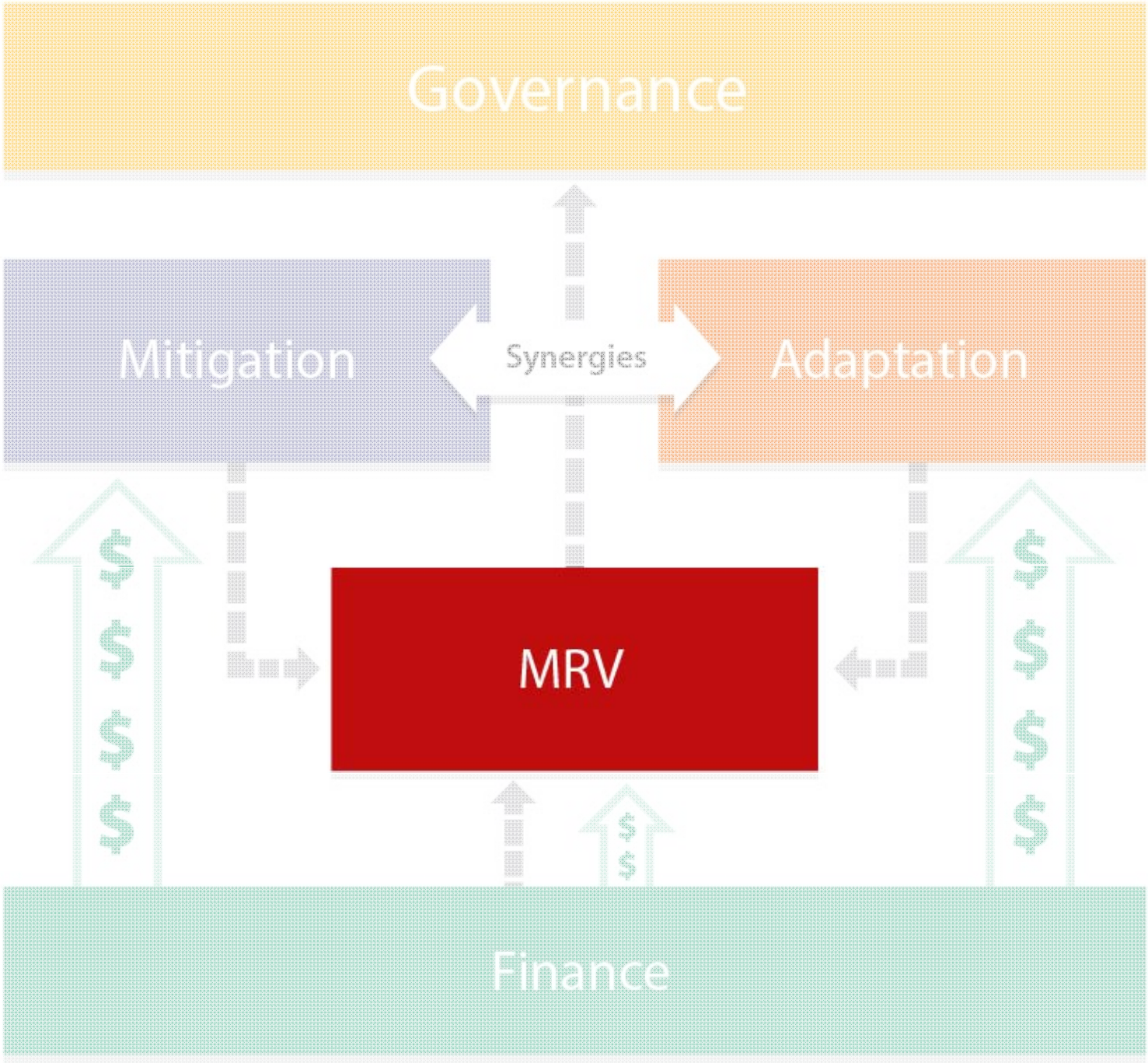
Ricardo
Energy & Environment

MRV for NDCs and NAMAs

Dave Shaw
Senior Consultant
5th April 2017

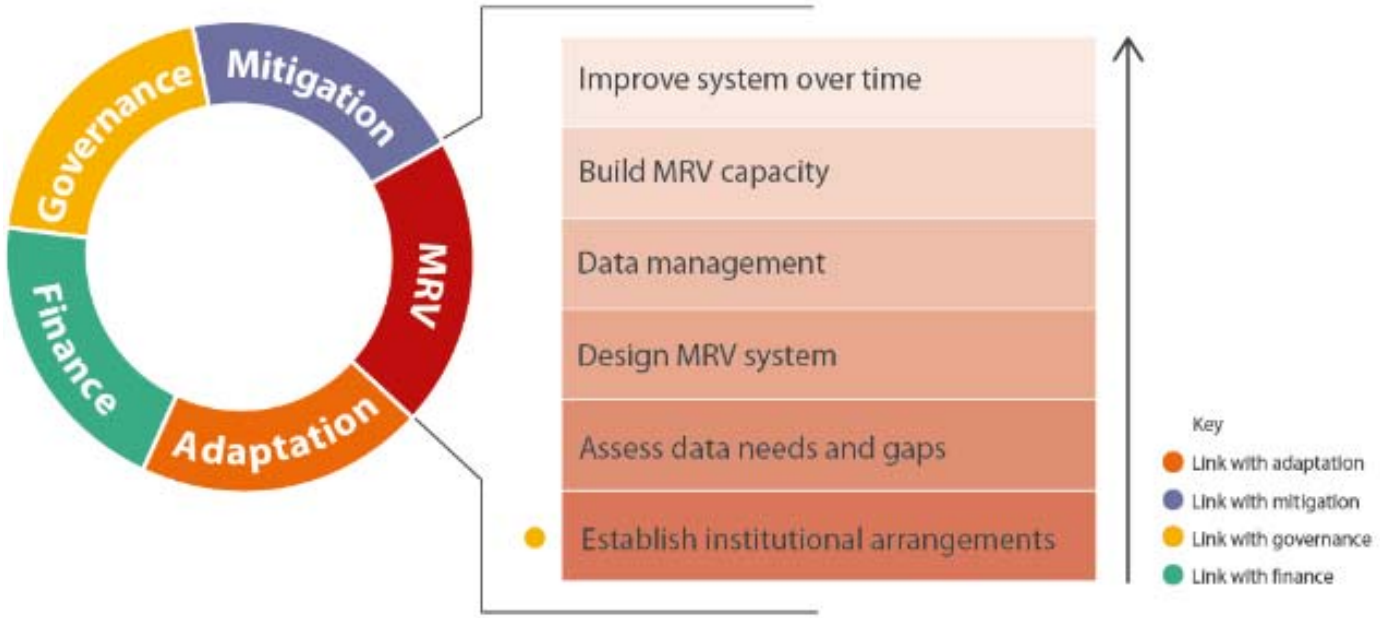
Contents

- The **'M'**, the **'R'** and the **'V'** – **jargon busting!**
- **Why MRV**? Systems for **MRV aren't just about mitigation**
- **Reporting** for domestic and international audiences
- **Taking advantage of existing systems** – make us of what already exists
- Key **activities to develop a NAMA MRV system**
- **Challenges** to developing an MRV system



Why Monitor, Report and Verify?

- Measurement, reporting and verification (**MRV**) is crucial for transparency - tracking and reporting on the implementation and impacts of (mitigation and adaptation) climate actions, and the finance used to support these actions.
- **International** reporting requirements – National Communication, Biennial Update Report, future MRV framework under Paris Agreement (GHG inventory report, progress in implementing NDC on a biennial basis, Adaptation Communication, supported provided and received).
- **Domestic** reporting requirements – Parliament, policy-makers, the public



The ‘M’, the ‘R’ and the ‘V’ – jargon busting

Source: GIZ

Indicators

- Are a means to **show a set objectives have been reached**
- **Objectives have to be SMART**, so indicators can be meaningful
- **Indicators require:**
  - A target value
  - A baseline
  - A timeline, to which target value and baseline relate

The SMART concept	
S	Specific
M	Measurable
A	Achievable
R	Relevant
T	Time-bound

GIZ: Systems for MRV aren't just about Mitigation

- **Facilitates decision-making** and **national planning**
- **Supports the implementation of NAMAs** and **generates feedback** on NAMA effectiveness
- **Highlights lessons** and **good practices**
- Increases the likelihood of gaining **international support**
- May **promote coordination and communication** amongst sectors
- **Information generated** regarding meeting **global mitigation goals**

1. Review the current MRV activities

1a. Review the NDC

1b. Review existing national MRV processes

2. Establish institutional arrangement for the oversight and coordination of MRV activities

2a. Set up an MRV steering group

2b. Agree and overall lead institution for the MRV system

2c. Develop appropriate rules and guidelines

2d. Develop plans for reporting

3. Assess data gaps and needs

3a. Assess and prioritise data gaps

3b. Identify how existing MRV systems can be extended to address data gap

Guidance from the NDC Quick Start Guide

1. Review the current MRV activities
1a. Review the NDC
1b. Review existing national MRV processes
2. Establish institutional arrangement for the oversight and coordination of MRV activities
2a. Set up an MRV steering group
2b. Agree and overall lead institution for the MRV system
2c. Develop appropriate rules and guidelines
2d. Develop plans for reporting
3. Assess data gaps and needs
3a. Assess and prioritise data gaps
3b. Identify how existing MRV systems can be extended to address data gap

1. Review the current MRV activities
1a. Review the NDC
1b. Review existing national MRV processes
2. Establish institutional arrangement for the oversight and coordination of MRV activities
2a. Set up an MRV steering group
2b. Agree and overall lead institution for the MRV system
2c. Develop appropriate rules and guidelines
2d. Develop plans for reporting
3. Assess data gaps and needs
3a. Assess and prioritise data gaps
3b. Identify how existing MRV systems can be extended to address data gap

4. Design the MRV system for mitigation, adaptation and finance

5. Establish data management processes

5a. Develop systems to improve data quality

5b. Develop data management systems

5c. Address data gaps

5d. Develop data improvement plans

6. Build MRV capacity

7. Improve the MRV system over time

7a. Ensure MRV reports are relevant

7b. Consider options for continuous improvement.

4. Design the MRV system for mitigation, adaptation and finance

5. Establish data management processes

5a. Develop systems to improve data quality

5b. Develop data management systems

5c. Address data gaps

5d. Develop data improvement plans

6. Build MRV capacity

7. Improve the MRV system over time

7a. Ensure MRV reports are relevant

7b. Consider options for continuous improvement.

4. Design the MRV system for mitigation, adaptation and finance

5. Establish data management processes

5a. Develop systems to improve data quality

5b. Develop data management systems

5c. Address data gaps

5d. Develop data improvement plans

6. Build MRV capacity

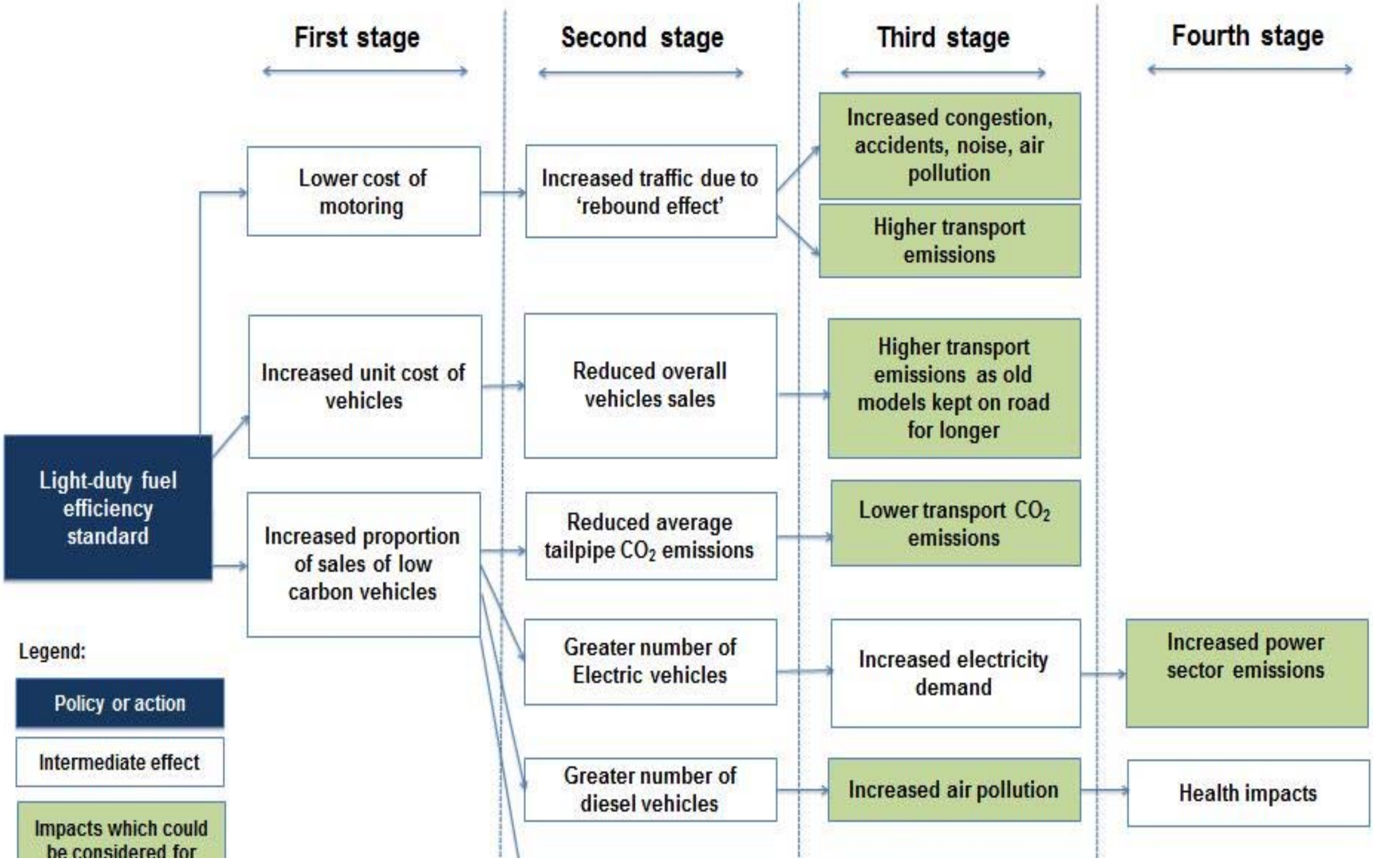
7. Improve the MRV system over time

7a. Ensure MRV reports are relevant

7b. Consider options for continuous improvement.

4. Design the MRV system for mitigation, adaptation and finance
5. Establish data management processes
5a. Develop systems to improve data quality
5b. Develop data management systems
5c. Address data gaps
5d. Develop data improvement plans
6. Build MRV capacity
7. Improve the MRV system over time
7a. Ensure MRV reports are relevant
7b. Consider options for continuous improvement.

The causal chain



GIZ Case Study: Housing NAMA in Mexico

National Circumstances:

- **50 Million Mexicans live in poverty**, 80% of which have no access to funding for appropriate housing.
- **Mexico committed to ambitious GHG emissions reductions** until 2020, **dependent on support**

Proposed NAMA: Sustainable Housing Program to target mortgage market to provide low-income families with low GHG-emitting homes

Monitoring: 'Activity Data' (non-GHG) and GHG metrics

Data to monitor	Type of monitoring
Electricity consumption	Direct and continuous metering of electricity consumption (including generation from PV). If available, utility billing records can be used.
Emission factor of the grid electricity	As per CDM Tool to calculate emission factor for an electricity system, or use published data.
Transmission & distribution loss	Data from utility or an official government body.
Fuel consumption	Direct and continuous metering of fuel consumption. If available, utility billing records or fuel purchase invoices can be used.
Net calorific value of the fuel	Values provided by the fuel supplier in invoices, own measurement, or regional or national default value.
CO_2 emission factor of the fuel	Values provided by the fuel supplier in invoices, own measurement, or regional or national default value.
Gross floor area of a building unit	Building plan, or onsite measurement.

Source: Perspectives, Thomson Reuters

Non-GHG Metrics

- Number of Houses constructed / year
- Demographic data
- Inhabitants / house (to compare baseline and NAMA houses)
- Energy costs for poor families
- Air quality
- Water use (NAMA in water sector under consideration)
- Peak-load of the electricity grid*

**Low-energy houses will need no/smaller air-conditioners and therefore consume less electricity at peak hours*

	Measure	Report	Verify
What to…	• Electricity and fuel consumption; emission factors (grid electricity and fuel); transmission and distribution loss, including electricity theft; net calorific value of fuel; floor area of building unit, heating degree days	•Description of NAMA activities •Assumptions and methodologies •Objectives of the actions and information on progress	•Emissions reductions (level of stringency tbd) • Increased access to affordable and efficient housing
How to…	• Electricity / fuel meters and/or utility bills •CDM Tool for emissions factors •Data from utility providers on losses •Default values •Data on air temperature for HDD	• National-level reporting procedures (i.e. biennial update reports to UNFCCC) •NAMA-level reporting procedures, tbd	• Biennial Update Reports to be verified by international experts (ICA) • NAMA-level verification, tbd
Who should..	• NAMA implementer	• NAMA implementer	• NAMA supporter (national and/or int'l)
When to…	• Continuous metering • Perfomance monitoring annually • Baseline updates every 3-4 years	• National-level, biennially • NAMA-level, TBD	• National level every 2 years (ICA) • NAMA-level, TBD

Dave Shaw
30 Eastbourne Terrace
London
W2 6LA

dave.shaw@Ricardo.com