highlight the extent to which the international humanitarian community is not sufficiently equipped to cope with climate-related disasters. As climate stresses continue to mount, that capability will only be further eroded if action is not taken to ensure it is reinforced. The track record of humanitarian sector resource mobilization makes it unlikely that standard sources of funding will keep pace with costly additional burdens to emergency response. A climate finance-replenished thematic funding window should be established to finance a share of all emergency relief and rehabilitation costs associated with any extreme

weather events, especially floods and drought – since such events can neither be attributed nor *dis-attributed* to climate change. The same window could also finance emergency preparedness activities in known high-risk hotspots. The UN’s Central Emergency Response Fund (CERF) could establish a dedicated window for this purpose in conjunction (or not) with the Green Climate Fund.

8.3 Evolve thinking and partnerships:

Even without today’s clear resource constraints, it will take more than just additional financial resources to cope with the increases in risks expected as a result of heavier rain and more extreme heat. Strategic planning should question whether the past is an accurate basis for future situations given the highly dynamic conditions the world now finds itself dealing with as a result of climate change, economic and population growth, globalization, and otherwise. Extreme droughts are breaking new records today, but those records will only be re-broken again and again in the years to come. Organizations and institutional response structures will need to become more accustomed to dealing with highly uncertain and speculative information, find efficient ways to prepare for a range of different possible outcomes, including unprecedented multi-country crises that could be triggered by repeated extremes, such as heavy flooding followed by extreme and prolonged drought, and compounded by additional risks, such as energy price spikes. The interactions between climate change and other wide-ranging crises merits more focused examination: just as climate change outcomes are affected by wide-ranging issues, so too climate change will affect critical determinants of tomorrow’s humanitarian crises, if not

already, today’s. Breaching conventional comfort zones in order to work more widely and effectively with non-traditional humanitarian actors like the private sector or the military, would also help to expand reach and impact.

