CPD Anniversary Lecture 2015

# Climate Compatible Development

## *Pathway or Pipedream?*

16 January 2016
Dhaka, Bangladesh

CENTRE FOR POLICY DIALOGUE (CPD)
B A N G L A D E S H
a civil society think tank

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Simon Maxwell, CBE

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# Acronyms

| | |
|---|---|
| CAT | Climate Action Tracker |
| CDKN | Climate and Development Knowledge Network |
| cif | cost insurance freight |
| COP | Conference of the Parties |
| CPD | Centre for Policy Dialogue |
| fob | free-on-board |
| GDP | Gross Domestic Product |
| Gt | Gigatonnes |
| IAM | Integrated Assessment Model |
| INDC | Intended Nationally Determined Contribution |
| MAC | Marginal Abatement Cost (Curve) |
| MDG | Millennium Development Goal |
| MRV | Monitoring, Reporting and Verification |
| NGO | Non-Government Organisation |
| ODI | Overseas Development Institute |
| SDG | Sustainable Development Goal |
| UN | United Nations |
| UNEP | United Nations Environment Programme |
| WTO | World Trade Organization |

# Introductory Note by the **Executive Director**

CPD's first Anniversary Lecture was held on 18 November 2014 as part of its celebration of two decades long journey. On that occasion, Professor Louka T. Katseli, former Minister of Greece and former Director, OECD Development Centre, Paris delivered the Anniversary Lecture on the theme of *Recent Fiscal and Labour Market Adjustment Experiences in Europe: Lessons for the Low-Income Countries*. The Lecture gave Bangladeshi audience an opportunity to listen to Professor Katseli's views as regards the Eurozone crises and the consequences of high public and private debt, and get to know her unique insights and critical perspectives on the austerity plans prescribed by international financial institutions (the lecture is available at https://www.youtube.com/watch?v=C5CnyOdT_xk).

Following the successful aforesaid event, CPD has decided to establish this tradition of organising Anniversary Lecture on a regular basis and invite eminent scholars to speak and share forward-looking perspectives on global issues that have relevance and interest to Bangladesh. We are absolutely delighted that Mr Simon Maxwell, CBE, an intellectual of global renown, has kindly agreed to deliver the CPD Anniversary Lecture 2015 on the theme of *Climate Compatible Development: Pathway or Pipedream?* Mr Maxwell is the Chair of European Think-Tanks Group and former Director of Overseas Development Institute (ODI), London. He is also Executive Chair of the Climate and Development Knowledge Network (CDKN) and Specialist Adviser to the International Development Select Committee of the UK House of Commons. Mr Maxwell is one of the leading thinkers on international development

and an influential player in the global climate discourse. His advice and suggestions as regards climate compatible development are much sought after by both policymakers and development practitioners. With field-level experience in countries spanning across three continents, Mr Maxwell is uniquely placed to offer a very distinctive perspective on the interface between climate change and development.

This year's lecture theme is particularly pertinent in view of the recently held COP 21 in Paris where the landmark Paris Agreement on climate change was adopted. Mr Maxwell's lecture will focus on how *climate compatible development* could offer poverty reducing and socially inclusive pathways for development of developing countries, in ways that are aligned with, and integral to, the ambitions embedded in the *Sustainable Development Goals* (SDGs). We feel that Mr Maxwell's insights and critical perspectives on mitigation and adaptation, on commitments and implementation in view of the SDGs and Paris Accord, and his views on issues of mainstreaming climate compatible development will be of high interest to stakeholders in Bangladesh. We do hope that Mr Maxwell's lecture, as also other engagements in Dhaka, will contribute to a better understanding about climate change-related challenges confronting Bangladesh, and also help identify opportunities and modalities to address the attendant tasks.

Year 2015 had been an eventful time for the CPD. Research portfolio of CPD became more diversified, and there was a renewed emphasis on raising the bar in terms of analytical rigour and research quality. Dialogue and outreach activities were designed in a more strategic manner, particularly taking advantage of the two global initiatives that CPD is hosting – *LDC IV Monitor* and *Southern Voice on Post-2015 International Development Goals*. Anniversary Lecture 2015 is also an opportunity to register our deep and sincere gratitude to all well-wishers and partners of the CPD for their support and solidarity, and for their valuable contribution to CPD's manifold activities during 2015. We do hope to continue our journey, together, in 2016, in service of the cause of an economically advanced and socially just Bangladesh.

*–Mustafizur Rahman*
January, 2016

# Bio of
# **Simon Maxwell, CBE**

Simon Maxwell (born 1948) is a leading thinker on international development of our present time. During his illustrious career, spanning four decades, he has worked as a field-level development worker, empirical researcher and policy adviser. For a decade, he worked overseas with various state and non-state actors, including three countries of the global South, viz. Bolivia, India and Kenya. He was a Fellow at the Institute of Development Studies (IDS) at the University of Sussex for fifteen years. At the Sussex, Simon Maxwell was also Programme Manager for Poverty, Food Security and Environment.

Mr Maxwell successfully led the globally reputed think tank Overseas Development Institute (ODI), London for the period of 1997-2009. He was instrumental in helping the ODI to transform itself into Europe's largest and best-known think tank on international development and humanitarian policy. Mr Maxwell is currently a Senior Research Associate at ODI.

A respected authority in international development, Mr Maxwell was President of the Development Studies Association of Ireland and the United Kingdom from 2001 to 2005, where he represented more than 80 institutions in the field.

An exceptional communicator, Mr Maxwell has to his credit extensive public policy and public affairs experience across wide-ranging media and in political and parliamentary environment. Simon Maxwell's Briefing

Papers (http://www.simonmaxwell.eu/briefing-papers.html) are highly regarded among the development and climate policy experts.

Mr Maxwell sits in a number of government and non-government panels and high-level bodies. He is currently a Member of the Independent Group on British Aid; a Board Member of the Fair Trade Foundation; Member of the Institute for Public Policy Research (IPPR) Advisory Committee; and Fellow for World Economic Forum (WEF).

Currently, Mr Maxwell is Executive Chair of the Climate and Development Knowledge Network (www.cdkn.org), Chair of the European Think-Tanks Group (www.ettg.org), and Specialist Adviser to the International Development Select Committee of the UK House of Commons. He is also an Honorary Fellow of the Foreign Policy Association.

Mr Maxwell has more than 300 publications on issues as diverse as foreign aid, food security, poverty and governance.

Mr Maxwell was awarded Commander of the Order of the British Empire (CBE) by Her Majesty the Queen of Great Britain in 2007, for his services to international development.

# Abstract

There are many reasons to be anxious about the impact of climate change on development. However, the poverty reduction and social inclusion goals of the Sustainable Development framework are non-negotiable. Climate compatible development offers a way forward in this regard. What is it? What are the pitfalls? How can they be overcome? Is there a clear pathway to 'zero-zero' – eradicating poverty, and simultaneously, saving the planet? Or are the trade-offs and competing interests such that this is a pipedream?

The adoption of the new Sustainable Development Goals (SDGs) and the Paris Agreement on climate change together pose a transformational challenge. This is so despite the fact that the concrete mitigation commitments, made by countries in Paris, amount to only about a quarter of those needed by 2030. In the longer-term, much more radical cuts will be needed, leading to complete elimination of $CO_2$ by 2070, and of other greenhouse gases well before the end of the century.

Climate compatible development offers a framework for thinking about the pathway for dealing with changes on this scale, while simultaneously, achieving the poverty reduction and other targets embedded in the SDGs. Climate compatible development emphasises not only mitigation and adaptation within countries, but also the impact on individual countries of transformation in the wider global economy. In this context, *innovation* becomes a key concept, and *competitiveness* – an essential tool.

Theoretical pathways to zero-zero are well-established, and appear particularly attractive when co-benefits like improved air quality or lower congestion are taken into account. However, the transition pathway is not friction-free. Three elements need to be assembled: *policy leadership*, *policy design*, and *policy implementation*.

The many issues raised by climate compatible development are familiar to development studies. Future work on climate and development must be informed by the lessons of past development research and policy making, and must be built on the values held by those working in the field.

CPD Anniversary Lecture 2015

# Climate Compatible Development
## *Pathway or Pipedream?*

**Simon Maxwell**[1]

### 1. Introduction: Why think tanks matter

It is an honour and a pleasure to be asked to deliver this Anniversary Lecture at the Centre for Policy Dialogue (CPD) – and to have the opportunity to speak about climate compatible development. This is partly because it enables me to pay tribute to the work of CPD, and also to recognise the leadership role that Bangladesh has played on climate change.

I will return at the end of this lecture to values, and will have something to say about the importance of open, honest, well-informed and widely-owned policy dialogue to society in general. CPD has championed this perspective throughout its more than twenty-year history, and has done so not only at home in Bangladesh, but also internationally. Truly, CPD has local roots and global reach. It is not for me to comment on CPD's impact in Bangladesh. Globally, however, I think particularly of CPD's work on the international economy and on trade, especially its work on least developed countries; and also of its recent contributions, through Southern Voice on Post-MDG International Development Goals, on the framing of the Sustainable Development Goals (SDGs). CPD has benefited from inspiring leadership, and I should like to recognise especially the roles of Rehman Sobhan, Debapriya Bhattacharya and Mustafizur Rahman.

CPD has a programme on climate change, and has contributed to Bangladesh's leadership role in the field. Bangladesh has focused very

much on the impacts of climate change. It has championed the importance of vulnerability, played a leadership role in the Climate Vulnerability Forum, influenced the spending priorities of the Green Climate Fund, helped ensure the prominence of adaptation issues in national climate pledges, and helped drive the ambition of the Paris Agreement.

There are lessons to draw from these experiences. When research influences policy, there is more in play than the originality and respectability of the research. In my own experience of working in the world of think tanks, researchers succeed when they explicitly build bridges to the world of policy: telling good stories; building strong networks; focusing on the practicality of their recommendations; and thinking politically about the context and timing of their interventions. Internationally, think tanks can influence the global agenda when they work together across national borders, a process I have described as 'policy code-sharing'.

CPD exemplifies best practice among think tanks. Bangladesh can be proud of having fostered such an institution.

## 2. The new Sustainable Development Goals and the Paris Agreement on climate change present a 'wicked problem' for researchers and policymakers

2015 was a year of sometimes frenzied international activity, including the Financing for Development Conference[2], held in Addis Ababa in July, and the WTO (World Trade Organization) Ministerial[3], held in Nairobi in December. Two processes and meetings stood out, however, the Sustainable Development Goals[4] to 2030, agreed by the UN (United Nations) General Assembly in September, and the agreement on climate change[5], agreed in Paris in early December. Neither is perfect, but both are important – and together they set the stage for a remarkable transformation in the global trajectory.

### *The Sustainable Development Goals*

The SDG Framework, approved at the New York Summit in September 2015, is valuable for three reasons. First, it explicitly links economic,

social and environmental issues in its comprehensive list of 17 Goals and 169 Targets. Second, it is explicitly universal, applying to all countries everywhere and not just to those labelled 'developing'. And third, it represents consensus among many stakeholders from the official and non-official sectors: non-government organisations (NGOs) and the private sector, as well as Governments.

The final text of the SDG Declaration, *Transforming our world: the 2030 Agenda for Sustainable Development*[6] is notable for the Preamble, the 17 Goals and the 169 targets. The Preamble (Figure 1) captures the essence of the document, emphasising the interconnectedness of economic, social and environmental goals (the five 'Ps' – people, planet, prosperity, peace and partnership) and the fact that the agenda is universal, applying to all countries of the world. We are encouraged to refer to the SDGs as the new Global Goals (see Figure 2).

**Figure 1: Preamble to the SDG Declaration**

***Preamble***

This Agenda is a plan of action for people, planet and prosperity. It also seeks to strengthen universal peace in larger freedom. We recognise that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development.

All countries and all stakeholders, acting in collaborative partnership, will implement this plan. We are resolved to free the human race from the tyranny of poverty and want and to heal and secure our planet. We are determined to take the bold and transformative steps which are urgently needed to shift the world onto a sustainable and resilient path. As we embark on this collective journey, we pledge that no one will be left behind.

The 17 Sustainable Development Goals and 169 targets which we are announcing today demonstrate the scale and ambition of this new universal Agenda. They seek to build on the Millennium Development Goals and complete what these did not achieve. They seek to realize the human rights of all and to achieve gender equality and the empowerment of all women and girls. They are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental.

*(Figure 1 contd.)*

*(Figure 1 contd.)*

The Goals and targets will stimulate action over the next fifteen years in areas of critical importance for humanity and the planet:

**People**
We are determined to end poverty and hunger, in all their forms and dimensions, and to ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment.

**Planet**
We are determined to protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations.

**Prosperity**
We are determined to ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature.

**Peace**
We are determined to foster peaceful, just and inclusive societies which are free from fear and violence. There can be no sustainable development without peace and no peace without sustainable development.

**Partnership**
We are determined to mobilize the means required to implement this Agenda through a revitalised Global Partnership for Sustainable Development, based on a spirit of strengthened global solidarity, focussed in particular on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people.

The interlinkages and integrated nature of the Sustainable Development Goals are of crucial importance in ensuring that the purpose of the new Agenda is realised. If we realize our ambitions across the full extent of the Agenda, the lives of all will be profoundly improved and our world will be transformed for the better.

**Source:** https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf

The Declaration has been welcomed as wide-ranging, ambitious and the product of intensive consultation and participation. At the same time, it

**Figure 2: The new Global Goals**


**Source:** http://www.globalgoals.org/

has also been criticised for being too wide-ranging and too ambitious, and with too great a commitment to consensus.

It is easy to be irritated by the failure to distinguish ends and means in the 17 Goals and 169 Targets, sceptical about the feasibility of some individual targets, and disappointed by the paucity of work on sequencing and trade-offs. It is no secret that some would have preferred a shorter and tighter framework, of the kind laid out in the Report of the High-Level Panel on Post-2015[7], co-chaired by David Cameron.

The escape hatch is the wording in the document that says the SDGs will be global in scope, but that individual countries will shape their own programmes. This is best expressed in Para 21, which says:

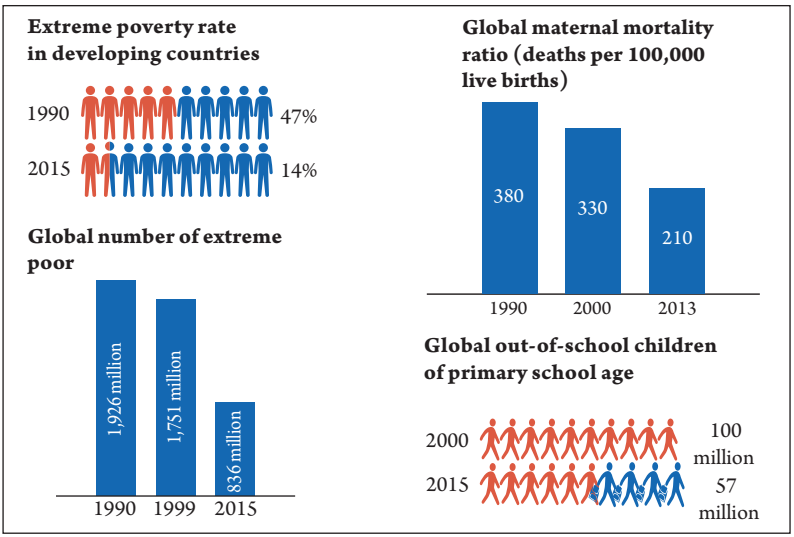
> ". . . All of us will work to implement the Agenda within our own countries and at the regional and global levels, taking into account different national realities, capacities and levels of development and respecting national policies and priorities. We will respect national

> policy space for sustained, inclusive and sustainable economic growth, in particular for developing states, while remaining consistent with relevant international rules and commitments."

This makes the global SDGs aspirational, a guiding normative framework rather than a foundation of action. Charles Kenny has made a similar point, calling the SDG framework no more than (and no less than) a document which 'provides an authorising environment'.[8]

It goes without saying that there is a great deal to do if poverty and hunger are to be eliminated by 2020. As the latest MDG (Millennium Development Goals) progress report, issued by the UN, makes clear, over 800 million people still live in absolute poverty, representing 14 per cent of the population of the developing world. Over 160 million children, a quarter of the total, are stunted by malnutrition. Over 57 million children are out of school. Nearly 300,000 women die in childbirth, or 210 deaths for every 100,000 live births (Figure 3). These figures may be underestimated[9], owing to the paucity of data from some very poor and conflict-affected countries

**Figure 3: Progress and outstanding challenges on some MDGs**




**Source:** http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf

A key challenge will be how national politicians, developed and developing, benefit from an inspiring and comprehensive global vision, but also retain control and ownership of the agenda.

### *The Paris Agreement on climate change*

The Paris Agreement also represented a major landmark: of course not enough on its own to end climate change, but a strong signal, probably stronger than expected, and a very good start. The global agreement offers an ambitious long-term goal, universal commitments, regular review, and a raft of necessary instruments, including commitment to finance from developed countries for both mitigation and adaptation. Further, the participation and commitments of many non-state actors in Paris, including cities and the private sector, augured well for rapid technical and institutional innovation, and thus over-delivery on the agreed targets. In the end, the diplomatic process fulfilled its principal function, bringing all countries together in shared recognition that "something must be done."

At the heart of the Paris Agreement lies the long-term mitigation objective in Article 2, reproduced in Figure 4. Underpinning this was some hard negotiation, especially on the inclusion of a 1.5° target, and also the momentum imparted by specific pledges by 186 countries, in the form of voluntary 'Intended Nationally Determined Contributions' (INDCs).

**Figure 4: The mitigation target in the Paris Agreement on climate change**

**Article 2**

1. This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:

(a) Holding the increase in the global average temperature to well below 2° C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5° C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;

(b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;

*(Figure 4 contd.)*

*(Figure 4 contd.)*

(c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate resilient development.

2. This Agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.

**Source:** http://www.cop21.gouv.fr/wp-content/uploads/2015/12/l09r01.pdf

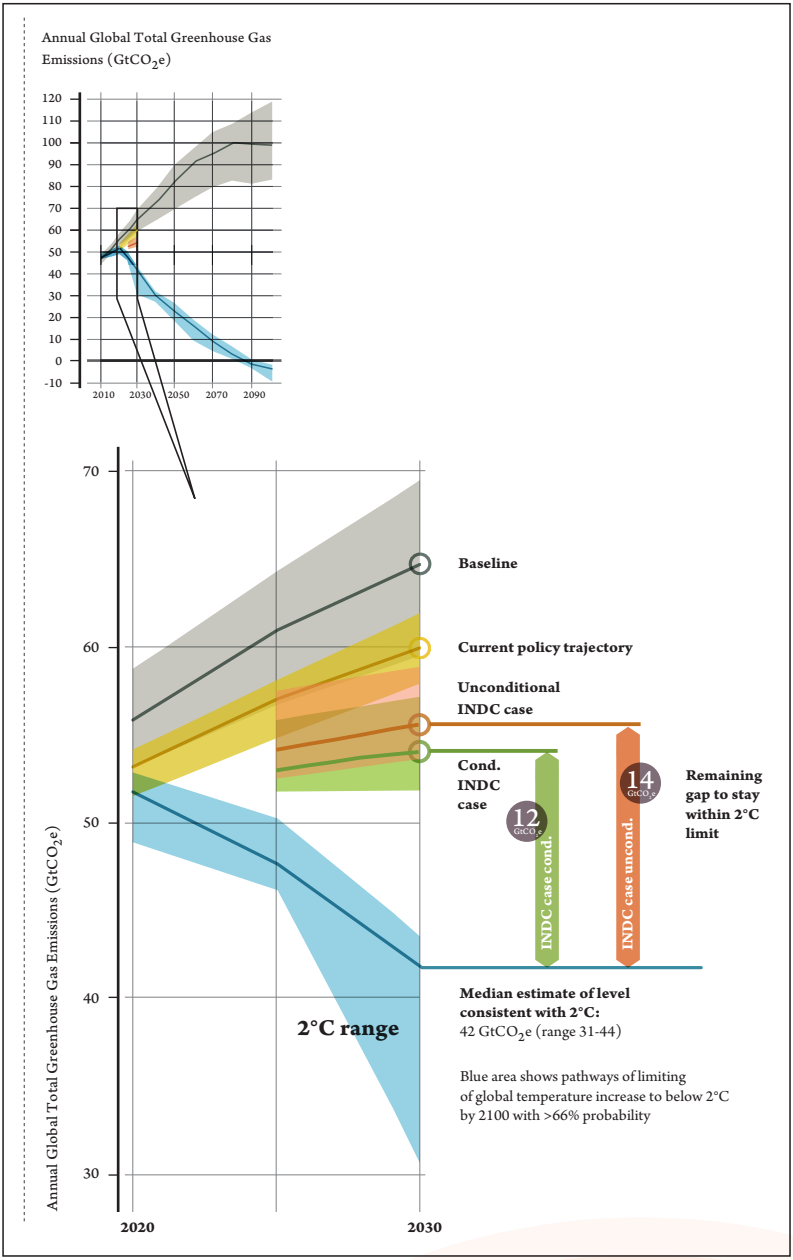
In this sphere also, there is much to do. First, for all the fanfare, the Paris Agreement is alarmingly modest. Adding up all the national commitments, the INDCs, shows that the world has so far formally committed to only a quarter or a third of the emission reductions needed by 2030 to achieve 2° C, let alone 1.5°. The UNEP (United Nations Environment Programme) Emissions Gap Report[10] makes the point with chilling clarity. UNEP shows that likely emissions on the current trajectory before INDCs amounted to about 60 Gt (gigatonnes) in 2030, and that the level needed to keep the world on a least-cost path to 2° is 42 Gt in 2030. If all unconditional INDCs are implemented, the expected level of emissions in 2030 is 56 Gt; the figure might be 54 Gt if conditional INDCs are fully implemented. That means INDCs have 'filled' 22-33 per cent of the gap that existed before the process began (see Figure 5).

It is clear that some countries have done their share and many have not. The Climate Action Tracker (CAT)[11] shows that some countries have qualified as the 'poster children' of the moment: Bhutan, Costa Rica and Ethiopia are often mentioned. Others, however, have done too little: the CAT league table[12] has 13 countries rated as 'inadequate' among those it assessed, including Australia, Canada and Japan, as well as several emerging economies.

The temperature rise implied by the conditional and unconditional INDCs submitted is that there is a two-thirds chance of warming being held to 3-3.5°. If only unconditional pledges are considered, the figure could be as high as 4°. It is not surprising that scientists continue to warn[13] that much more needs to be done in the future.

There is a large amount of actions being generated by various non-state actors, including cities, groupings representing sectors like cement,

## Figure 5: The emissions gap




**Source:** http://uneplive.unep.org/media/docs/theme/13/EGR%202015_Technical%20Report.pdf

and private sector companies. These may, or may not, reduce emissions further: it is not clear how far such initiatives have already been factored into national INDCs. For the period to 2020, a degree of additionality is expected over and above current pledges, perhaps as much as 70 per cent. This could contribute up to a further 2 Gt of emissions reduction in that year. No analysis is available yet for the period after 2020. There were, however, astonishing numbers of events and announcements in Paris, including big contributions to renewable energy in general, for example the Breakthrough Energy Coalition[14], supported by Bill Gates and Mark Zuckerberg, among others; and the roll-out of solar in particular, including the solar initiative launched by Narendra Modi[15] from India.

An optimistic take on the figures would be to say that the level of international cooperation represented by INDCs covering 186 countries is unprecedented, and that significant reductions will follow. Many countries will have pledged conservatively, so with luck, they will exceed their commitments. Further, the contribution of non-state actors may prove to be greater and more 'additional' than presently thought. There are many technological and policy options in the toolbox or in the pipeline, so there is still time to bend the curve further towards 42 Gt in 2030.

### *A wicked problem?*

The adoption of the SDGs and the finalisation of the Conference of the Parties (COP) together highlight the urgency of a new approach and open a new chapter. Achieving the SDGs will require close integration of poverty, environmental and social action, well captured by the idea of 'zero-zero'[16]: zero poverty by 2030 and zero net emissions of CO2 by about 2070. 'Deep decarbonisation'[17] will be required in all countries and all sectors. Furthermore, whatever the pace of change with respect to emissions, current warming will increase the frequency and intensity of extreme weather events.[18] That means resilience, disaster risk management and social protection will grow in importance.

The new agenda brings to the foreground an issue that would anyway become evident even if the goals had not been formulated in the way they have – namely that it will not be enough just to carry on with business as usual. Transformation will be required, with large scale, and often with unanticipated adjustments.

It is worth remembering in this context that new approaches and trajectories need to be integrated into the transformations that accompany development[19], with or without climate change: changing demographics, urbanisation, inter-sectoral shifts, integration into the world economy, and the management of financial and trade shocks.

Some see complementarities, pointing to the win-win benefits of combining climate action with poverty reduction. Overseas Development Institute's (ODI) zero-zero work[20] emphasises this point, making use of analysis on the new climate economy by the Global Commission on the Economy and Climate.[21] There is emphasis in this work also on co-benefits like reduced air pollution. But is it not reasonable to ask how we are going to handle the disruption that lies ahead, and the political problems likely to be associated with what Schumpeter calls 'creative destruction'? We are left with the questions of who gains and who loses, whose interests dominate, and how the major transformations implied by zero-zero will be handled.

In tackling these questions, the key issue for the future is *mainstreaming*. Every country will need to mainstream climate compatible development. Practically, there will be many specifics. From a longer list, we might think of the following priorities:

a. Delivering sustainable energy and energy services at scale;
b. Building sustainable cities in an urbanising world;
c. Decarbonisation of agriculture;
d. Industrial policy, and especially the implications of climate action for competitiveness;
e. Leveraging private sector engagement in ways consistent with poverty reduction and sustainable development (including through regulatory re-engineering);
f. Linking resilience and social protection;
g. Green fiscal policy, with important links to public expenditure management and tax structures;
h. Follow up on INDCs after Paris, supporting negotiators with a stream of work on the emissions gap, monitoring, reporting and verification (MRV), and related issues, including integrated assessment models (IAMs). Additional work is also needed on capacity and on the art form of negotiation;
i. Parliamentary and legislative processes, including working with think tanks;

j. Building the capacity of knowledge brokers;
k. Further work on climate finance and the simplification of the financial architecture.

Central to this whole agenda is managing the politics[22]: balancing winners and losers, managing trade-offs, and dealing with the vested interests.

The agenda can be presented as a climate agenda, but what is really striking, especially if the conversation veers to mainstreaming, is that this is also a development agenda, one with which development studies is entirely familiar. There is not an issue here which is not well known. There are large literatures on each, active debates, and deep reservoirs of expertise.

Solving the puzzle, however, is a 'wicked problem'[23], even a 'super-wicked problem'[24]. Characteristics of a wicked problem is described in Figure 6, listed by the Australian Public Service Commission.[25] Note especially the emphasis on interdependencies and unforeseen consequences, as well as the nod to complexity theory.[26]

**Figure 6: Characteristics of a wicked problem**

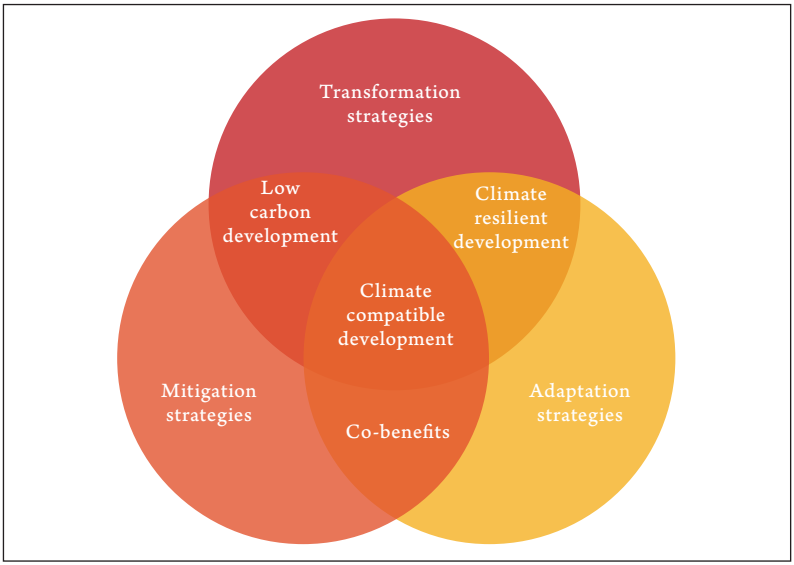
- Wicked problems are difficult to clearly define – different stakeholders have different views of what the problem is and appropriate responses
- Wicked problems have many interdependencies and are often multi-causal – there may be conflicting goals for those involved
- Attempts to address wicked problems often lead to unforeseen consequences – wicked problems exist in complex systems that exhibit unpredictable, emergent behaviour
- Wicked problems are often not stable – understanding of the problem is constantly evolving
- Wicked problems usually have no clear solution – there is no right or wrong response, although there might be worse or better responses
- Wicked problems are socially complex – it is social complexity, rather than technical complexity, that is overwhelming
- Wicked problems hardly ever sit conveniently within the responsibility of any one organisation – these problems cross governance boundaries
- Wicked problems involve changing behaviour – with all the difficulties that poses
- Some wicked problems are characterised by chronic policy failure – they have become intractable, despite numerous attempts at solutions.

**Source:** http://chrisriedy.me/2013/05/29/climate-change-is-a-super-wicked-problem/

## 3. 'Climate Compatible Development' as a framework for analysis

An entry point to solving the wicked problem of climate change is the model of 'climate compatible development'[27] developed for the Climate and Development Knowledge Network (CDKN)[28] (Figure 7). Climate compatible development takes place when three things come together: mitigation, adaptation and transformation.

**Figure 7: Climate compatible development**




**Source:** www.cdkn.org

Mitigation and adaptation are self-evident in the venn diagram and are the basic building blocks of climate policy. The idea of transformation is less often emphasised. It refers to the impact of global climate change (or measures to deal with it) on tradeable sectors, including import-competing sectors as well as export-oriented, and potential as well as actual sectors. Transformation can affect businesses and governments anywhere in the world. Will international prices change (fob (free-on-board) or cif (cost insurance freight))? Will new markets appear? Will old ones disappear? What will happen to the competitive advantage of different firms in different sectors? Thus:

Climate-related economic development challenges and opportunities mean that:

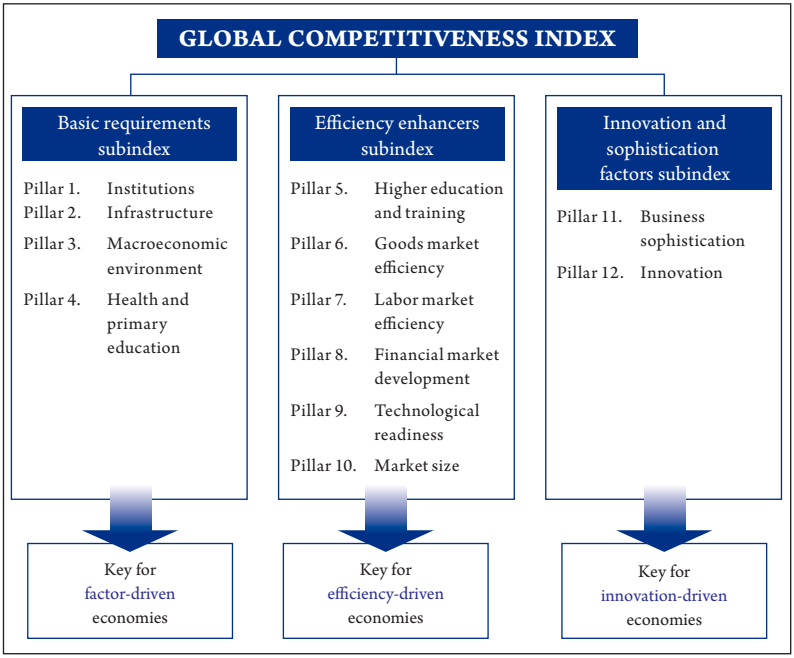
- All exporters are affected by the rising cost of transport or the changing relative prices of transport types. So export-oriented growth strategies may not be as attractive or may require changing. Island economies that are dependent on tourism, for example, may be affected negatively by rising air transport prices. The same is true for export-led agricultural strategies, like flowers or horticulture, which also face uncertainty over temperature changes and the volume and distribution of rainfall.
- Some developing country producers may benefit from exploiting demand for biofuels or the opportunities presented by carbon market incentives to conserve forests. Conversely, countries with a traditional economic reliance on exporting high carbon fuel sources, such as oil and coal, may be disrupted by a shift in demand to cleaner fuels.
- Mitigation and adaptation technologies are developing rapidly, creating opportunities for innovators to make profits, disadvantages for late adopters, and the potential for technological leap-frogging. Technological innovation can also create new resource opportunities. Demand for a new generation of batteries, for example, is good news for Bolivia's lithium industry.'[29]

In this context, key aspects of climate compatible development are how to foster innovation, and how to put industrial policy back at the centre of debate: Justin Lin calls this the new structural economics.[30] Mariana Mazzucato's Entrepreneurial State[31] becomes the instrument of choice.

One way in to this debate is to examine a country's competitiveness. The World Economic Forum's Competitiveness Index[32] explicitly recognises the importance of technical readiness and innovation as countries develop (see Figure 8). Other approaches include the growth diagnostics developed by Hausmann and colleagues.[33]

If the new climate and development agenda is genuinely transformational, which countries will own the successes of 'disruptive innovation'[34] and which will lag?

**Figure 8: The Global Competitiveness Index framework**




**Source:** http://www3.weforum.org/docs/gcr/2015-2016/Global_Competitiveness_Report_ 2015-2016.pdf

## 4. Issues in climate compatible development

As climate compatible development has moved from the fringe to the mainstream, seven issues have come to the fore and have demanded solutions (Figure 9). These are discussed in a new book[35] from CDKN. Let me focus here on three issues, viz. *policy leadership*, *policy design* and *policy implementation*.

**Figure 9: Issues in mainstreaming climate compatible development**

- *First*, eliminating ambiguity in the concept of climate compatible development, and exploring possible trade-offs in the implementation of climate-related policies that will deliver the SDG goals and targets.
- *Second*, making the case and winning the argument, in countries where leaders face many competing demands on political capital and resources.

*(Figure 9 contd.)*

*(Figure 9 contd.)*

- *Third*, managing climate compatible development planning in ways that mainstream climate concerns into development planning and ensure cross-government coherence.
- *Fourth*, finding the resources to cover any additional costs of climate compatible development, drawing on international as well as domestic sources.
- *Fifth*, creating the right culture and instruments for implementation, to ensure that plans are not blown off course.
- *Sixth*, delivering at scale, so that impact is transformational in scale and irreversible.
- *Seventh*, linking the national to the global, so that national interests are well-represented in global negotiations, and global agreements are reflected in national action.

**Source:** http://www.cdkn.org/mainstreaming/

## *Policy leadership*

It may seem strange to give prominence to the issue of leadership so soon after the apparently successful conclusion of the climate talks in Paris – talks marked by the deep personal engagement of about 150 leaders from around the world, including religious as well as political figures.[36]

However, as Andrew Adonis, a former UK Government Minister, reminds us in his book on education, *Education, Education, Education: Reforming England's Schools*[37], "reform is a marathon and not a sprint." Leaders need to "lead and explain, lead and explain" (Figure 10).

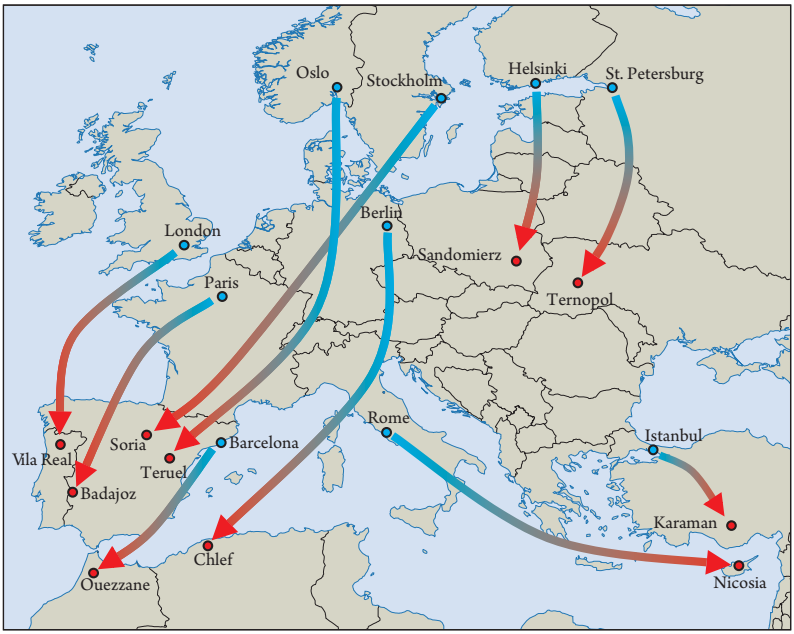
**Figure 10: Lessons on leadership**

i. Address the big problems
ii. Seek the truth and fail to succeed
iii. Keep it simple
iv. Be bold, but go with the grain as far as possible
v. Lead and explain, lead and explain
vi. Build a team
vii. Build coalitions, not tabernacles
viii. Champion consumers, not producers
ix. On important issues, micro-manage constantly
x. Keep calm and carry on
xi. Reform is a marathon not a sprint
xii. Always have a plan for the future

**Source:** https://www.bitebackpublishing.com/books/education-education-education

Climate change is a complex area, and explanation is a science in itself. Jonathan Haidt, for example, discusses the way in which messages can be crafted to reach people with very different moral 'taste-buds'.[38] Sometimes images can make a powerful case. For example, the World Bank's World Development Report on climate change from 2010[39] shows which places European capitals are likely to resemble by about 2050 (Figure 11). Oslo and Stockholm are relocated, so to speak, to Northern Spain, London to Northern Portugal, and Berlin to Chlef in Algeria.

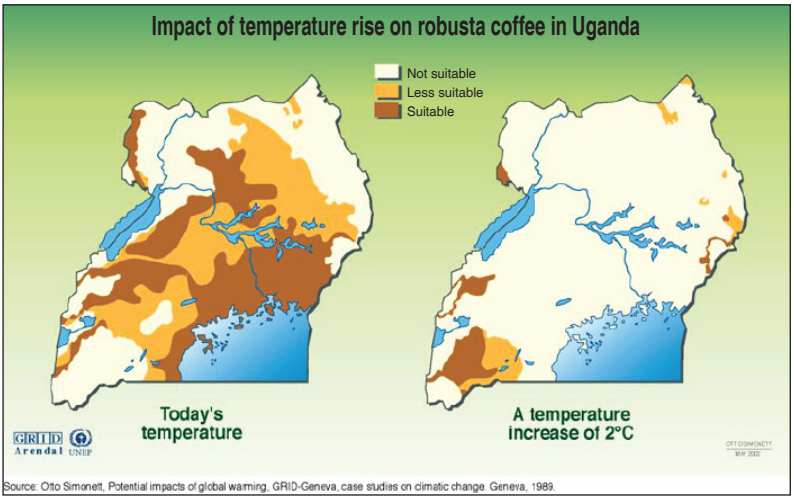
**Figure 11: Northern cities need to prepare for a Mediterranean climate**




**Source:** http://wdronline.worldbank.org/content/chapter/world_development_report_2010/media/WB.978-0-8213-7987-5.part1/WB.978-0-8213-7987-5.part1.ch2/WB.978-0-8213-7987-5.part1.ch2.sec3.fig4.jpg

Another example (Figure 12) shows the area suitable for robusta coffee in Uganda now, and if temperature rises by 2° C. This is from the Uganda National Climate Change Adaptation Plan[40] of 2007, and shows coffee almost disappearing from Uganda unless new technology can be found. Coffee, it is worth noting, employs 3.5 million people in Uganda, and provides 30 per cent of export earnings. There are many similar

**Figure 12: Impact of temperature rise on robusta coffee in Uganda**




**Source:** http://unfccc.int/resource/docs/napa/uga01.pdf

examples – tea in Kenya, for example, or coffee in Colombia. In Colombia, coffee will move up the mountain by 400 m, a very significant change.

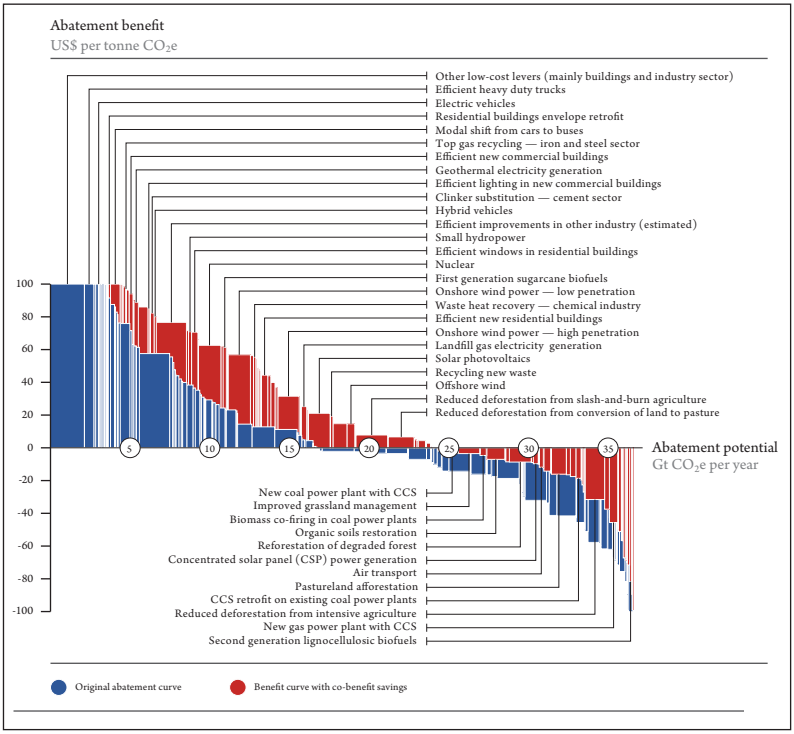
It is also important to leave people feeling empowered not powerless, with an optimistic message that something can be done. As Anthony Giddens observed in his book on the politics of climate change[41], Martin Luther King did not stir his audience in 1963 by declaiming 'I have a nightmare' . . .

There are other important lessons about leadership in Adonis' list. One is to "build coalitions, not tabernacles." This *inter alia* implies a role for parliamentarians, working together in cross-party consensus. For example in the UK, the Climate Change Act, which set a long-term decarbonisation goal and established in the independent Climate Change Committee to monitor progress, was passed by the House of Commons with only five votes against.[42]

## *Policy design*

There are literatures on the technicalities of climate change policy in developing countries: international, national and local; fiscal and administrative; climate-specific or more general. There is no shortage of guidance on how to design a cap and trade regime, or an energy policy which favours renewables, or a package to strengthen resilience to climate shocks. CDKN has published many policy briefs and 'inside stories'[43] that deal with these topics. The new Climate Economy Report has many examples, using Marginal Abatement Cost (MAC) curves (Figure 13). The UNEP Emissions Gap Report provides an accessible list of successful innovations, including in such fields as transport and energy efficiency, as well as agriculture (Figure 14).

**Figure 13: Marginal Abatement Benefits Curve for 2030**




**Source:** http://2014.newclimateeconomy.report/wp-content/uploads/2014/08/BetterGrowth-BetterClimate_NCE_Synthesis-Report_web.pdf

**Figure 14: Summary of proved policies for reducing greenhouse gases emissions**

The 2012, 2013 and 2014 UNEP Emission Gap Reports identify policies in key areas that have proven successful in reducing greenhouse gas emissions in many different countries, while contributing to national development goals. Such policies have the potential to make a significant contribution to bridging the gap, if scaled up in terms of ambition and geographical coverage.

**Energy**

These policies are related to improvements in energy efficiency in various sectors:

- Building sector – Regulations for building energy performance or codes for new construction: especially with regards to energy efficiency in heating, cooling appliances and lighting. Most developed countries also need to pay attention to renovating existing buildings in an energy efficient manner
- Industry sector – Country- and subsector-specific approaches rather than standardized policies: due to the diverse nature of the industry sector target policies have proven most effective
- Transport sector – Mandatory fuel economy standards for road vehicles: principal means for slowing down the growing fossil fuel consumption. Often supplemented with measure such as labelling, taxes and incentives, while promoting more efficient transportation modes
- Appliance standards – Regulations that prescribe the energy performance of manufactured products
- Appliance labels – Energy-efficiency labels that are fixed to manufactured products to describe the products' energy performance.

**Agriculture**

- Promotion of no-tillage practices
- Improved nutrient and water management in rice production
- Agroforestry: different agricultural management practices that all deliberately include woody perennials on farms and the landscape, and which promote a greater uptake of carbon dioxide from the atmosphere by biomass and soils.

**Buildings**

Policies that lower energy use and therefore reduce carbon-dioxide and other emissions (see also under Energy):

- Building codes: regulatory instruments that set standards for specific technologies or energy performance levels and that can be applied to both new buildings and retrofits of existing buildings.

*(Figure 14 contd.)*

*(Figure 14 contd.)*

**Transport**

These policies reduce energy use and therefore reduce carbon dioxide and other emissions (see also under Energy):

- Transit-oriented development: the practice of mixing residential, commercial and recreational land uses to promote high-density neighbourhoods around public transit stations
- Bus Rapid Transit (BRT): key elements of bus rapid transit include frequent, high-capacity service; higher operating speeds than conventional buses; separated lanes; distinct stations with level boarding; and fare prepayment and unique branding
- Vehicle performance standards: establish minimum requirements based on fuel consumption or greenhouse gas emissions per unit of distance travelled by certain vehicle classes.

The policies included above do not represent a comprehensive list. Moreover, some policies will be more appropriate and successful in reducing emissions in some countries than in others. Their success also depends on how stringently they are implemented.

**Source:** http://uneplive.unep.org/media/docs/theme/13/EGR_2015_301115_lores.pdf [**Box 4.3; p. 32**]

It is important in policy design to assess the impact on the poorest. The ODI zero-zero report illustrates how this can be done (Figure 15). Note that the impacts are not necessarily positive. Climate Compatible Development cannot be assumed.

**Figure 15: Examples of climate mitigation actions and their impact on the poor**

| Mitigation action | Impact on the livelihoods of the extreme poor | Additional pro-poor considerations |
|---|---|---|
| Climate-smart agriculture practices | Direct increase of agricultural productivity and income for those in extreme poverty.<br>Direct increase in the value of land for poor land-owners.<br>Increased resilience and reduced risk of large income fluctuations. | Benefits dependent on the availability of financing and technical capabilities for those in extreme poverty.<br>Most effective when combined with the formalisation of land rights. |

*(Figure 15 contd.)*

*(Figure 15 contd.)*

| Mitigation action | Impact on the livelihoods of the extreme poor | Additional pro-poor considerations |
|---|---|---|
| Preserving and increasing natural carbon sinks | Job and income creation or enhancement for those reliant on forest products.<br>Increase in the value of land for poor land-owners benefiting from associated eco-system services (e.g. water regulation, soil conservation). | Job and income creation targeted at those who may have lost source of livelihood through forest preservation. |
| Increased public transport | Reduction in health-related costs from air pollution.<br>Greater mobility at lower cost, which expands employment opportunities and net benefits. | Public transport designed and priced to ensure that benefits accrue to those in extreme poverty. |
| Low-emissions waste management | Reduction in health-related costs from poor sanitation. | Waste treatment priced to ensure that benefits accrue to those in extreme poverty. |
| Energy-efficient residential buildings | Reduced long-terms cost of housing and related services.<br>Improved asset value for the home-owning poor. | Benefits dependent on the availability of financing and technical capabilities for those in extreme poverty.<br>Most effective when combined with the formalisation of property rights. |
| Distributed renewable energy (electric and household thermal) | Reduction in health-related costs from indoor pollution.<br>Access to energy at lower cost than high-carbon alternatives. | Distributed renewable energy may be limited to providing energy services that only meet basic needs. |
| Centralised renewable energy (electric and thermal) | Reduction in health-related costs from ambient air pollution when replacing coal-fired generation.<br>Job creation (IRENA).<br>Higher cost of energy could have a negative impact on the resources of those in extreme poverty. | Avoiding impacts on energy prices would require compensation through other mechanisms. |

*(Figure 15 contd.)*

*(Figure 15 contd.)*

| Mitigation action | Impact on the livelihoods of the extreme poor | Additional pro-poor considerations |
|---|---|---|
| Increased bio-energy (power or transport) | Higher agricultural crop prices could improve the incomes of poor farmers.<br>Higher food prices could have a negative impact on those in extreme poverty in urban areas. | Avoiding impacts on food prices would require clear restrictions on where bio-energy crops are grown. |
| Reduced subsidies for fossil fuels and agricultural inputs (including fertilisers) | Better-targeted technical and cash transfers increase the income of those in extreme poverty. | Dependent on replacing regressive subsidies with better-targeted assistance. |

**Source:** http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9844.pdf [**Table 3, p. 40**]

Indeed, there is a more general point, that most policy change, on any topic, creates winners and losers, some of whom may be poor, and some not. That is why managing transition is central to effective climate compatible development. For example, Morocco had a staged approach to reducing energy subsidies which cost 5.5 per cent of gross domestic product (GDP), first by educating the public about the cost and then making sure that losers from the elimination of subsidies were compensated through a social programme. Similarly, Australia's Carbon Pricing Mechanism Legislation included the following measures:

- The legislation allowed for a staged implementation of a carbon price, beginning with emissions reporting, and moving gradually (by 2018) to a fully flexible emissions trading scheme, linked to the European Union's Emissions Trading Scheme.
- Pollution caps were announced in advance to provide five years' worth of certainty.
- Assistance was given to emissions-intensive trade-exposed industries, in the form of free permit allocations, but on a declining basis, and targeted grant programmes. Both were designed to provide incentives to improve emissions intensity.
- Households were given assistance as well, in the form of tax cuts and increased payments to pensioners and welfare recipients, paid for by

directing 50 per cent of all revenues raised from carbon pricing to households.
- The Climate Change Authority and the Productivity Commission regularly reviewed the legislation and its impacts.

Thus, policy design for climate compatible cannot be simply about choosing the best technical interventions.

### *Policy implementation*

Finally, it is worth remembering that leadership is measured by actions, not words. As Tony Blair observed, in a piece for his African Governance Initiative, published by the Center for Global Development:[44]

> "Government is a race between expectations and capability. As a leader, you either reform government fast enough to deliver what people expect of it, or you lose the support to govern. . . . (Thus), good leadership is . . . not merely a function of good intentions but of the capacity of the institutions that support leaders to turn those intentions into practical results."

Tony Blair created controversy in the UK with a speech[45] complaining about 'scars on my back' from trying to reform the public sector. He established a delivery unit to focus on implementation, headed by Sir Michael Barber, who wrote a book pointedly called *Instruction to Deliver: Fighting to Transform Britain's Public Services*.[46] This promulgated a strongly target-based, quantitative and not uncontroversial approach to monitoring progress.

CDKN has acquired useful experience[47] in supporting implementation at country level. Climate compatible development planning cannot be the prerogative of Ministries of Environment, however vital those are as catalysts of process. In the countries where CDKN has worked, climate compatible development becomes credible only when Ministries of Finance, Planning, Energy, Infrastructure, Industry and Agriculture become fully committed. All stakeholders need to be involved, including the many private sector actors and civil society groups. Successful implementation has also depended on strong cross-government

coordination, and this in turn has benefited greatly from having sufficient numbers of people exposed to climate change issues and trained in relevant analysis. Capacity can be built in various ways: internally, through on-the-job training, or via fellowships and secondments, including internationally. As a knowledge network, CDKN has demonstrated the value of knowledge brokers in building and maintaining country capacity.

There are also lessons about how not be trapped in a 'pilot phase syndrome'. Lessons from CDKN experience point to the importance of telling good stories, supporting project champions, and providing leaders with compelling evidence from monitoring and evaluation. Once a snowball

**Figure 16: The 8-step process for leading change**


**Source:** http://www.kotterinternational.com/the-8-step-process-for-leading-change/

effect can be induced, professional networks play a role through learning and peer exchange.

These lessons are not very different from those garnered from more general change management experience, for example Kotter's 8-step process for leading change, which emphasises the importance of building on the success of short-term wins (Figure 16). However, it is worth emphasising one key lesson from CDKN experience.[48] This is that there is no single blueprint to the challenge of climate compatible development. Progress at country level, and subnationally, will be idiosyncratic, progressive, and probably uneven, characterised by sudden leaps forward and occasional, unexpected setbacks. The challenge for all those engaged in climate compatible development, is to prepare for such a process.[49]

## 5. Conclusion

I observed earlier that climate compatible development is really a development agenda; and I have argued elsewhere that it is time for development studies to lead the charge on climate change. That imposes a special responsibility on all of us who work in development think tanks – building on much good work that already exists.

Development studies will bring many assets to the table. For example, the wider field will benefit from the methods of development studies, including especially multi-disciplinarity, ranging across issues, and linking the macro to the micro.

More fundamentally, however, and this brings me back full circle, is the importance of the values so strongly embedded in development studies, and so strongly represented at the Centre for Policy Dialogue: trust-building, dialogue, independence, sharing, and a commitment to praxis. In turbulent times, these are the lodestar.

# Endnotes

[1]Views expressed in the Lecture are those of the author alone and do not necessarily reflect those of CPD.

[2]http://www.un.org/esa/ffd/ffd3/

[3]https://www.wto.org/english/thewto_e/minist_e/mc10_e/mc10_e.htm

[4]http://www.un.org/ga/search/view_doc.asp?symbol=ARES/70/1&Lang=E

[5]http://www.cop21.gouv.fr/wp-content/uploads/2015/12/l09r01.pdf

[6]https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf

[7]http://www.beyond2015.org/un-high-level-panel

[8]http://www.cgdev.org/publication/mdgs-sdgs-have-we-lost-plot

[9]http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9604.pdf

[10]http://uneplive.unep.org/media/docs/theme/13/EGR%202015_Technical%20Report.pdf

[11]http://climateactiontracker.org/countries.html

[12]http://climateactiontracker.org/countries.html

[13]http://climatenewsnetwork.us6.list-manage.com/track/click?u=6e13c74c17ec527c4be7 2d64f&id=732896284c&e=4df7091105

[14]http://www.breakthroughenergycoalition.com/en/index.html

[15]http://www.theguardian.com/environment/2015/nov/30/india-set-to-unveil-global-solar-alliance-of-120-countries-at-paris-climate-summit

[16]http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9844.pdf

[17]http://deepdecarbonization.org/

[18]http://www.ipcc-wg2.gov/SREX/

[19]http://set.odi.org/

[20]http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9844.pdf

[21]http://newclimateeconomy.net/

[22]http://cdkn.org/wp-content/uploads/2014/03/Simon-Maxwell-OpinionPaper_Final_WEB.pdf

[23]https://en.wikipedia.org/wiki/Wicked_problem

[24]Levin *et al.* (2012) describe a 'super-wicked problem' as having four characteristics: time is running out; those who cause the problem also seek to provide a solution; the central authority needed to address it is weak or non-existent; and, partly as a result, policy responses discount the future irrationally. See: http://link.springer.com/article/10.1007%2Fs11077-012-9151-0

[25]http://www.apsc.gov.au/__data/assets/pdf_file/0005/6386/wickedproblems.pdf

[26]http://www.simonmaxwell.eu/blog/review-of-aid-on-the-edge-of-chaos-by-ben-ramalingam.html

[27]http://cdkn.org/wp-content/uploads/2012/10/CDKN-CCD-Planning_english.pdf

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[30]http://siteresources.worldbank.org/DEC/Resources/84797-1104785060319/598886- 1104951889260/NSE-Book.pdf

[31]http://marianamazzucato.com/the-entrepreneurial-state/

[32]http://www3.weforum.org/docs/gcr/2015-2016/Global_Competitiveness_Report _2015-2016.pdf

[33]For a review, see: http://www.scientificpapers.org/wp-content/files/1215_Habermann_Padrutt_Growth_Diagnostics_Strengths_and_Weaknesses.pdf

[34]https://en.wikipedia.org/wiki/Disruptive_innovation

[35]http://www.cdkn.org/mainstreaming/

[36]http://www.theguardian.com/environment/blog/live/2015/nov/30/paris-climate-summit-world-leaders-meet-for-opening-day-live

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[40]http://unfccc.int/resource/docs/napa/uga01.pdf

[41]http://www.polity.co.uk/book.asp?ref=9780745655154

[42]See https://www.theccc.org.uk/tackling-climate-change/the-legal-landscape /global-action-on-climate-change/

[43]http://cdkn.org/cdkn_series/inside-story/?loclang=en_gb

[44]http://international.cgdev.org/publication/not-just-aid-how-making-government-work-can-transform-africa-tony-blair

[45]http://news.bbc.co.uk/2/hi/uk_news/politics/388528.stm

[46]Barber, M. (2008) *Instruction to deliver: Fighting to transform Britain's public services*. London: Methuen Publishing Ltd.

[47]http://www.cdkn.org/mainstreaming/

[48]http://www.cdkn.org/mainstreaming/

[49]Text adapted from: http://www.cdkn.org/mainstreaming/


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