




**MRV of NAMAs - more than GHG reductions**  
1st Autumn School of the International Partnership on Mitigation and MRV

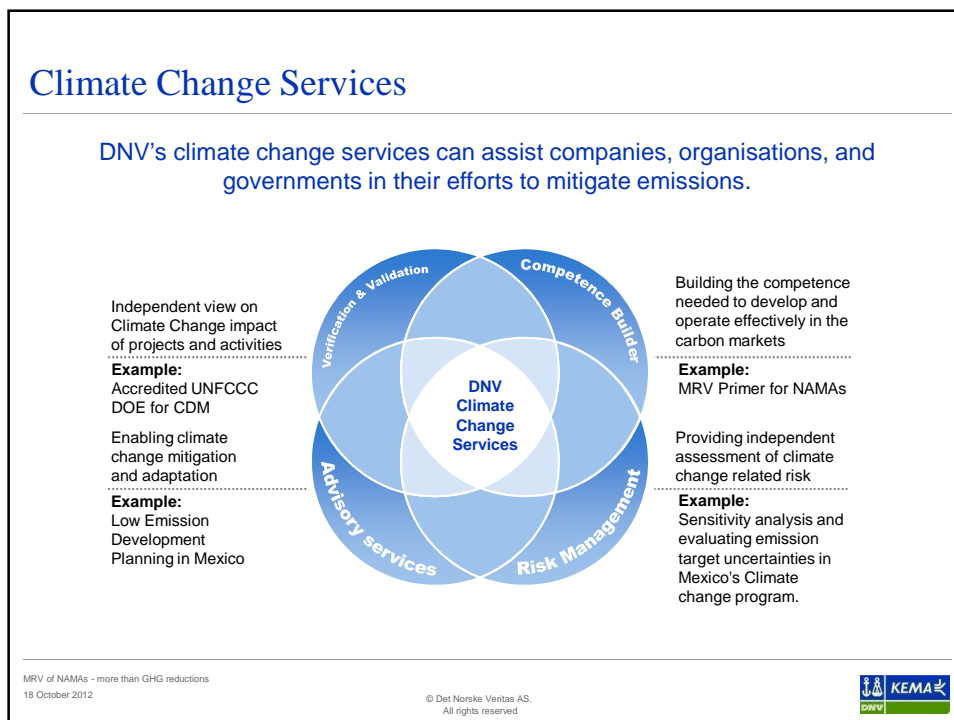
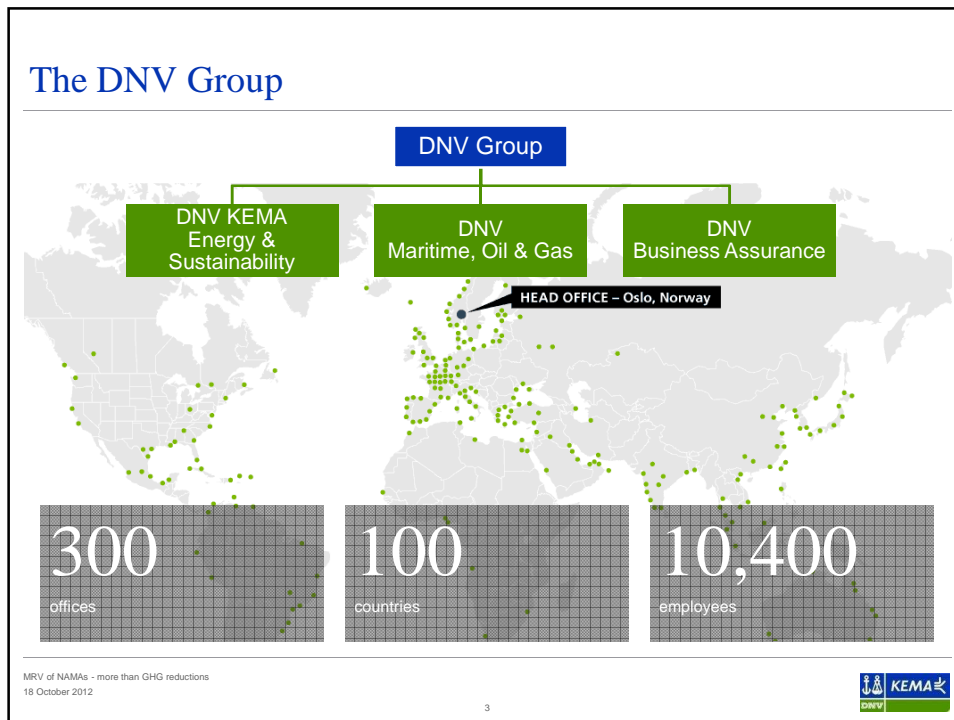
Dr. Bente Pretlove, Senior Principal Adviser  
18 October 2012



**DNV KEMA in brief**

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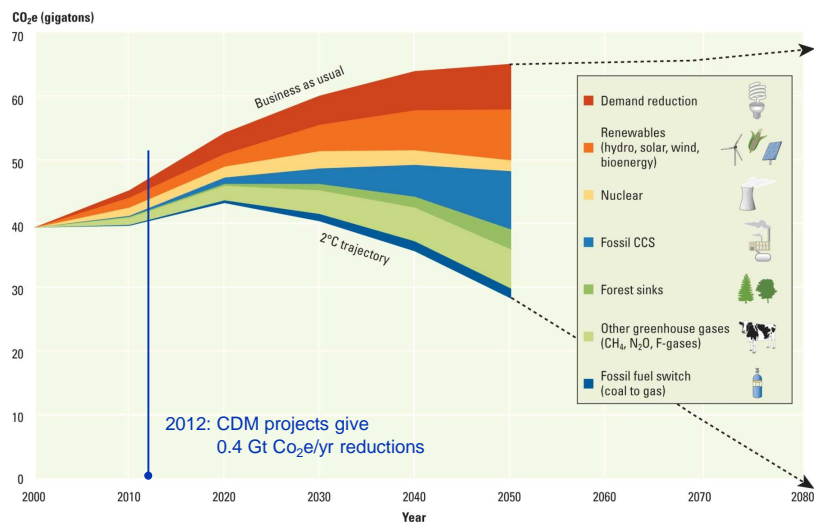
# The Big picture

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## No Silver Bullet



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## The Technology Challenge



<b>85%</b> Of future worldwide energy demand will be in developing countries.	<b>2 °C</b> Transfer of low carbon technologies to developing countries will be crucial to achieve climate objectives.	<b>\$46 tr.</b> Required in investments for technology and deployment by 2050 to achieve climate objectives (IEA).
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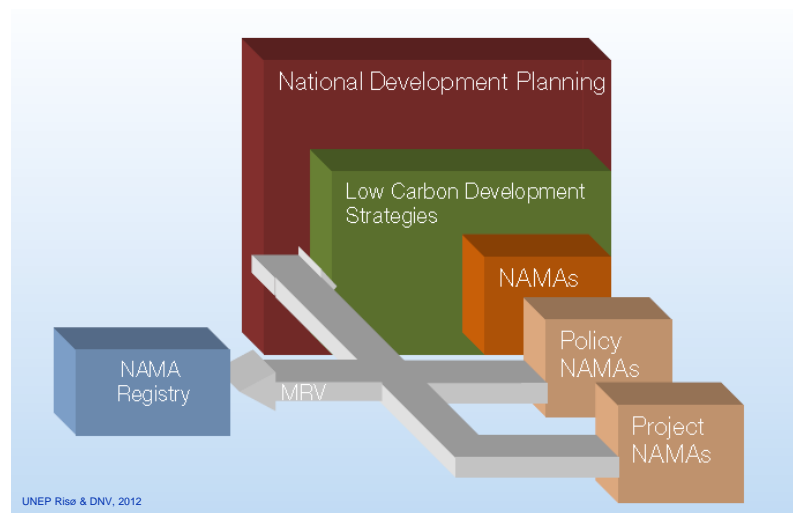
## NAMAs and MRV

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## What's a NAMA?



UNEP Risoe & DNV, 2012

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## NAMAs and MRV

- **Complex**
  - Different issues in different country types: LDC, Developing, Rapidly developing, Developed
  - Different sectors with very different MRV issues
  - likely to be a fragmented GHG market
- **Need to develop frameworks that are modular, flexible, and scalable**
  - Governance, roles and responsibilities
  - Design and implementation of internal controls (QA/QC)
  - Documentation of procedures
  - Systems and Tools
  - Appropriate metrics that will allow accountability
  - Baselines needed for all areas that will be measured for improvement

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## State of play

- MRV is widely used in many context with many different purposes, practices and interpretations.
- Examples:
  - Environmental or climate related auditing
    - ISO 14000 series
    - Different Stewardship Councils (Forestry, Marine etc.)
    - Kyoto Protocol - CDM / JI
    - Emission Trading Schemes
  - Development assistance
    - OECD/DAC Evaluation and Results based management
- Looking at these experiences there are similarities in the way these programmes are being set up and managed
  - Define an objective, a baseline or base case from which a deviation is desirable, and a measurement, reporting and verification system
- But the overall design will differ from case to case.

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## MRV Primer for NAMAs

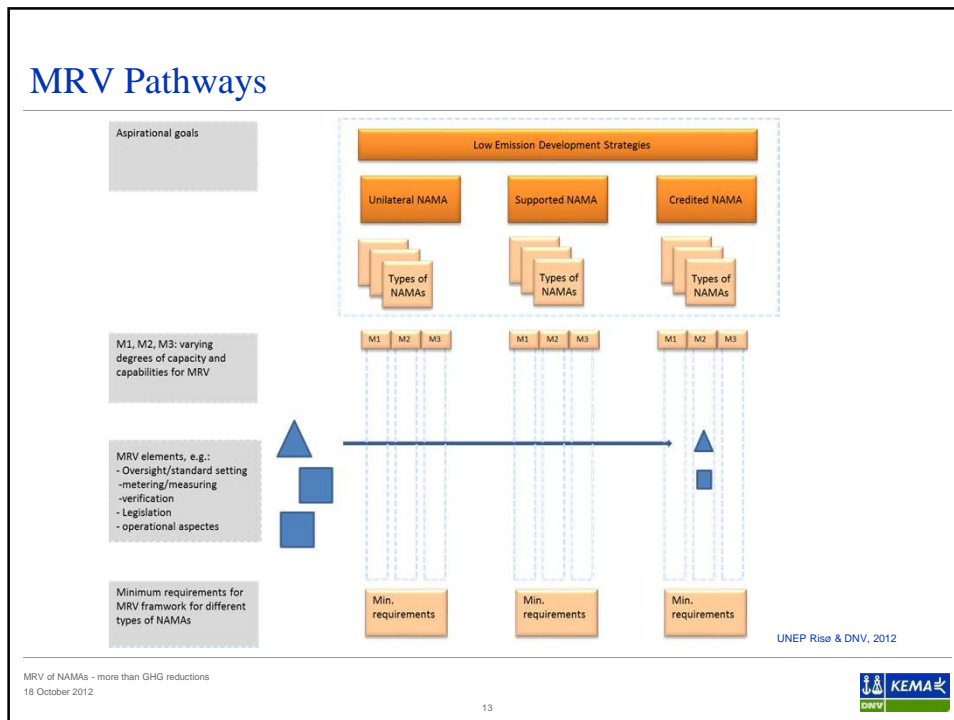
- Support early capacity building efforts on NAMAs and MRV
- Build on existing experience and MRV practices for emission reduction projects and programmes
- Identify elements and drivers to be considered when designing MRV systems for NAMAs.
- Distinguish between the readiness and capacities of developing countries



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## Basic elements of MRV Framework

MRV Elements	Different types and options
<b>Scope</b>	<ul style="list-style-type: none"> <li>• Cap &amp; Trade</li> <li>• Offsets</li> <li>• Incentive Programme (Policy)</li> </ul>
<b>Programme Oversight</b>	<ul style="list-style-type: none"> <li>• Government Department</li> <li>• International Body</li> </ul>
<b>Issuance / Compliance Body</b>	<ul style="list-style-type: none"> <li>• International Body</li> <li>• Government Body</li> <li>• Third Party</li> <li>• Second Party</li> <li>• First Party</li> </ul>
<b>Standard</b>	<ul style="list-style-type: none"> <li>• Domestic Standard</li> <li>• ISO Standard</li> <li>• International Recognised Standard (UNFCCC, IPCC, CDM EB, etc.)</li> <li>• Bilateral Standard</li> </ul>
<b>Control Entity &amp; Qualifications</b>	<ul style="list-style-type: none"> <li>• Government Department</li> <li>• Third Party</li> <li>• Second Party</li> <li>• First Party</li> </ul>
<b>Monitoring &amp; Reporting (Programme Participant/Installation Level)</b>	<ul style="list-style-type: none"> <li>• Publicly available</li> </ul>
<b>MRV Reporting (National Level)</b>	<ul style="list-style-type: none"> <li>• Publicly available in aggregate basis (UN national inventory basis)</li> <li>• Publically available on participant basis (registry)</li> <li>• Internally available</li> <li>• National Legislation</li> <li>• International Body</li> <li>• Control Entity</li> </ul>

MRV | 18 Oc

## Minimum requirements for MRV System

MRV Elements Block	Unilateral NAMA	International Supported NAMA	Credited NAMA
Scope	Activity which impacts emissions of one of the Greenhouse gases	Activity which impacts emissions of one of the Greenhouse gases	Activity which impacts emissions of one of the Greenhouse gases
Programme Oversight	Government Department using: <ul style="list-style-type: none"> <li>national incentive programme mechanisms</li> </ul>	Multilateral Agreement using: <ul style="list-style-type: none"> <li>national legislation of cooperating Parties</li> <li>National Accreditation Bodies</li> </ul>	International Body using: <ul style="list-style-type: none"> <li>International binding legislation</li> <li>National Accreditation Bodies</li> </ul>
Issuance / Compliance Body	Implementing Installation /organization	Government Body endorsed by Parties signatures to the Multilateral agreement	<ul style="list-style-type: none"> <li>International Body; or</li> <li>Government Body recognized under International agreement</li> </ul>
Standard	Domestic Standard	Bilateral Standard	<ul style="list-style-type: none"> <li>ISO Standard</li> <li>International Recognised Standard</li> </ul>
Control Entity & Qualifications	First /Second Party	Third Party or government body	Third Party
Monitoring & Reporting (Programme Participant/Installation Level)	Available to participant only	Available to oversight and participant only	Publically Available
MRV Reporting (National Level)	Internally available	<ul style="list-style-type: none"> <li>Publically available on participant basis (registry)</li> <li>Internally available</li> </ul>	Publically Available

UNEP Riso & DNV, 2012

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## What to monitor or measure

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## NAMAs – need to measure more than carbon

- CDM – CER is overriding
  - Sustainability – not really managed or measured
- Development aid programs
  - More focus on performance based payments
  - Measure a number of development based metrics
- NAMAs measure carbon and sustainable performance
  - MRV of NAMAs with **direct** effects can be based on existing methods
  - **Indirect** effects- the focus of MRV could be on the activities and outcomes
  - broader sustainable development benefits such as reduction of pollutants, job creation or other social and economic effects.
  - Less stringent GHG MRV as supported NAMAs will not be used to any offset emissions in developed countries?
  - Metrics will have to be implementable at different levels of government
  - Metrics will have to be inclusive of private sector efforts without double counting

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## Types of metrics

Metrics		Examples
Quantitative	Financial metrics	<ul style="list-style-type: none"> <li>• Funds transferred from donor country</li> <li>• Value of a renewable energy asset pool funded through specific donor finance</li> <li>• Amount of donor funds spent on a national education programme</li> </ul>
	Process metrics	<ul style="list-style-type: none"> <li>• Number of energy efficiency training programmes that have been delivered</li> <li>• Number of SMEs that have been provided funding for energy efficiency programmes</li> </ul>
	Technical metrics	<ul style="list-style-type: none"> <li>• Number of new trigeneration units installed in a regional grid</li> <li>• Emission reductions in that grid compared to the baseline</li> </ul>
Qualitative Process metrics		<ul style="list-style-type: none"> <li>• Status of establishment of reporting system</li> <li>• Status of institutional strengthening programme</li> </ul>

LINEP Rise & DNV, 2012

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## What is verified?

Type		What is verified
Capacity Building		<ul style="list-style-type: none"> <li>Progress of inventory</li> <li>Identification of NAMAs</li> <li>Design of programs, execution of programs</li> </ul>
Projects, Programs, Sectors		<ul style="list-style-type: none"> <li>Tonne CO<sub>2</sub>e reduced</li> <li>Quality of MR</li> <li>Design of programs, execution of programs</li> </ul>
Carbon Neutrality		<ul style="list-style-type: none"> <li>Tonne CO<sub>2</sub>e emitted</li> <li>Quality of MR</li> </ul>
Emission reduction targets	Intensity based	<ul style="list-style-type: none"> <li>Tonne CO<sub>2</sub>e/GDP</li> <li>Quality of MR</li> </ul>
	Absolute base year	<ul style="list-style-type: none"> <li>Tonne CO<sub>2</sub>e</li> <li>Quality of MR</li> </ul>
	Absolute BAU	<ul style="list-style-type: none"> <li>Tonne CO<sub>2</sub>e delta from BAU</li> <li>Quality of MR</li> </ul>

Verification opinion on quantity estimate reported, and quality of process and controls

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Examples NAMA type	Quantitative			Qualitative metrics
	Financial metrics	Process metrics	Technical metrics	
Capacity building NAMA	<ul style="list-style-type: none"> <li>Donor investment and recipient fund allocation for capacity building</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of data and record keeping systems at national level</li> </ul>		<ul style="list-style-type: none"> <li>Quality of data system</li> </ul>
Building energy efficiency	<ul style="list-style-type: none"> <li>Donor investment and recipient fund allocation for retrofitting of building</li> <li>Cost of retrofitting office buildings per square metre</li> </ul>	<ul style="list-style-type: none"> <li>Number of buildings with energy management systems implemented</li> <li>Number of energy efficient devices installed</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in energy use in buildings with an implemented energy management system</li> <li>Recording the "power" of the device installed (as per CDM methodology)</li> <li>Metering the "energy use" of an appropriate sample of the devices installed (as per CDM methodology)</li> </ul>	<ul style="list-style-type: none"> <li>Assessment of behaviour-based energy management outcomes following training</li> </ul>
Sectoral emissions reductions programme	<ul style="list-style-type: none"> <li>Donor investment and recipient fund allocation for technology diffusion</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of sectoral inventory including baseline and reporting systems</li> </ul>	<ul style="list-style-type: none"> <li>Estimated reduced avoided emissions (t-CO<sub>2</sub> eq) at the facility level</li> <li>Estimated reduced avoided emissions (t-CO<sub>2</sub> eq) at the sector level</li> </ul>	<ul style="list-style-type: none"> <li>Quality of sectoral inventory including baseline and reporting systems</li> </ul>

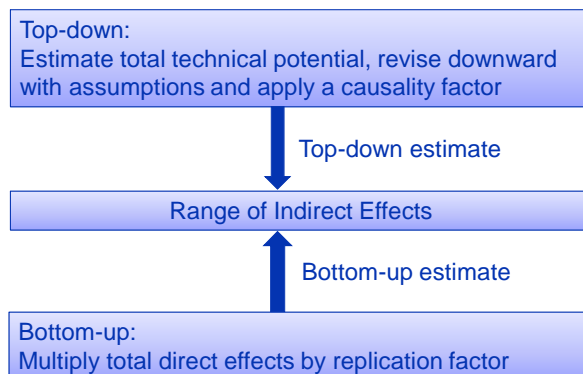
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## Indirect GHG effects

- Long-term effects of NAMAs are difficult to determine; e.g. removal of barriers through capacity building and improving enabling environments.
- In GEF, the below approach is taken to estimating indirect effects in projects:



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## The results chain

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## Results chain

**Inputs** → **Activities** → **Outputs** → **Outcomes** → **Impact**

- Inputs:** What resources are used?
- Activities:** What is done?
- Outputs:** What is produced or delivered?
- Outcomes:** What do you wish to achieve?
- Impact:** What long-term change are you aiming for?

**Outputs:** normally quantitative results: products or services which are relevant for the achievement of outcomes. Can be measured on a regular basis. Attributed directly to the activities performed

**Outcomes:** often the most important result-level in results management. The intended, intermediate effects on the target impact. Intervention may be one among many contributions to the outcome.

**Impact:** long-term change. The causal relationship between intervention and the impact can be difficult to prove.

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## Emissions reduction and Energy Access - equally important !

### Results Chain for Energy+

Results level	Objectives and Indicators	Phase of Energy+
<b>Impact</b>	Reduction in energy poverty Reduced GHG emissions Reduction in energy intensity of GDP	
<b>Outcome</b>	Improvement in energy access Increased share/diversity of renewable energy in the energy mix Increased rate of energy efficiency improvement	<b>Phase 3:</b> Payment for outcomes Years 5-10
<b>Outputs</b>	Energy supplied; service provided; units sold Renewable energy supplied Energy saved; service provided; units sold Strategy approved; policy enacted; law passed	<b>Phase 2:</b> Payment for outputs Years 1-5
<b>Activities</b>	Develop strategies > build capacity > establish incentives > facilitate financing	<b>Phase 1:</b> Initial payment and technical assistance Years 0-3
<b>Inputs</b>		

[http://www.regjeringen.no/upload/UD/Vedlegg/Utvikling/Energy/Energy\\_Master\\_Presentation140812.pdf](http://www.regjeringen.no/upload/UD/Vedlegg/Utvikling/Energy/Energy_Master_Presentation140812.pdf)

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## Co benefits

- Interaction with other legislation (workers rights legislation, environmental legislation, industrial operators legislation, etc.)
- Co benefits can be required through:
  1. Legislation targeting the sector
    - Introduction of new legislation or enforcements of existing legislation
    - Activity approval process
  2. Requirements of Operators specific Co benefits activities
    - Environmental auditing system experience
- Co benefits needs to be driven by strong Host country commitment to define co-benefits requirements
- Need to match co benefits goals with co benefit indicators and existing national legal “enforcement” tools
- Need to continuously monitor co-benefits, not once off at approval stage

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