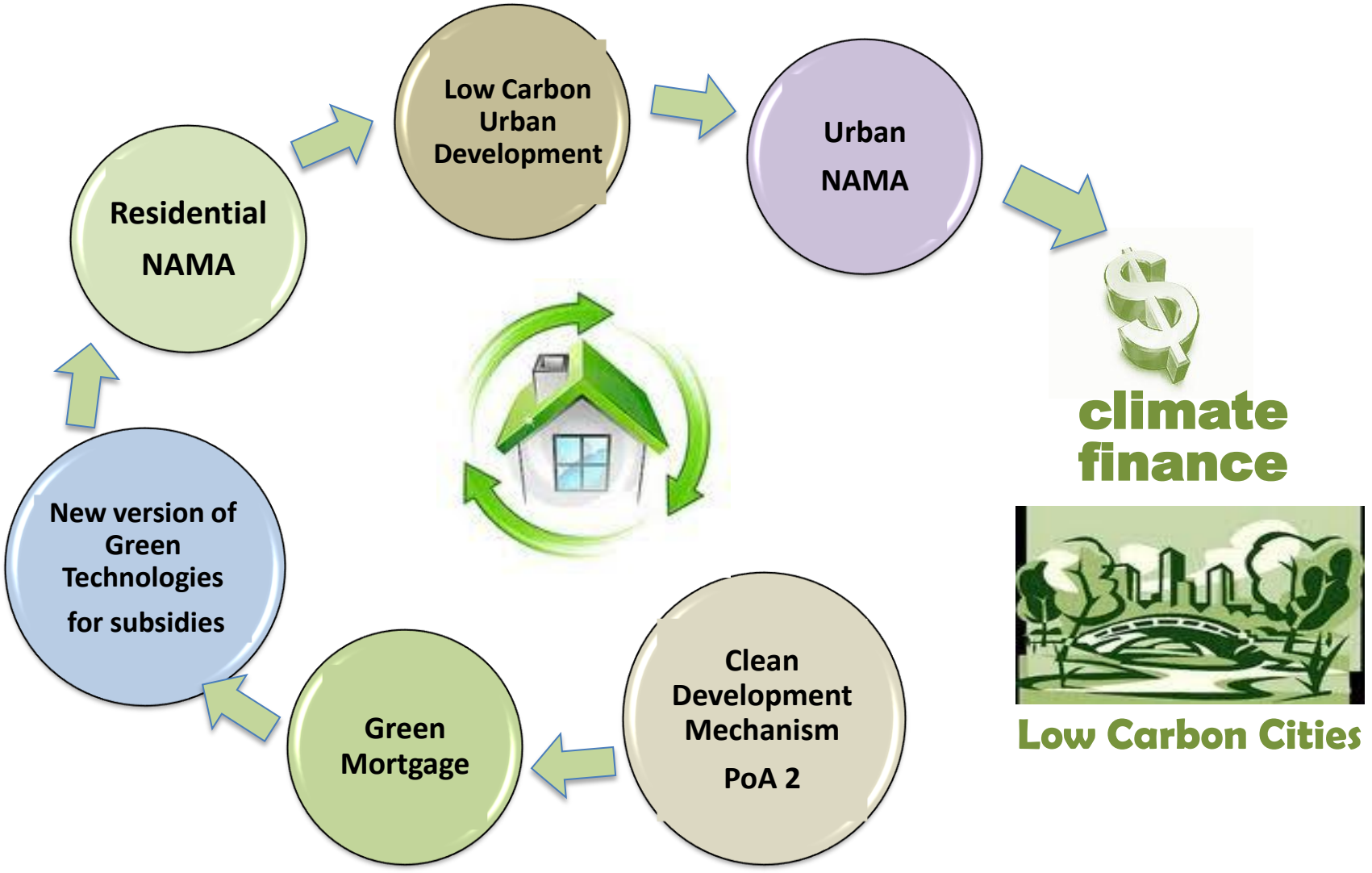
Key Issues in scaling up crediting activities through NAMAs:

Sustainable Housing and Urban NAMA in Mexico

Key considerations: Boundary, scope and link of NAMAs to sector strategies, baseline,

- NAMA proposal can be defined with a **broad** (national or sectoral) **or narrow** (specific activities) scope
  - In part, the scope depends on the capacity and ambition of the country
- A narrowly – but clearly – defined NAMA (e.g. Residential NAMA for sustainable housing) should be a part of a **broader strategy** (e.g. Urban NAMA) which provides a framework for the NAMA and ensures that actions are in line with national development strategies.
- In addition to the scope and the boundary issues, NAMA design needs to address
  - Procedures for establishing a **baseline or threshold** for establishing emission reductions
  - **Methodology** for estimating emission reductions
  - Framework for establishing **environmental integrity** of mitigation actions and ensuring that no double-counting occurs
  - System for **monitoring**, data collection and management, **verification and reporting**

PoAs to NAMAs to Low Carbon Cities

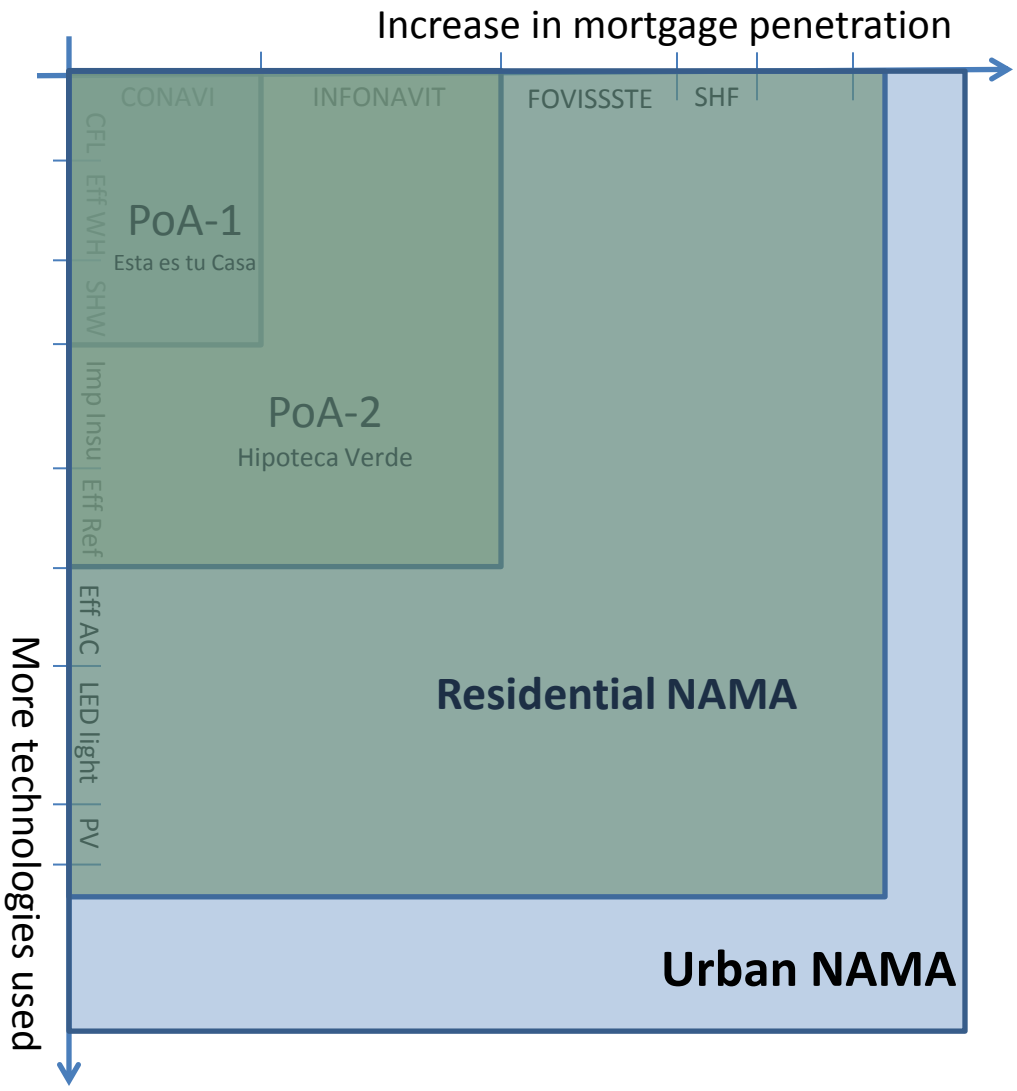


Scaling-up of mitigation action: from a PoA to NAMA

Mitigation action is scaled up from PoAs to NAMAs through incremental enhancement to:

- increased **penetration** (more houses covered during the same time) through additional mortage providing entities and/or
- technology **up-scaling** (more ambitious efficiency standards and/or inclusion of additional technologies).

Residential and Urban NAMAs consist of measures with robust MRV so that it will be a creditable NAMA



Measuring Emission Reduction for NAMAs (1):
Building on the PoA and CDM methodology

	Energy Efficiency	Renewable Energy
New housing	• Bioclimatic architecture • Thermal insulation • High efficiency appliances (e.g. refrigeration, air conditioning, water heaters).	• Solar photovoltaic cells • Solar water heating
Existing housing	• High efficiency illumination • High efficiency appliances • High efficiency water heaters	• Solar water heating

Measuring Emission Reduction for NAMAs (2):
Applicable CDM methodologies in Sustainable Housing

<table>
<tr><th></th><th>Type of measure</th><th>New housing</th><th>Existing housing</th></tr>
<tr><td rowspan="2">Renewable Energy</td><td>Solar water heating</td><td colspan="2">AMS-I.J</td></tr>
<tr><td>Solar photovoltaic</td><td rowspan="3">AMS-III.AE</td><td rowspan="2">N/A</td></tr>
<tr><td rowspan="3">Energy Efficiency</td><td>Bioclimatic architecture (passive solar design, thermal insulation, etc.)</td></tr>
<tr><td>Demand-side electrical energy efficiency (air conditioners, refrigeration, etc.)</td><td rowspan="2">AMS-II.C</td></tr>
<tr><td>Demand-side thermal energy efficiency (tankless water heaters)</td><td>AMS-II.C</td></tr>
</table>

AMS-I.J *"Solar water heating systems (SWH) Version 1.0"*
AMS-II.C *"Demand-side energy efficiency activities for specific technologies - Version 13.0"*
AMS-III.AE *"Energy efficiency and renewable energy measures in new residential buildings - Version 1.0"*

Environmental Integrity of Emission Reduction for Crediting

- The Sustainable Housing PoA will demonstrate additionality as per the “Guidelines for demonstrating additionality of micro-scale project activities” (EB 63, Annex 23) which established simplified additionality demonstration for project activities up to:
    - 5 MW of renewable energy technology (type I)
    - Energy savings of 20GWh per year (type II)
    - 20,000 tCO2e per year (type III)

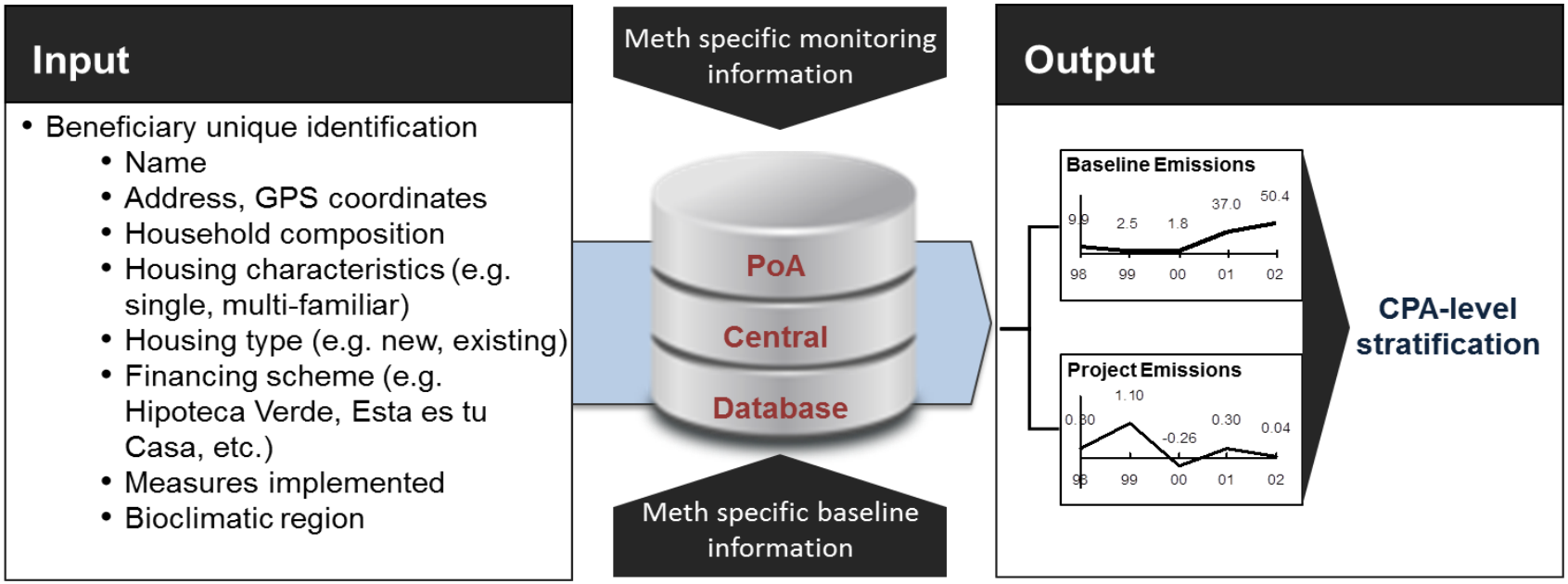
- The energy efficiency and renewable energy activities in the proposed mitigation actions meet these conditions, allowing for an objective and straightforward evaluation of environmental integrity.

Alternate methodology:
Standardized baselines and benchmarks

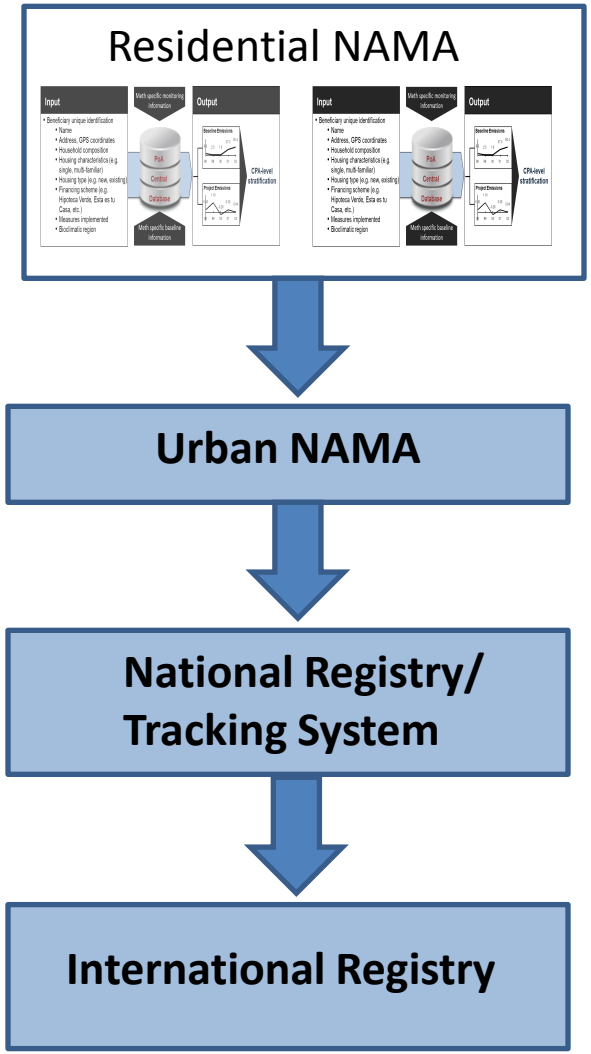
- Emission reduction calculation and the MRV framework for the Residential NAMA could also be based on direct GHG emissions monitoring after
  - introduction of energy performance benchmarks and/or minimum appliance standards based on whole-building energy performance
  - boundary should be the houses through the whole building approach
  - whole building approach would also allow inclusion of renewable energy technologies (e.g. SWH and PV)
  - benchmarking is the most appropriate approach to the whole-building
- This approach is also being explored through support from the German government

Monitoring and Data Management Plan

- CONAVI will develop an electronic database to record and manage all relevant baseline and monitoring information for each particular CPA, in line with the requirements of each applicable CDM methodology.
- The database will also include unique identification data for every household covered under the mitigation program (NAMA or a legacy PoA not wrapped into the NAMA).
- This information will allow the NAMA to calculate the corresponding baseline and "project" emissions



Data Reporting System



- The fundamental building block for the data and reporting system is based on the monitoring and reporting scheme for the individual mitigation technologies at the household level
- While the aggregation methodology for the NAMA builds on the PoA guidelines, innovative ways to achieve simplicity will be pursued
- The mitigation action at the NAMA level will be reported to the National Registry/ Tracking System
- The National system will be linked to the International Registry which can be a NAMA Registry and/ or, for emission reduction, the International Transaction Log

Leakage and double counting

- Leakage is not expected as all measures in new and existing housing involves the installation of new equipment (i.e. not transferred from other project activities).
  - In the case of replacement of inefficient appliances, provisions will be taken to ensure that the replaced inefficient appliances are scrapped (i.e. not transferred to other project activities).
- The combination of methodologies can be combined in a way to avoid cross-effects between different measures therefore avoiding double counting.
- In addition, each household is uniquely identified in the electronic database in order to avoid double counting due to the same household being considered in separate PoA or NAMA.

Conclusion (1): Boundary, scope, baselines...

- NAMA proposal can be defined with a broad or narrow scope
  - A broad definition could be, for example, an emission baseline for an entire Mexico or the whole of the housing sector
  - Narrow definitions can be more towards activity-based actions, such as the implementation of set of technology interventions (solar hot water system, CFLs, efficient appliance, etc.) within a broader land and urban planning
  - The appropriate scope depends on the capacity and ambition of a country in the targeted area of activities.

- Residential NAMA for sustainable housing is a part of a broader strategy (Urban NAMA), which provides a framework and ensures that actions are in line with national development strategies.

Conclusions (2): Scaling of mitigation action through NAMAs

- Mitigation action for the Urban NAMA is scaled up from PoAs to NAMAs through incremental measures to:
  - increase **penetration** of covered houses through additional mortgage providing entities and/or
  - **technology up-scaling** (more ambitious efficiency standards and/or inclusion of additional technologies).

- Key considerations of scope, boundary, baseline, environmental integrity, and monitoring and verification will **build on methodologies for project based offsets** (PoA/ CDM) but **simplification** (standardized baselines, benchmarks, etc.) will also be pursued.

Questions?

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Background Slides:

details of the emission reduction measures

Energy Efficiency Activities

a) Bioclimatic architecture

Also known as energy efficient design or green building, it relates to living spaces designed to accommodate local climate conditions and provide thermal comfort while using solar energy and other natural resources. Bioclimatic design takes into account the following specifications:

- Urban layout specifications
- Architectural specifications
- Specifications for solar control
- Ventilation and window specifications
- Materials specifications

b) Thermal insulation

Thermal insulation in roofs, walls and other surfaces. Insulation materials must meet NOM-018- ENER-199714 while R values (thermal resistance rating) for each surface – per bioclimatic region – must comply with NMX-C-460-ONNCEE-200916.

Energy Efficiency Activities

c) High efficiency illumination

Two types of illumination devices are eligible under the PoA:

- **CFLs**. Compact Fluorescent Lightbulbs must meet NOM-017-ENER/SCFI-19938 and NOM-028-ENER-2010.
- **LEDs**. Light-emitting diodes (LEDs) must comply with technical specifications from ANCE-ESP-01.

d) High efficiency appliances

Three types of devices are expected to be covered under the PoA:

- **High energy efficiency air conditioning.** All A/C units must comply with NOM-011-ENER-2006 and must be CFC free.
- **High energy efficiency refrigeration.** Energy consumption must comply with limits established in NOM-015-ENER-2002 and certified as energy efficient by the energy saving trust in Mexico (FIDE).
- **High energy efficiency water heaters.** Efficient water heaters must be in compliance with NOM-003- ENER-2000.

Renewable Energy Activities

e) Solar photovoltaic cells

Photovoltaic systems may be either connected to the national grid through an interconnection contract or set-up with a battery system.

f) Solar water heating

SWH systems can substitute partially or totally domestic fossil fuel consumption (LPG or natural gas). SWH systems are typically hybrid, backed-up by a gas-fired heater for cloudy or cool days. SWH installed under the PoA will require quality certification from the National Commission for the Efficient Use of Energy (CONUEE).