

# STRAWMAN ELEMENTS

## POSSIBLE APPROACHES TO ADVANCING INTERNATIONAL CLIMATE CHANGE EFFORTS

Prepared for the

**CLIMATE DIALOGUE AT POCANTICO**

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## INTRODUCTION

This paper was prepared as input to the Climate Dialogue at Pocantico, a series of discussions among senior policymakers and stakeholders from 15 countries exploring options for advancing the international effort against climate change.

The central focus of the dialogue is the development and assessment of a range of “strawman” proposals for strengthening the international climate effort. As a first step in the development of these strawmen, this paper provided to dialogue participants a set of brief conceptual “elements.” These elements serve two purposes: first, to highlight distinct approaches to addressing climate change internationally; and second, as building blocks for the strawman proposals. They are intended not as alternatives per se, but rather as a menu of approaches that might be combined or modified any number of ways.

A preliminary draft of this paper was discussed at the dialogue’s second session, in October 2004. The paper was subsequently revised to reflect the participants’ views; some of the original elements were removed from consideration and new ones added.

Seven elements, some with two or more variants, are presented:

- Long-term Goal
- Targets and Trading
- Development-focused
- Sectoral
- Technology
- Bottom-up
- Adaptation

After further consideration of these elements, dialogue participants may refine or narrow the range of options, or form a set of “hybrids” representing different combinations of elements. The resulting strawman proposals will be elaborated and analyzed, and presented for consideration at a subsequent session of the dialogue.

## STRAWMAN ELEMENT: LONG-TERM GOAL

### Summary

Governments, business and/or expert communities would adopt some form of long-term goal to elaborate or support the ultimate objective established in Article 2 of the United Nations Framework Convention on Climate Change (stabilizing greenhouse gas concentrations “at a level that would prevent dangerous anthropogenic interference with the climate system”).

A long-term target would adopt a decades-long time frame. It could be:

- “Output”-based (expressed in terms of global temperature, concentrations or emissions) or “input”-based (cast in terms of underlying activities that generate or reduce emissions);
- “Binding” (established as a basis for nearer-term target-setting) or “aspirational” (establishing an aim but no obligations);
- Formally negotiated within the UNFCCC or other multilateral forums or launched informally by a group of like-minded countries and/or companies.

### General Pros and Cons

Advantages may include:

- Providing a stronger sense of direction for the international climate effort
- Providing a metric to guide and assess the adequacy of near- and medium-term action;
- Sending a signal for investment in longer-term technology options;
- Increasing public awareness, mobilizing society, and promoting global participation.

Disadvantages may include:

- Diverting negotiations from issues that may produce more immediate results;
- Forestalling near-term action if the long-term target is too lax, or by creating the perception that the solution is only needed or necessary decades from now;

### Illustration 1 – Aspirational “Output” Goal

Like-minded governments, private sectors actors and/or expert communities would articulate a quantified long-term goal or goals as an “aspirational” guide for future climate efforts. They could act collectively or individually. A number of metrics could be employed:

- *Temperature* – The goal could suggest an upper limit on allowable change in average global temperature (e.g. 0.1 degrees Celsius/decade or 2.5 Celsius by 2100).
- *Concentration* – The goal could aim for stabilization of atmospheric GHGs at a given concentration level (e.g. at 450 ppmv or 550 ppmv).
- *Emissions* – The goal could suggest an upper limit on global emissions (e.g. 60 percent reduction from current levels by 2050).

Pros:

- Global temperature, concentrations, and emissions are routinely monitored with a reasonable degree of accuracy.
- A quantified target provides a basis for analyzing and comparing potential emission pathways and commitments.
- A *concentration* target employs the metric already enshrined in the ultimate objective of the UNFCCC.
- A *temperature* target might help mobilize support for climate efforts by highlighting the metric most readily identifiable in the public mind with global warming.

Cons:

- There are large uncertainties in the links between these metrics and climate impacts on the ground.
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- The suggestion of a global cap, even if only aspirational, may be perceived and opposed as a constraint on economic development.
- A quantified long-term target, unless periodically revisited, will not reflect new scientific and economic information as it arises.
- Monitoring of global *temperature* is complicated by the uncertain influences of factors unrelated to human-induced warming (i.e. solar activity, natural variability).

## **Illustration 2 – Zero-Emission Goals**

Countries would agree on a long-term goal (or goals) to achieve zero-net emissions in one or more sectors – for example, by 2100. Such “input” goals could be established as part of broader sectoral agreements that elaborate nearer-term commitments aimed at achieving them. Making the goal zero-*net* emissions would allow for the use of capture-and-storage technology and other forms of sequestration.

Pros:

- Provides a clear statement of the challenge to be met.
- Unlike a long-term impact (temperature or concentration) goal, focuses on a metric subject to direct human control.

Cons:

- Timeframe is remote and goal may seem overly ambitious.
- Only credible if accompanied by nearer-term measures.

## STRAWMAN ELEMENT: TARGETS AND TRADING

### Summary

The target-based approach represents a continuation of the basic approach of the Kyoto Protocol. Countries would multilaterally negotiate national emission targets for specified commitment periods. These targets would clearly specify the environmental result that must be achieved (namely, quantified reductions in emissions), while giving countries flexibility about how they may achieve this result. Allowances could be traded through an international emissions trading system.

A target-based approach could take a tremendous variety of forms. Important issues include:

- *Form* – Targets could be fixed or indexed (for example, to a variable such as gross domestic product); legally-binding or “no lose”; absolute or conditional (for example, on the receipt of financial assistance).
- *Participation* – Targets could be limited to industrialized countries or could apply to developing countries as they meet specified graduation criteria.
- *Differentiation* – The stringency and/or form of targets could be differentiated among countries based on per capita emissions, historical responsibility, ability to pay, or some other criterion.
- *Comprehensiveness* – Targets could cover all greenhouse gases or some subset. Greater comprehensiveness could promote cost-effectiveness, but may complicate implementation and compliance, due to uncertainties about emissions of some greenhouse gases.
- *Time frame* – Shorter commitment periods could have more political credibility, but longer commitment periods would provide greater flexibility in timing emission reductions to take advantage of regular capital replacement cycles and R&D.

### General Pros and Cons

Advantages may include:

- Continuity with, and learning from, Kyoto.
- Countries would have flexibility to decide how they lower emissions to meet their targets, based on their national circumstances and other priorities.
- Trading, comprehensiveness, and long-time frames would help allow countries to reduce emissions cost-effectively.
- Technically, targets are easily scaled up or down in response to new scientific information.
- The form and/or stringency of targets could be differentiated based on equity criteria.

Disadvantages may include:

- Uncertainties regarding the projected effect of mitigation measures could make national compliance difficult to achieve.
- Because compliance costs depend on many unpredictable variables, targets could result in unexpectedly high costs and lead countries to drop out or not comply.

### **Illustration 1 – Differentiated Targets with Graduation Criteria**

A multilateral negotiating process would define different types of targets for different categories of countries. Countries would be categorized based on differentiation/graduation criteria such as per capita emissions, ability to pay (as measured by GDP per capita) and emissions intensity. For example, industrialized countries might have legally binding, absolute emission reduction targets that comprehensively address all sources and sinks of GHGs; middle income developing countries might have dual intensity targets applicable only to carbon emissions (one legally-binding intensity target; and a more stringent, no-lose target that would be used for trading purposes), and less prosperous developing countries might have no-lose targets. As countries develop, they would graduate into different categories and would have a different target type.

#### Pros:

- Differentiation between different types of countries and targets could address equity concerns.
- Regime would provide a pathway to global participation.
- Absolute emission reduction targets for industrialized countries would provide:
  - maximum continuity with Kyoto.
  - environmental predictability, assuming countries participate and comply.
- Dual intensity targets for middle-income countries could address concerns that emission targets might threaten economic development, while avoiding the risk of hot air.
- Countries with low-cost emissions reductions would have incentive to participate in order to gain access to the GHG market.
- Periodic renegotiation would allow actors to learn and take account of new information.

#### Cons:

- Some industrialized countries may be unwilling to accept absolute reduction targets, due to economic uncertainties.
- Some countries might find any emissions target difficult to accept politically.
- If targets negotiated on an ad hoc basis for each commitment period, they could be questioned on ground that they have no scientific basis.
- An iterative process would necessitate periodic renegotiation.
- Mixing target types would increase the technical complexity of the negotiations.

### **Illustration 2 – Targets with a Safety Valve**

A safety valve could be added to any legally binding target to allow states (and possibly individual companies or other entities) to buy additional allowances at a predetermined price. In effect, this would make the emission target conditional: if the marginal cost of abatement rose above the safety valve level, then the target would be relaxed through the sale of additional allowances.

Pros:

- A safety valve would provide economic predictability about the maximum marginal cost of abatement, and guard against unexpectedly high compliance costs.
- Providing assurance against unexpectedly high compliance costs could remove a disincentive to participate.

Cons:

- A safety valve would not assure any particular emissions level, since targets could be relaxed in the event that compliance costs prove unexpectedly high.
- As a price-based instrument, a safety valve may appear similar to a tax, making it politically unacceptable for some countries.

## **STRAWMAN ELEMENT: DEVELOPMENT**

### **Summary**

In a development-focused approach, countries would undertake or commit to measures supporting both climate and development objectives. The aim would be to shift development pathways in a climate-friendly direction by better integrating climate needs into a country's overall development strategy. Instead of limiting "outputs" (emissions), this approach would focus on "inputs" – the activities that generate emissions (energy, transport and land use).

Countries would pledge or commit to undertake policies and measures that help to lower GHG trajectories while also advancing core development priorities such as energy, agriculture, and economic growth. In developing countries, implementation could be supported by development assistance targeted to climate-friendly development, or by certifying the resulting emission reductions for the GHG credit market.

### **General Pros and Cons**

Advantages may include:

- Promoting synergies between climate and development could make more efficient use of limited resources, highlight the ancillary benefits of climate action, and ease the perception that climate protection is a constraint on development.
- Developing countries may be more willing to join an approach that places a high priority on their core development objectives.
- Engaging influential non-climate policymakers and constituencies may help build political support for actions benefiting the climate.
- A development focus may help identify complementarities between mitigation and adaptation.

Disadvantages may include:

- Policies provide less certainty than targets as to future emission levels.
- Without quantified commitments, comparability of effort is difficult to establish.

### **Illustration 1 – Development Policies and Measures**

Countries would pledge or commit to policies and measures in one or more key sectors. Measures could be harmonized or differentiated, pledged or negotiated under the UNFCCC, or initiated by a group of like-minded countries. Examples include:

- A suite of energy sector policies and practices, such as cost-based pricing, that can improve energy efficiency, expand energy services, and reduce emissions.
- Transportation measures to reduce climate and other emissions by improving fuel economy, reducing congestion, and expanding use of cleaner fuels.

- Agricultural policies to expand use of “no-till” practices or shift crop subsidies to support for sequestration.

In a pledged-based approach, nationally defined measures would be listed in an international registry. Countries would report periodically on implementation and estimated emission impacts, with their reports subject to international review. In a binding approach, countries would negotiate and commit to broad policies, and their national implementation measures would be subject to international review. A policies-and-measures approach could be: complementary to emission targets; linked to a crediting mechanism (see Illustration 2); or a condition for new financial assistance (see Illustration 3).

Pros:

- Some countries may be more willing to commit to broad measures than to negotiate quantified targets.
- Focusing on key sectors such as energy and transportation can engage influential policymakers and constituencies.

Cons:

- Strong common measures may be hard to define given the tremendous diversity of circumstances and policy cultures among countries.
- Implementation will be uncertain without adequate resources.

### **Illustration 2 –Programmatic Crediting Mechanism**

To promote private investment in climate-friendly development, countries could modify the Clean Development Mechanism or establish a new mechanism to certify GHG credits on a “programmatic” rather than a project basis. This assumes a robust GHG credit market. It would enable developing countries to receive credit for the mitigation benefits of broad policies and measures, even those not necessarily undertaken for climate reasons, and could serve as a complement to the approach described in Illustration 1. Efforts qualifying for programmatic credits could be sectoral (e.g. electricity, transport), territorial (entire cities or regions), or undertaken by some combination of public and private actors. Methods for quantifying emission reductions and certifying credits would have to be established.

Pros:

- Investment can be motivated, and reduction opportunities realized, on a broader scale.
- Over the long term, the international carbon credit market may be a stronger and more stable source of support for clean development than official development assistance.
- Transaction costs may be lower than with a projects-based approach.

Cons:

- Issues of “additionality” may be even more difficult as the stakes are higher.
- Most developing countries lack reliable emission inventories, projections and GHG accounting systems.

### **Illustration 3 – “Seed” Banks for Less Developed Countries**

Working through the multilateral development banks (MDBs), donor countries would create and support “seed” banks in less developed countries to facilitate technology transfer and capacity-building for both mitigation and adaptation. The banks could support climate-specific activities and could leverage additional MDB resources by working to integrate climate objectives into a broader range of MDB-supported development activities. The MDBs would provide general guidance, but lending decisions would be made by the individual seed banks and funding priority would go to in-country institutions.

#### Pros:

- Commitment of new assistance may be a necessary ingredient in a future agreement.
- Country-level decision-making can encourage greater receptivity toward climate action and help ensure appropriate technology choices.
- Favoring in-country institutions builds stronger capacity for future efforts.

#### Cons:

- Donor countries may be reluctant to commit new assistance without some pledge or commitment by some developing countries.
- Existing in-country capacity to organize and manage effective seed banks may be very limited.
- Without adequate oversight, country-level efforts may be highly uneven.

## STRAWMAN ELEMENT: SECTORAL

### Summary

A sectoral approach can focus mitigation efforts on discrete economic sectors that are responsible for large shares of GHG emissions both globally and within most major emitting countries. Under a sectoral approach, countries and/or companies would agree to targets or other measures to limit or reduce emissions on a sectoral, rather than an economy-wide, basis. These could include absolute or indexed emission targets, technology-based standards, taxes, or “best practice” standards. They could be established globally or among a narrower group of governments or private sector parties; agreed among governments, companies, or a combination of both; and range from voluntary to legally binding.

### General Pros and Cons

Advantages may include:

- Focusing principally on major emissions sources and/or producers of major emissions-generating products.
- Easing competitiveness concerns (assuming broad participation) by ensuring comparable efforts across major sectors (unlike an economy-wide approach, which allows countries to shield vulnerable domestic industries). This is especially true in sectors whose producers compete globally (for instance, steel rather than electricity).
- Simplifying negotiations by reducing the number of parties affected or involved;
- Easing data requirements (sectoral data may be more readily available than economy-wide data, particularly in developing countries).

Disadvantages may include:

- Reducing the cost-effectiveness of mitigation efforts by missing lower-cost reductions in other sectors and/or gases that might be captured in an economy-wide approach.
- Intensifying political resistance from targeted sectors, which may feel they are bearing a disproportionate share of the mitigation burden.
- Undermining environmental certainty through “leakage” from a covered sector to one not covered (for instance, if the power sector faces GHG constraints, large industrial users may switch to self-generated electricity).

### Illustration 1 – Automotive Sector

Countries that are major producers and consumers of automobiles would agree on: a) harmonized standards for fuel economy or CO<sub>2</sub> per mile/km; or b) a technology-based standard (i.e., requiring that a given percentage of new vehicles sold employ hybrid, biofuel, or other low-GHG technologies). These could be mandatory standards negotiated among governments; voluntary goals pledged by major vehicle manufacturers; or targets, whether binding or voluntary, negotiated by both governments and companies. (Similar approaches could be taken with other energy-intensive products).

Pros:

- Has obvious ancillary benefits of reduced (or avoided) vehicle pollution and reliance on imported oil.
- Fuel economy standards:
  - Allow differentiation of commitments.
  - Can be linked to an emissions trading system (countries/companies exceeding standards sell excess credits).
  - Allow flexibility in choice of technologies.
- Technology-based standard:
  - Provides clear direction for uptake of preferred technologies.

Cons:

- Emissions impact uncertain (number of cars sold/miles traveled unregulated).
- Fuel economy standards may be difficult to negotiate given disparities among existing national standards.
- Technology-based standard may lock in technologies that prove not to be the most cost-effective.

## **Illustration 2 – Power Sector**

Countries would negotiate quantified emission limits, emission taxes, or technology-based standards requiring greater use of low- or non-GHG-producing energy sources.

- *Emission limits* could take the form of: a) a sector-wide emissions cap, with absolute targets allocated among countries and/or companies; or b) intensity targets pegged to GDP or another economic indicator, or to units of production (i.e., megawatts of electricity). (Similar approaches could be taken in other energy-intensive sectors).
- *Emission taxes* could be harmonized or differentiated.
- *Technology-based standards* could be numerical (either absolute, requiring a specified level of electricity from renewable or non-fossil sources; or relative, requiring a specified percentage of total electricity from renewable or non-fossil sources). Or they could require the use of certain types of technologies – for instance, capture-and-storage technology for new coal-burning power plants.

Pros:

- Energy, emissions data for power sector well established and readily forecast.
- Emission limits allow differentiation of commitments.
  - Absolute targets:
    - Provide greater environmental certainty.
    - Provides incentive for both generation and demand-side improvements.
    - Better enable emissions trading.
  - Intensity targets:
    - Provide greater cost certainty by allowing the required level of mitigation to rise or fall with the level of economic activity.
    - Pegging to units of production avoids need for the use of potentially contentious measures such as purchasing power parity (PPP) to equalize GDP across national economies.

- Emission taxes promote cost-effective reductions and generate revenues.
- Technology-based standards focus negotiations on actions rather than the level and distribution of costs or emissions.

Cons:

- Widely divergent resource bases/energy profiles may preclude negotiation of common approaches.
- Absolute targets:
  - Could heighten cost uncertainties by mandating specific emission limits regardless of cost or economic conditions.
  - May be less acceptable to developing countries.
- Intensity targets:
  - May provide less environmental certainty than absolute targets.
  - May be less compatible with emissions trading.
- Emission taxes, by making mitigation costs highly transparent, may be politically untenable in some countries.
- Technology-based standards:
  - Provide less environmental certainty than emission limits.
  - Don't facilitate emissions trading.
  - May lock in technologies that prove not to be the most cost-effective.
  - May miss cost-effective reductions on demand side by focusing solely on fuel mix.

**Illustration 3 – Agriculture/Forestry**

Countries would agree to measures to reduce emissions and/or increase sequestration resulting from land use. Measures could include: a) commitments to maintain net carbon stocks, increase them by agreed percentages, or slow the rate at which they are being reduced; b) commitments to expand the use of sequestration-promoting practices such as “no-till” agriculture and “sustainable” forestry, possibly through acreage targets; or c) an international fund to purchase sequestration credits from qualifying countries.

Pros:

- Addressing land use, along with emissions from energy, industry, and transportation, allows a more equitable sharing of overall effort.
- Land use may offer lower-cost mitigation opportunities than other sectors.
- Ancillary benefits include protecting or improving soils, water resources, habitat, and biodiversity; generating rural income; and promoting more sustainable agricultural and forestry practices.
- Quantified approaches (a or b) could link to emissions trading.
- Can closely complement adaptation efforts.

Cons:

- Estimates of emissions from land use are highly uncertain, particularly in tropical countries where deforestation is significant.
- Developing countries lack the capacity and resources to accurately inventory and monitor changes in carbon stock.

## STRAWMAN ELEMENT: TECHNOLOGY

### Summary

Under a technology-based approach, countries would undertake efforts aimed at achieving the development and diffusion of lower-GHG-emitting technologies. Unlike an emissions trading approach, which relies on an indirect price signal to broadly drive technology, a technology-centered approach favors measures that seek to directly promote development and/or deployment of specific technologies.

Technology-promoting measures could be voluntary or mandatory, pledged or negotiated, undertaken within the UNFCCC, or launched by a like-minded group of governments and/or companies.

### General Pros and Cons

Advantages may include:

- Some countries and industries may more readily commit to technology initiatives than emission limits.
- All countries stand to benefit from new technologies.
- Technology diffusion can promote international trade, supporting economic growth in both developed and developing countries.

Disadvantages may include:

- Emission reductions will be less certain than with quantified emission limits.
- Governments historically have had only mixed success in choosing the most cost-effective technologies.
- Competitive concerns may constrain cooperation on both development and transfer of new technologies.
- Unless complemented by other policies, a technology strategy is unlikely to achieve necessary reductions in global emissions.

### Illustration – Coordinated Technology R&D

Countries, through a new or existing body, would coordinate multiple initiatives to research and develop breakthrough technologies with the potential to dramatically shift long-term GHG trends. Targeted technologies could include hydrogen, fuel cells, large-scale photovoltaic generation, biomass fuels, or carbon capture-and-storage. The effort could be undertaken within or outside the UNFCCC, by governments alone, or with private sector partners. It could coordinate existing initiatives and be the vehicle for launching and funding new R&D efforts. Countries could negotiate one or more long-term technology goals, interim milestones, and funding commitments. Resulting technologies would be available to all participating governments under agreed commercial licensing terms.

Pros:

- Government support could leverage private investment.
- Long-term focus can encourage technologies with long investment horizons that are not likely to be driven by near- or medium-term emission limits.
- Coordination among initiatives can target pooled resources to most promising technologies and reduce duplication of effort.

Cons:

- Focus on breakthrough technologies may reduce incentives for available “no-regrets” and low-cost options and undermine emerging technologies closer to being cost-competitive.
- Given competitiveness concerns, commercial licensing terms could be extremely difficult to negotiate.
- Even if successful technologies emerge, they may not be adopted without complementary standards and/or price signals.

## **STRAWMAN ELEMENT: BOTTOM-UP**

### **Summary**

Under a bottom-up approach, each country (or industry) would unilaterally define the content of its own climate change commitments or other mitigation actions. Bottom-up measures could be:

- Strictly national;
- Linked or coordinated with other countries' measures;
- Subject to international pledge and review;
- Formalized as international commitments.

Because bottom-up approaches would be country-driven, they could be easily tailored to take account of different national circumstances. International aspects (for example, linkages, pledges and review, compliance consequences) could encourage countries to do more than if they were acting alone.

### **General Pros and Cons**

Advantages may include:

- Each country would determine for itself what measures it was willing and able to implement, based on its national circumstances and other national priorities
- The regime could develop in an organic, incremental way, as countries experiment with different approaches and become willing to do more.

Disadvantages may include:

- Countries might be reluctant to undertake significant climate change action in the absence of multilaterally-agreed commitments, which provide some assurance that others will act as well.

### **Illustration 1 – International Pledge and Review**

At an international pledging conference, states would pledge a set of national or international climate change measures, which would be listed in an international registry. Pledges could take virtually any form, including an emissions target, a carbon tax, efficiency standards, labeling requirements, financial or technology transfers, investments in R&D, adaptation measures, or cooperative arrangements with other states. The pledges would include a projection of their expected effect on emissions, and countries would report on a periodic basis as to how actual emission reductions compared to the projected reductions. An international review mechanism would be established to review the national pledges and reports.

Pros:

- International registry and review process would promote transparency and subject states to international scrutiny.
- The international pledging conference would put political pressure on states to put forward credible climate measures.
- The review process would put political pressure on states to implement their pledges and achieve the projected emission reductions.

Cons:

- National pledges might not involve significant emission reductions.
- National pledges would not be binding.

## **Illustration 2 – Linked Emissions Trading Markets**

As national emissions trading systems emerge, they would be linked – for example, through mutual recognition of emissions allowances by participating states. Each country would retain control over the stringency, form, and scope of its national target, the allocation of that target among its domestic emitters, and domestic implementation and enforcement. But its ability to participate in international trading would depend on whether other states view the country's target and compliance system as adequate. Linkages could emerge in a decentralized manner, through a series of different agreements between states with national or industry-based trading programs. Or those states with national markets could create a single international trading system, which other states could seek to join as they undertake emission targets. The trading system could be administered directly by the participating states, or the UNFCCC or another intergovernmental body could serve a facilitating role – for example, by establishing and maintaining an international registry, and by providing reporting and review functions.

Pros:

- International trading would promote cost-effectiveness and alleviate competitiveness concerns.
- Countries would have flexibility to adopt different types and levels of targets, and different reporting and compliance systems.
- Multiple trading systems allow experimentation that can inform subsequent policy design globally.
- Linkages between markets could be tailor-made for individual countries and sectors.
- Limiting participation to countries with adequate domestic enforcement measures could help ensure that trading does not undermine environmental effectiveness.

Cons:

- Major emitters might not participate.
- Countries might be reluctant to accept strong targets in the absence of an assurance that other states will participate.

## STRAWMAN ELEMENT: ADAPTATION

### Summary

While the international climate effort thus far has focused largely on mitigation, there is growing recognition that future efforts must also address adaptation, particularly in developing countries. The available science suggests that even with greatly accelerated mitigation efforts some level of climate impact is unavoidable, and that the least developed countries – those least responsible for climate change – are among those most vulnerable. Politically, a strengthened climate effort that includes mitigation commitments by some developing countries may be achievable only with a stronger commitment of international resources to adaptation needs.

Possible approaches include stronger support for adaptation planning and implementation within the climate regime; a coordinated effort to integrate adaptation planning into the full range of development funding; and creation of a public-private insurance mechanism to help especially vulnerable countries cope with climate impacts.

### General Pros and Cons

Advantages may include:

- Addressing a core equity concern.
- Stimulating or supporting successful adaptation/response strategies at the national level.
- Facilitating agreement on mitigation measures.
- Highlighting synergies between climate and development agendas.
- Broadening the circle of disciplines and interests involved in climate-related efforts.

Disadvantages may include:

- Easing pressure for mitigation efforts.
- Emphasizing issues of financial transfers that may undermine political acceptability of a climate agreement in developed countries.
- Introducing divisive and potentially insoluble issues on the degree to which observed impacts are climate-related.
- Complicating negotiations by involving a wider group of stakeholders.

### Illustration 1 – Mainstreaming Adaptation into Development

Countries could agree to work through established development-related institutions to integrate adaptation into the full range of internationally supported development activities. For instance, multilateral development banks could establish procedures to systematically assess the vulnerability and increase the resilience of proposed infrastructure investments to climate impacts. Funding could reflect a project's score on a vulnerability/resilience scale. Similar arrangements could be undertaken in bilateral assistance.

### Pros:

- Working through existing development channels and institutions may:
  - Best ensure that climate impacts are taken into account in development planning;
  - Leverage more funds for adaptation purposes than could be made available through the climate regime;
  - Make more cost-effective use of limited resources;
  - Reduce of the risk of development and adaptation resources working at cross-purposes;
  - Raise awareness of climate change with a broader range of constituencies and policymakers.
- Addressing adaptation outside the climate regime can reduce negotiating complexities within the regime.

### Cons:

- Working outside the climate regime:
  - May be perceived as less directly addressing a core equity concern;
  - May diminish prospects for a broader climate agreement by precluding or obscuring direct political linkage between mitigation and adaptation.
- Recipient countries may worry that development flows are being diverted to non-development purposes.
- Diffusing adaptation across institutions whose core missions are not climate-related may not afford it adequate priority.

## **Illustration 2 – Climate Impact Insurance**

Governments could work with the insurance industry to establish subsidized or limited-liability insurance to compensate especially vulnerable countries for climate-related losses. This mechanism could reinforce proactive adaptation efforts. Donor countries could provide guarantees of bear the majority of premium costs, which could be shared on the basis of historical responsibility, ability to pay, or other criteria. Intended recipient countries could be required to pay a share of the premiums, which could be reduced or waived based on ability to pay and implementation of loss-reduction measures. The private sector could manage the insurance pool and share in the financial risks.

### Pros:

- Insurance may provide at least minimal compensation for the most vulnerable countries.
- Drawing on private sector resources can reduce the cost burden on governments.
- Graduated premiums may provide some incentive for proactive adaptation.

### Cons:

- Insuring against catastrophic losses may reduce the incentives for proactive adaptation.
- Methodologies for distinguishing climate-related from non-climate-related impacts may be difficult or impossible to establish.
- Developed countries may resist direct assumption of liability for climate impacts.