

Ricardo Energy & Environment

# Lessons from the development of Bangladesh's INDC

Report for the Climate and Development Knowledge Network

ED 60392 | Issue Number 1 | Date 12/02/2016 Ricardo in Confidence

### **Customer:**

CDKN

Customer reference:

Click here to enter text.

#### Confidentiality, copyright & reproduction:

This report is the Copyright of CDKN. It has been prepared by Ricardo Energy & Environment, a trading name of Ricardo-AEA Ltd, under contract to CDKN. The contents of this report may not be reproduced in whole or in part, nor passed to any organisation or person without the specific prior written permission of CDKN. Ricardo Energy & Environment accepts no liability whatsoever to any third party for any loss or damage arising from any interpretation or use of the information contained in this report, or reliance on any views expressed therein.

#### **Contact:**

James Harries Ricardo Energy & Environment Gemini Building, Harwell, Didcot, OX11 0QR, United Kingdom

t: +44 (0) 1235 75 3272 e: james.harries@ricardo.com

Ricardo-AEA Ltd is certificated to ISO9001 and ISO14001

#### Author:

James Harries, Chris Dodwell, Luca Petrarulo

Approved By:

**James Harries** 

### Date:

12 February 2016

Ricardo Energy & Environment reference:

Ref: ED60392- Issue Number 1

This document is an output from a project commissioned through the Climate and Development Knowledge Network (CDKN). CDKN is a programme funded by the UK Department for International Development (DFID) and the Netherlands Directorate-General for International Cooperation (DGIS) for the benefit of developing countries. The views expressed and information contained in it are not necessarily those of or endorsed by DFID, DGIS or the entities managing the delivery of the Climate and Development Knowledge Network, which can accept no responsibility or liability for such views, completeness or accuracy of the information or for any reliance placed on them.

## Table of contents

1	Key	messages	1		
2	Intro	oduction	1		
3	Refl	ections on Bangladesh's INDC	2		
4	Reflections on the project				
	4.1	Data was an issue			
	4.2	The project was quite inward-looking	4		
	4.3	Adaptation is a priority but not to the exclusion of mitigation			
	4.4	The INDC is the start of a process			
	4.5	Capacity building is vital			
5	Wid	er reflections	8		

## 1 Key messages

- Bangladesh's INDC (Intended Nationally Determined Contribution) demonstrates its commitment to being a progressive voice in the international climate change negotiations. There are many encouraging and progressive aspects to the INDC, not least the fact that for the first time it sets a quantified target for GHG emissions from key sectors and that it shows Bangladesh's willingness to take some action unilaterally, despite its status as a least developed country. It includes language on the longer term which links its development objectives to the emissions reductions required by the IPCC 5<sup>th</sup> Assessment Report. The INDC has been met with a positive reaction from the international community.
- Nonetheless, there is scope for Bangladesh to over-deliver on the level of ambition set out in the INDC, provided that sufficient and appropriate resources are available from the international community. This could be by taking action in sectors which were not included in their quantified contribution, for example supporting the replacement of LPG with biomass for cooking purposes or promotion of landfill gas capture and power generation. If this situation is replicated in other countries, there may be scope to close the current gap to the 2 degrees objective by reviewing overall levels of effort prior to 2020.
- Data was a key uncertainty that prevented the Government of Bangladesh from going further. Indeed the main reason for not including certain sectors in the quantified contribution was a lack of confidence in the data. Data availability and robustness will need to be addressed if Bangladesh is to successfully implement its INDC in future. Doing simple things, such as good data archiving, will also make future work more efficient as it will be easier to build on previous work rather than having to start again from first principles.
- Adaptation and climate resilience is not surprisingly the primary focus for Bangladesh and will continue to be in the future. In particular, the INDC flags the strong synergies between adaptation and mitigation and the potential for win/win solutions, while noting the need for more analysis to be done in this area. Importantly, the INDC process showed that there is an appetite to take action on mitigation even in vulnerable Least Developed Countries such as Bangladesh, and every opportunity should be sought to harness this enthusiasm with countries going forward.
- The submission of the INDC represents the beginning of a process and focus will now turn to how the undertakings set out in the INDC are implemented. This will require development of a long term mitigation strategy, integrated adaptation planning, climate finance frameworks and a tailored MRV<sup>1</sup> system. In addition, INDC implementation in Bangladesh will be dependent on effective governance arrangements integrated with delivery of the 5 year plans, as well as strong and consistent political will from the top.

## 2 Introduction

2015 was a critical year in the international climate negotiations, culminating in the 21<sup>st</sup> UNFCCC Conference of the Parties (COP21) in Paris in December. Bangladesh has the opportunity to play a key role in international climate discussions, as it finds itself placed at the centre of a number of competing agendas. On the one hand it is a developing country with plans for significant economic expansion, as well as being highly vulnerable to the impacts of climate change. On the other hand, it has a desire to be a progressive voice in the international negotiations and has a clear interest in taking actions that are likely to encourage more ambition from larger emitters.

Throughout 2015, all Parties had been working on developing their Intended Nationally Determined Contributions (INDCs), setting out their proposed contributions to the global post-2020 climate deal. Ricardo Energy & Environment (UK) and Nature Conservation Management (Bangladesh) were commissioned by CDKN to support the Government of Bangladesh in developing its INDC. The project ran from November 2014 and the draft INDC was delivered to the Government of Bangladesh for its consideration in early September 2015.

<sup>&</sup>lt;sup>1</sup> Measurement, reporting and verification

## 3 Reflections on Bangladesh's INDC

Bangladesh's INDC was submitted to the UNFCCC prior to the deadline of 1 October 2015. It included an unconditional contribution of a 5% reduction in GHG emissions in the power, transport and industry sectors by 2030 compared to the business as usual (BAU) scenario, a conditional contribution of a 15% reduction in the same sectors (contingent on receiving sufficient international support) and a number of further mitigation and adaptation actions. The three sectors of power, transport and industry were selected for the quantified contributions as these were seen as key sectors and data was less robust in some of the other sectors. But the INDC also listed potential mitigation options in other sectors, even though these were not quantified. As with many other INDCs, the Bangladeshi INDC also includes sections on INDC implementation (see later) and on support needs.

Given that this was the first exercise in developing a national mitigation strategy, it should not be surprising to learn that Bangladesh opted to take a relatively conservative approach towards its unconditional contribution. In particular this reflected a number of uncertainties, including on data quality and on the legal nature of the INDCs going forward as well as a lack of experience implementing mitigation policies. This naturally means that there is still scope for the country to raise its ambition, and with appropriate international support it might be possible for the country to go further still on action. This may also be the case with other INDCs, and a review of the submitted contributions should be able to identify where this holds true. This could be one route for delivering the additional reductions needed to bridge the remaining gap to the global 2 degrees objective.

Nonetheless the very fact that Bangladesh has committed to an unconditional contribution highlights the determination of the Government of Bangladesh to continue on its progressive path in the international climate negotiations and to contribute to global efforts to tackle rising GHG emissions, despite its status as a least developed country, that is highly vulnerable to the impacts of climate change and that only currently contributes less than 0.35% of global GHG emissions. The INDC represents the first time that Bangladesh has put forward such an international undertaking to take action on mitigation and therefore represents a clear progression beyond previous undertakings. The INDC also recognises the importance of longer term emissions reductions and the need for countries to undertake mitigation in line with reductions in global emissions of 40-70% by 2050 compared to 2010 levels, consistent with the IPCC 5th Assessment Report, to maintain warming below 2°C over the 21st century relative to pre-industrial levels<sup>2</sup>. Importantly the INDC shows the compatibility of economic growth and low carbon development. Bangladesh has ambitious plans to become a middle income country by 2021 and the INDC was developed to be consistent with this goal by factoring the required level of economic growth into emissions projections.

For both the unconditional and conditional contributions, the biggest GHG reductions are foreseen in the transport sector, as set out below, with contributions also from the power and industry sectors.

Sector	Reduction from BAU (%)		Proposed measures	
	Unconditional	Conditional		
Transport	9	24	<ul> <li>A shift in passenger traffic from road to rail of up to around 20% by 2030 compared to the business as usual.</li> <li>15% improvement in the efficiency of vehicles due to more efficient running.</li> </ul>	
Power	5	18	<ul> <li>100% of new coal based power plants use super- critical technology by 2030.</li> <li>400 MW of wind generating capacity by 2030.</li> <li>1000 MW of utility-scale solar power plant.</li> </ul>	
Industry	4	6	<ul> <li>10% energy consumption reduction in the industry sector compared to the business as usual, encouraged by the energy audits that are being rolled out across all industrial sub-sectors as part</li> </ul>	

<sup>2</sup> https://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR\_AR5\_FINAL\_full.pdf, page 20

			of the existing Energy Efficiency and Conservation Master Plan
Total	5	15	

Also, as mentioned above, as well as measures in the three sectors that formed the quantified contribution in the INDC, possible mitigation actions were also outlined for other sectors, such as households, commercial buildings, agriculture, waste and land use and forestry.

Although recognised international reviewers like the Climate Action Tracker initiative have yet to judge the INDC in terms of ambition and equity, some of the reported immediate reactions were positive towards the fact that Bangladesh, a very vulnerable LDC, was putting forward a unilateral (unconditional) contribution and that it had set out so much detail on existing and possible future policy measures for different sectors. In particular, the unconditional contribution is seen as important<sup>3</sup>.

## 4 Reflections on the project

## 4.1 Data was an issue

The key barrier to doing the analytical work effectively was lack of available robust data. In a small number of cases this was because the work had not been done before, but in most cases was due to a lack of data archiving. A lot of the analytical work had been done previously (e.g. developing a BAU scenario and an assessment of mitigation potential for the Second National Communication), but this data was not available to the project team because it had not been appropriately archived and filed.

Where possible, data was taken from existing sources, such as the Bangladesh Statistical Yearbook from the Bangladesh Bureau of Statistics, which provided substantial data for some sectors. For example, data on current and historic activity levels in the transport sector were taken from the most recent Yearbooks. Where data on future projections of activity were not available, and where other data was not available on which to make sound assumptions, future trends were predicted by extrapolating historic trends. In some cases, data gaps were filled by the collection of primary data. This was the case for data on vehicle efficiency and distances travelled for different road transport modes. However the scope of the project did not allow for a large-scale primary data collection exercise and as such the sample sizes were necessarily quite limited. These are areas that therefore could be improved in future through a more thorough and larger-scale data collection exercise.

The INDC project has improved the situation significantly with regards to data. As a result of the project, there is now a transparent and accessible model that was used to calculate the GHG emissions projections along with clear recording of the data that was used in each sector, how it was used and what assumptions were made. It is important that this is clearly recorded, shared amongst Government officials (and other stakeholders as appropriate, e.g. research institutions and universities) and is used as a starting point for any future analysis, to avoid the need for the future work to start again from first principles. Having this data as an output of the INDC project therefore adds value and improves the knowledge base in the country. Going forward, it will be important that the Environment Ministry takes on a central coordinating role regarding data, with responsibility for archiving and updating data on a periodic basis. Currently data is spread across different government ministries, academic organisations and consultancies. Having a single point of coordination of data will help improve transparency and data quality. It may also be beneficial to formally set out data sharing arrangements, such as through agreed memoranda of understanding between the Environment Ministry and other data holders. See the section below for more information on national MRV systems.

The data issue had knock-on effects on the project. The biggest impact was that the project was not able to build on previous work. Even where previous work may have been out-of-date, knowing the approach that had been taken would have saved time. The need to start again from first principles meant that a lot of time was spent on some of the more basic analysis and less time was available for

<sup>&</sup>lt;sup>3</sup> For example, see Climate Action Network South Asia - http://www.cansouthasia.net/press\_release\_information.php?id=36&title=cansa-commends-bangladesh-climate-targets

other issues. These include an assessment of mitigation-adaptation synergies and capacity building (see later for more details).

That said, the Bangladesh INDC demonstrates that data issues do not need to stifle progress in carrying out climate change plans. For the Bangladesh project, the project team prioritised those sectors where there was already considerable buy-in from the relevant government ministry and where fairly firm plans were already in place. An example of this in Bangladesh was on energy efficiency, where the Sustainable and Renewable Energy Development Authority (SREDA, part of the Ministry of Power, Energy and Mineral Resource) has developed the Energy Efficiency and Conservation Masterplan with clear targets and actions. For sectors such as these, the INDC process offered the opportunity to 'bank' this commitment and to formalise it in the form of quantified mitigation contributions.

## 4.2 The project was quite inward-looking

Another result of the focus on data collection was that less time was available for considering both how the INDC would be received by the international community and also what opportunities the INDC presented for the country to get across certain messages to the international community. INDCs offer countries an opportunity to shape the narrative and to portray themselves to other countries and, importantly, to potential donors. The appropriate level of ambition for Bangladesh and of possible mitigation options in different sectors were discussed with stakeholders. Yet, it was felt that the basis for such discussion was mostly domestic, i.e. what was appropriate to sustain Bangladesh's economic development, what level of mitigation was achievable in Bangladesh etc, rather than considering the broader perspective of the international community. The project team did carry out some analysis of other INDCs and an assessment of the likely reaction of the international community to what was being proposed for Bangladesh's INDC. But the government might have used the opportunity to think more carefully about what kind of messages it wanted to disseminate to the international community. Importantly, the Ministry of Foreign Affairs was not involved in the INDC Advisory Committee meetings. We believe that the project, and the INDC itself, would have benefited from a stronger consideration of how one might determine whether the INDC is fair and ambitious and how other countries are approaching this issue.

The project team's view was that the Bangladesh INDC is fair and ambitious for the following reasons:

- It is the first time Bangladesh has agreed to such an international undertaking on mitigation and in this sense goes beyond previous undertakings.
- Bangladesh only represents 0.35% of global emissions.

However a more detailed assessment would have been preferable to look at what a country such as Bangladesh might reasonably be expected to deliver from various different perspectives, including equity, capability, cost and responsibility. An aspect of the INDC process was that countries were working on their INDCs in parallel and there was relatively little opportunity for comparison and learning from others. For future iterations of INDCs, it might be appropriate to consider more opportunities such as South-South learning, which could even be formalised as part of future five year review cycles.

## 4.3 Adaptation is a priority but not to the exclusion of mitigation

There is a benefit in clearly outlining objectives of stakeholder meetings and in particular aiming to focus them on specific topics, to avoid too much time being spent on wider discussions. For example, the focus of the analysis done by the project team was mitigation, as Bangladesh had already undertaken substantial research and actions in adaptation. Although it is undisputed that the key focus for Bangladesh's climate action must be adaptation, some of the meetings would have benefited from being more clearly focused on mitigation only, so that more time could have been spent on discussing the analysis and data gaps, thus helping to improve the analysis, rather than on discussing wider points relating to adaptation. Having said that, it would be too simplistic to assume that a country like Bangladesh, that is highly vulnerable to the impacts of climate change, is purely focused on adaptation. The project team found a real appetite in Bangladesh to address mitigation issues. One stakeholder explained that they saw the INDC as an opportunity and that previously mitigation "had been a bit of a dirty word" in climate change discussions in Bangladesh.

One of the issues that suffered due to resources being focused on the more 'basic' analysis was an assessment of mitigation-adaptation synergies. This was an issue that Ricardo Energy & Environment was keen to have looked at in more detail as it offered significant win-wins to Bangladesh. For a country such as Bangladesh for whom adaptation is such a critical issue, there is a clear benefit in promoting synergies between mitigation and adaptation policies. As a minimum, such win-wins should be promoted and any prioritisation of mitigation policies or adaptation policies should take this into account as one of the criteria for selection, so that measures that offer win-wins are prioritised over those that don't (all other factors being equal). But where possible, it would also be useful to quantify the impacts, for example quantifying the GHG reduction potential of an adaptation measures as low, medium or high, based on the expected emission reduction potential. But a more robust approach would be to actually calculate the GHG reduction potential and for this to be included as part of the mitigation contributions outlined in any future update of Bangladesh's INDC.

Some examples of mitigation-adaptation synergies that are likely to be relevant to Bangladesh are as follows:

Win-win measure	Adaptation benefit	Mitigation benefit
Refforestation	Reduced vulnerability to soil run- off and erosion	Increased capacity for absorbing CO <sub>2</sub> emissions
Alternate wetting and drying rice cultivation	Improved food security from increased yields	Decreased methane emissions and also reduced energy emissions from less water pumping
Renewable energy	Increased involvement of farmers and land owners in renewables may provide economic opportunities, increasing their resilience	Reduced GHG emissions from power sector
Solar shading for buildings	Provides greater levels of cooling against extreme heat	Can reduce energy use on air conditioning

In other cases, measures may not be inherent win-wins, but could be made so through sensible policy design. For example, if new buildings standards are being updated to ensure lower carbon homes are being built, this provides an opportunity to also include standards to make homes more resilient to extreme weather. Doing this could be part of any policy impact appraisal that is carried out.

Of course in some cases, measures may involve trade-offs between mitigation and adaptation. For example, many measures to reduce GHG emissions in the agriculture sector involve the intensification of farming to improve efficiency and productivity. However more intensive farming may be more vulnerable to climate change impacts. It is equally important to carefully consider such trade-offs and to try, where possible, to minimise them. That said, in some cases the benefit for either mitigation or adaptation may be so great that the trade-off is considered worthwhile. It is important that the rationale is outlined in either case for maximum transparency.

## 4.4 The INDC is the start of a process

The submission of INDCs to the UNFCCC represents the start of a process that will continue for years to come. The INDCs form the bedrock of future activity and discussions on climate change. One aspect of the Paris Agreement is that there will be a review process, whereby INDCs are reviewed and updated on a regular (five yearly) basis. Now the focus turns to implementation and delivering the undertakings set out in the INDC. There are many elements to INDC implementation that will need further consideration following the COP 21 meeting in Paris, including mitigation and adaptation analysis and policy development, analysis and identification of support, tracking of INDC implementation (MRV) and overall strategy and coordination.

#### Mitigation:

The more immediate need will be for the Government of Bangladesh to think about delivery options for the emissions reductions set out in the INDC for the power, transport and industry sectors. A full review of mitigation measures that could deliver the emissions reductions should be drawn up and agreed criteria used to shortlist those that are most relevant to Bangladesh. For example, the kind of criteria that might be used could be abatement potential, cost, technical feasibility and relevance to Bangladesh's wider aims and objectives. Once a number of possible measures have been shortlisted, a review should be carried out of possible delivery options, considering the full range of possibilities (fiscal measures, regulations, standards, voluntary codes, information and labelling etc), their possible designs and their pros and cons. A small number may then be taken and developed into full Nationally Appropriate Mitigation Actions (NAMAs).

Alongside this, the Government may want to carry out a review of what further analysis is needed to improve the Government's understanding of future GHG emissions and mitigation potential. For example, land use change and forestry is a key sector in Bangladesh. However the data was not available to carry out an analysis of the emissions reduction potential in this sector. The Government may therefore want to consider further analysis in this area, to collect and verify data.

### Adaptation:

Bangladesh's progress on strengthening adaptation is quite advanced already, with the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) in place since 2008, and a heavy focus on adaptation measures, in addition to more recent developments on considering options for their National Adaptation Plan (NAP) process. Nonetheless, INDC implementation provides an opportunity to bring together the various analysis already carried out and mapping the various different initiatives, identifying remaining gaps and offering recommendations on how to address them.

#### Support:

As with adaptation, work is already being carried out in this area and it will be important to coordinate closely with this work and to build on it. Tasks that would likely be of value to the Government of Bangladesh include:

- A rapid review of Bangladesh's current climate finance landscape (both national and international), mapping existing funds and disbursement mechanisms and a review of future support needs.
- A brief review of the international donor landscape, to understand which institutions are providing what kind of support, and the mix of public and private support.
- An assessment of current climate finance readiness needs and gaps. This will take stock of work that IIED/ICCCAD and others (Asia Foundation, Transparency International) have already done on this and assessing whether the existing planning, budgeting, coordination and delivery mechanisms are appropriate for Bangladesh's needs to access and mobilise finance in order to implement their INDC. It will also focus on key areas such as private sector engagement and effective inter-ministry coordination.
- Recommendations on an appropriate climate finance strategy for INDC implementation, summarising the above and setting out clear next steps and the role of the INDC in climate finance going forward.

### Tracking progress (MRV):

To properly track progress in INDC implementation, it will be important to develop a comprehensive measurement, reporting and verification (MRV) system. Such a system can take many years to develop and can be done in a step-wise modular way. The next steps on INDC implementation could be to review existing reporting systems, so these can be built upon rather than starting from scratch, and review key design objectives, principles and definitions to inform future MRV design work. As outlined above, this system should formalise arrangements for coordinating data collection, review, archiving and updating.

#### Governance and coordination:

Systems and processes are already in place for climate change-related work in Bangladesh. However with the new undertakings set out in the INDC, it is an opportune time to review these existing

structures, consider whether these are optimal or could be improved and to make recommendations on possible next steps for coordination. The importance of this should not be under-estimated. Many countries have robust climate change plans and strategies in place but are lacking the means for putting this into practice. A sound approach to coordination and governance, as outlined below, can often be the missing 'key' to making progress on climate change issues and should be the focus of international support in coming years.

## 4.5 Capacity building is vital

As with many other developing and least developed countries, a key barrier to taking action on climate change in Bangladesh is lack of capacity. It was originally planned that the project would include a capacity building task at the end, but in the end this was not possible due to a lack of time and resources. This capacity building was to have focused on the INDC mitigation analysis, and would have aimed at ensuring that the Government of Bangladesh fully understands the analysis and modelling that was carried out by the project team so they can take ownership of it going forward. Even though not now being carried out as part of this project, such capacity building on the analysis will still be important. However the government's capacity building needs go wider than this, and any future capacity building should aim to capture the following issues:

- Institutional capacity, to ensure there are robust systems and processes in place to take forward INDC implementation. In practice this means having a clear lead that can coordinate activities and drive things forward. In some cases this can be the environment ministry but in other cases it is appropriate to have a cross-ministry body set up, ideally with direct links to senior government officials and the Prime Minister (for example, a body could be set up in the Prime Minister's office). But having robust systems and processes in place also means more than this it is important to ensure that there appropriate forums for all relevant ministries and other key stakeholders to feed in their views and to influence decisions. It is also important to have in place a clear system for cross-working, with agreed modalities and conditions.
- Modelling capacity, looking at developing skills on models such as LEAP and MARKAL, and on issues such as marginal abatement cost analysis.
- Negotiator training, to help Bangladesh maximise its inputs into the ongoing UNFCCC negotiations. This will ensure that Bangladesh can continue to influence the discussions on a global agreement and will help it seek out appropriate alliances to achieve maximum impact.

It will be important for the Government of Bangladesh to think creatively about capacity building, to maximise the resources it has at its disposal. Training workshops and seminars are one obvious way of addressing some of the capacity gaps. But there are other ways that are also worthy of consideration. Opportunities could be sought for study visits, so that government officials can learn from the experiences of other countries. The Government could also look to use secondments as a way of spreading understanding and expertise on climate change throughout ministries. For example, officials from ministries such as energy, transport or agriculture could be seconded to the Environment Ministry's central climate change team to gain experience in this area. Maximum use should be made of free resources available online from organisations such as GIZ and the International Partnership on Mitigation and MRV. For example, GIZ has an MRV tool, designed by Ricardo Energy & Environment, which can help assist in the setting up of a national MRV system and provide links to further information. Taking a holistic approach in this way should ensure maximum progress is made on building capacity. And to ensure that this is done in the right areas, and that the capacity building is properly targeted, all of this needs to be preceded by a robust assessment of the current situation and a gap analysis of capacity building needs.

Bangladesh should also look to work with other countries and international donors to ensure that opportunities for north-south learning and support and south-south sharing of best practice and ideas are capitalised on. As stated earlier in this paper, ideally such cooperation would also be built in to future INDC review processes.

## 5 Wider reflections

It is helpful to also consider reflections from the project team's wider experience to date, and not just from the Bangladesh INDC project. A number of the project team have previously worked in government and therefore have direct experience of the challenges and barriers facing government officials around the world when trying to put climate change plans into action.

One of the recurring themes from our own experience is that to successfully drive forward action on climate change, it is critically important to have two things – **good governance arrangements** and **political will**.

**Good governance arrangements** mean having a clear champion within government that is able to drive things forward, and also a system for involving other ministries (and, where relevant, non-governmental stakeholders). As highlighted earlier in this paper, there are pockets of policy 'entrepreneurism' in the government. For example, SREDA has a clear remit for action on energy efficiency in buildings and industry through the Energy Efficiency and Conservation Master Plan. However, other parts of government may still lack such a mandate and direction. A result of this is that the policy landscape in Bangladesh is somewhat uneven. Whilst there are pockets of policy good practice, with clear strategic aims and policies in place, in other areas there is little clear direction or focus on climate change specifically and few policies in place to drive change. This means that the Ministry of Environment and Forests (MOEF) will need to almost act as an internal advocacy body, challenging other ministries on how they plan to contribute to the implementation of the INDC in order to overcome the current governance challenges.

But this kind of leadership from MoEF will only be effective if backed up by strong **political will** from the very top. Evidence from other countries has consistently shown that the greatest progress on climate change policy implementation comes when heads of state take a direct interest and provide a strong mandate to the implementing body. This kind of political will also needs to be promulgated through the highest levels in all ministries, so that there is downward pressure on all officials involved in policy development to develop policies that are climate compatible and that all push in the same direction.



Ricardo Energy & Environment

The Gemini Building Fermi Avenue Harwell Didcot Oxfordshire OX11 0QR United Kingdom

t: +44 (0)1235 753000 e: enquiry@ricardo.com

## ee.ricardo.com