Case Study: Mexican Housing NAMA finance

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Por encargo de:

de la República Federal de Alemania

Agenda

- Background of the Mexican “Sustainable Housing NAMA”
- Proposed financing scheme for the Sustainable Housing NAMA
- Financing structure to date

Background of the Mexican “Sustainable Housing NAMA”

Mexican German Programme for NAMA (2011-2015, EUR 7 mill.)

- Objectives
  - Development of NAMAs to reduce GHG emissions from residential buildings (new and existing), small and medium enterprises, and road freight transport for large scale implementation and procurement of international co-financing
  - Establishment of a coordinating Mexican NAMA Office and beginning of implementation of NAMAs

- Commissioned by: German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and implemented by GIZ

- Lead executing agency: Mexican Ministry of Environment and Natural Resources (SEMARNAT)

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Background Sustainable Housing NAMA – Mexico

- Mexican government initiated **a wide range of programmes to improve the energy efficiency of low- and medium-income residential buildings in new housing sector**:
  - Since 2007 “Green Mortgage” (INFONAVIT): credit lines for energy-efficient measures and appliances and “Ésta es tu casa“ (CONAVI): subsidies;
  - PoA to channel carbon finance towards the sustainable housing sector.
- **World’s first NAMA in the new housing sector**:
  - Initiated by National Housing Commission (CONAVI), the Ministry of Environment and Natural Resources (SEMARNAT) supported by GIZ
  - Aims to effectively contribute to greenhouse gas (GHG) mitigation:
    - **Extend penetration** of basic efficiency standards to entire new housing market
    - **Upgrade efficiency standards** to more ambitious levels.
  - In the medium to long term:
    - Transformation of the Mexican housing sector from **voluntary** programmes and initiatives to the application of a **sustainable urban and housing policy** focussing on the consolidation of cities and the urban environment: intra-urban and vertical housing, densification and energy efficiency, thus, further increasing emission reductions

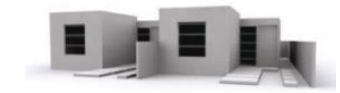
General elements of the 'Sustainable Housing NAMA'

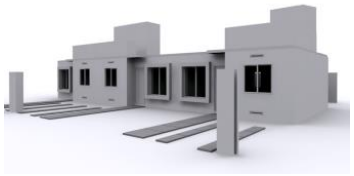
Item	Description
Sector	Building sector
Sub-sector	New residential buildings (1st Phase), primarily for low-income families, potentially for middle income housing
NAMA boundary	Entire country
Measures and activities with direct impact on GHG emission reduction	Construction of houses according primary energy consumption benchmarks incentivized by a scaled up financial promotion system
Measures and activities with indirect impact on GHG emission reduction	Supportive actions and capacity building. Wider transformational process: energy performance requirements in the regulatory system and permitting process, Training of private housing developers and energy advisors. Implementation of model projects
NAMA timeframe	- preparation: 2010-2013 - implementation: 2014-2017 (first phase), - second phase to be scheduled
NAMA type	Combination of unilateral and supported components
Type of support required under the NAMA	Financial, technical and capacity building

Source: Point Carbon/PCC for SEMARNAT, CONAVI, GIZ. 2012

Technical design of the ‘Sustainable Housing NAMA’

- Consider primary energy demand (electricity and gas) in kWh/(m2a) + water consumption based on “Whole house” approach
- Calculation of total energy consumption for housing typologies (isolated, adjacent, vertical house) in four major climate zones





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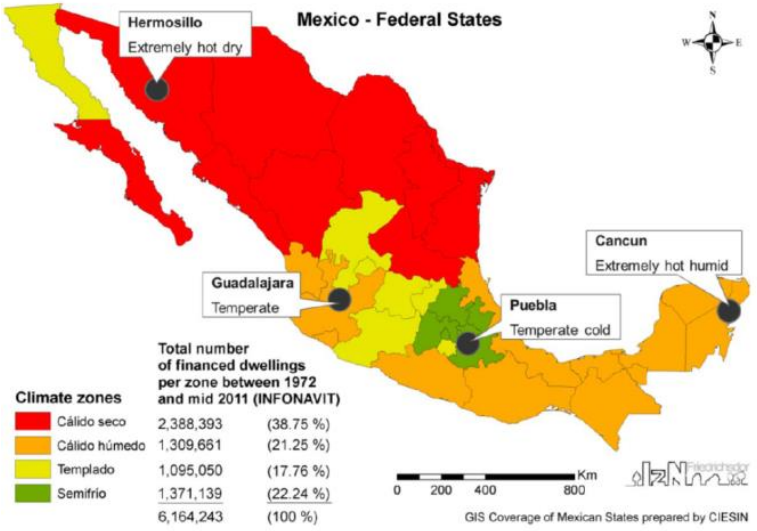
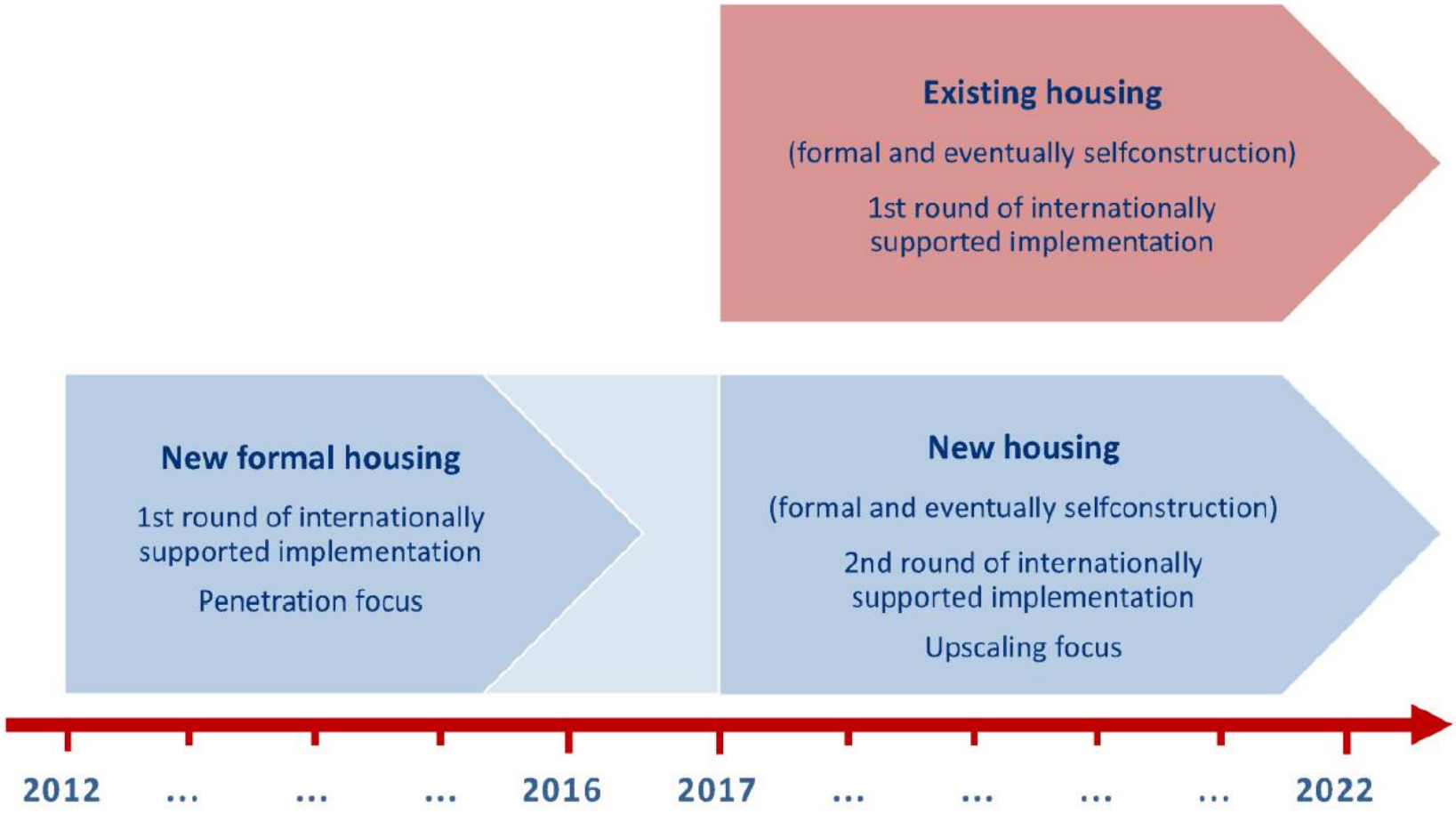


Source: CONAVI, GIZ. 2012

Phase-in schedule of the Mexican Sustainable Housing NAMA



Source: SEMARNAT, CONAVI, GIZ. 2012

Examples of financial packages for donor support

Packages				Financing Need			Benefits
Financial packages	Scale of the package	Content of the package		Subsidies to Home-owners, USD million		Total incremental construction cost USD million	Emission reductions over 30 yrs lifetime, tCO_2
		Mainstream roll-out	Eco Casa Max Pilot	Mainstream roll-out	Eco Casa Max Pilot		
Package 1	Large Scale (27,000 homes)	EcoCasas 1 & 2, 40 and 70m^2	30 buildings of 40m^2	49	0,2	165	1,711,000
Package 2	Mid-Size (13,800 homes)	EcoCasas 1 & 2, 40 and 70m^2	30 buildings of 40m^2	25	0,2	84	866,000
Package 3	Small Scale (5,200 homes)	EcoCasas 1 & 2, 40 and 70m^2	30 buildings of 70m^2	9	0,3	27	311,000
Package 4	Multi-Family (14,940 apartments)	EcoCasas 1 &2, 40 and 70m^2	780 verticals, 40 and 70m^2	27	3	94	865,000
Package 5	Eco Casa Max Pilot (890 homes)	890 Mexican Eco Casa Max (different types)		-	6	12	87,000

Source: SEMARNAT, CONAVI, GIZ. 2012

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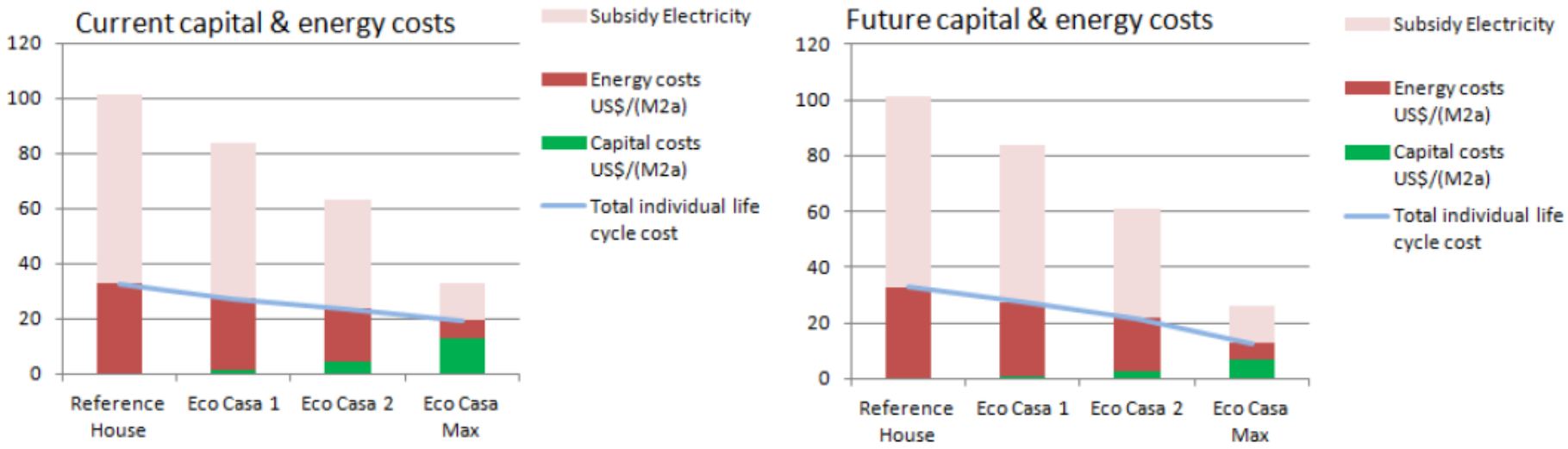
Energy efficiency measures can significantly affect energy costs and total life-cycle cost of houses

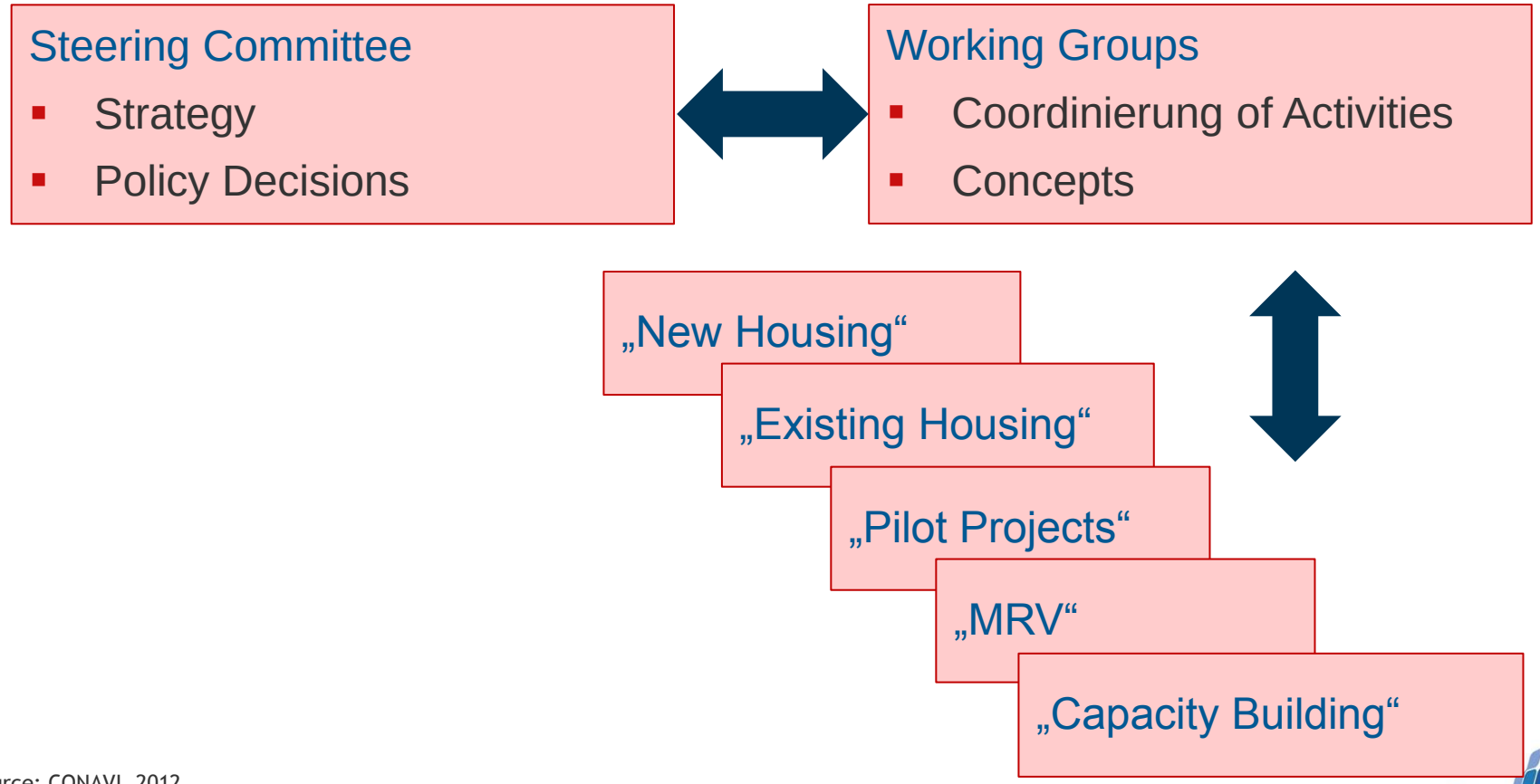
Current and future costs for energy efficiency measures in Cancun (vertical, 40 m²)



Source: SEMARNAT, CONAVI, GIZ. 2012

Sector coordination: „*Mesa Transversal*“ of CONAVI

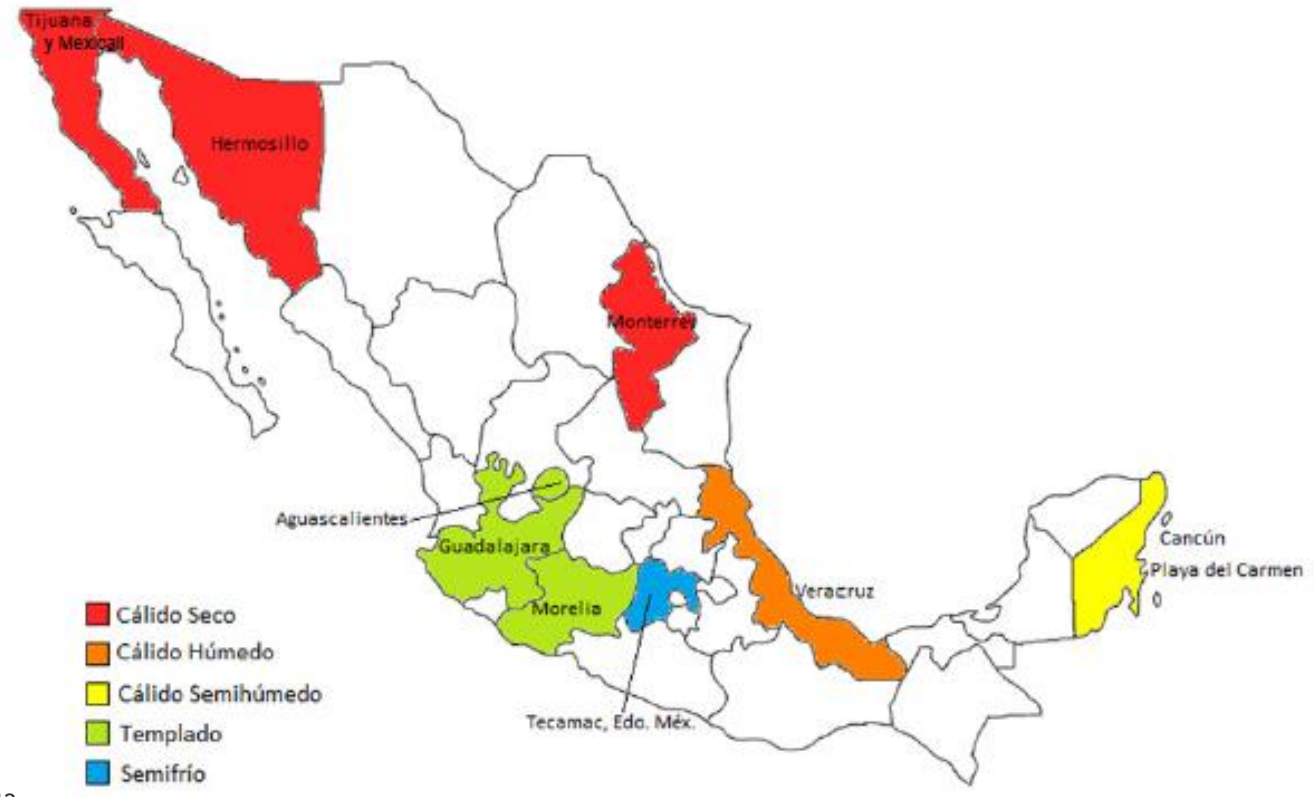
- Coordination of all relevant actors in the sector



Source: CONAVI. 2012

Leverage and initial market implementation

- Leverage of EUR 160 million in 2012
- Initiatives: ECOCASA Programme (KfW, SHF, the IADB and CTF and LAIF); ProNAMA Pilot Project (GIZ, CONAVI with DEREX, HERSO); Net Zero Project, now = Low Carbon Emission Houses (Canada)



Source: CONAVI. 2012

GIZ-ProNAMA Pilot in Hermosillo, Morelia, Guadalajara

Objective:

Demonstrate the scope (EE standards, financing, MRV) and ability

hogares HERSO

DEREX

Source: GIZ

EcoCasa Max

Morelia:
30 units

Guadalajara:
8 units

EcoCasa 2

Hermosillo:
25 units

EcoCasa 1

Baseline

GIZ-ProNAMA Pilot in Hermosillo, Morelia, Guadalajara

Source: GIZ

Financing scheme for the Sustainable Housing NAMA

Climate financing for the Mexican NAMA

- A revolving **NAMA fund** (e.g. Climate Change Fund SEMARNAT)
  - Directly reinvests monetary benefits (Mexican saved subsidies)
- Such a fund could be **supported by soft loans from donors/climate funds** until break-even is achieved
  - Which are the incremental costs given that
    - Air-conditioners and refrigerators have negative abatement costs?
    - Mexican government could save a significant amount of subsidies?
- Possible **private sector involvement**
  - Carbon market (NAMA crediting; e.g. of PV) => EU: Sectoral Mechanism pilot through a bilateral agreement
  - Provide loans to the NAMA fund on commercial terms (senior tranches)
- Industrialised countries could purchase **credits** as well

NAMA Funding Needs

NAMA leverages a number of funding sources

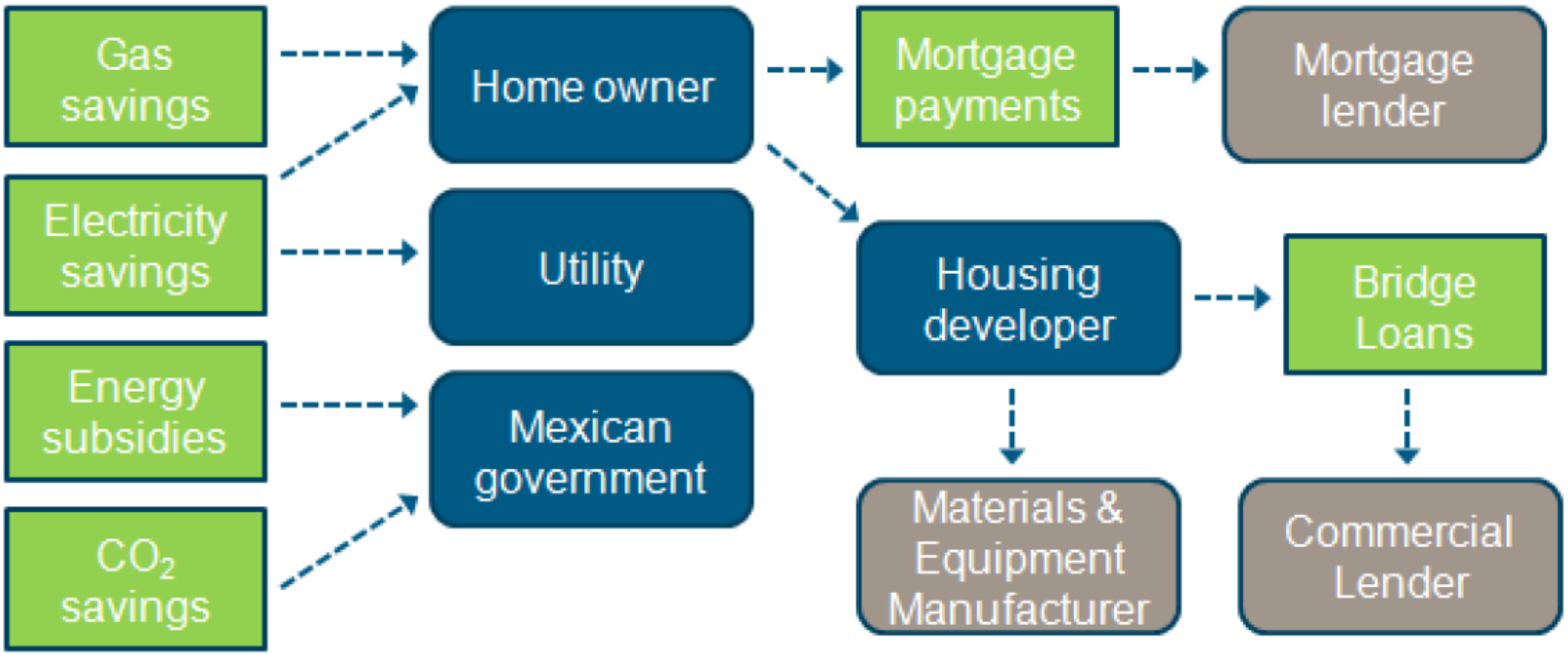
- Private Investment
- Mexican Government
- NGOs / Multilaterals
- International Gov. Commitments
- CO_2 Credits

Funding will need to be directed towards three main purposes

Housing Developers	Short term bridge loans to fund developments
Monitoring & Reporting & Capacity	Based on the source of funds, they can be directed towards their optimal use
Private Mortgages	Increased loan size, favorable terms for green component

Source: SEMARNAT, CONAVI, GIZ. 2012

Value Captured by NAMA Stakeholders

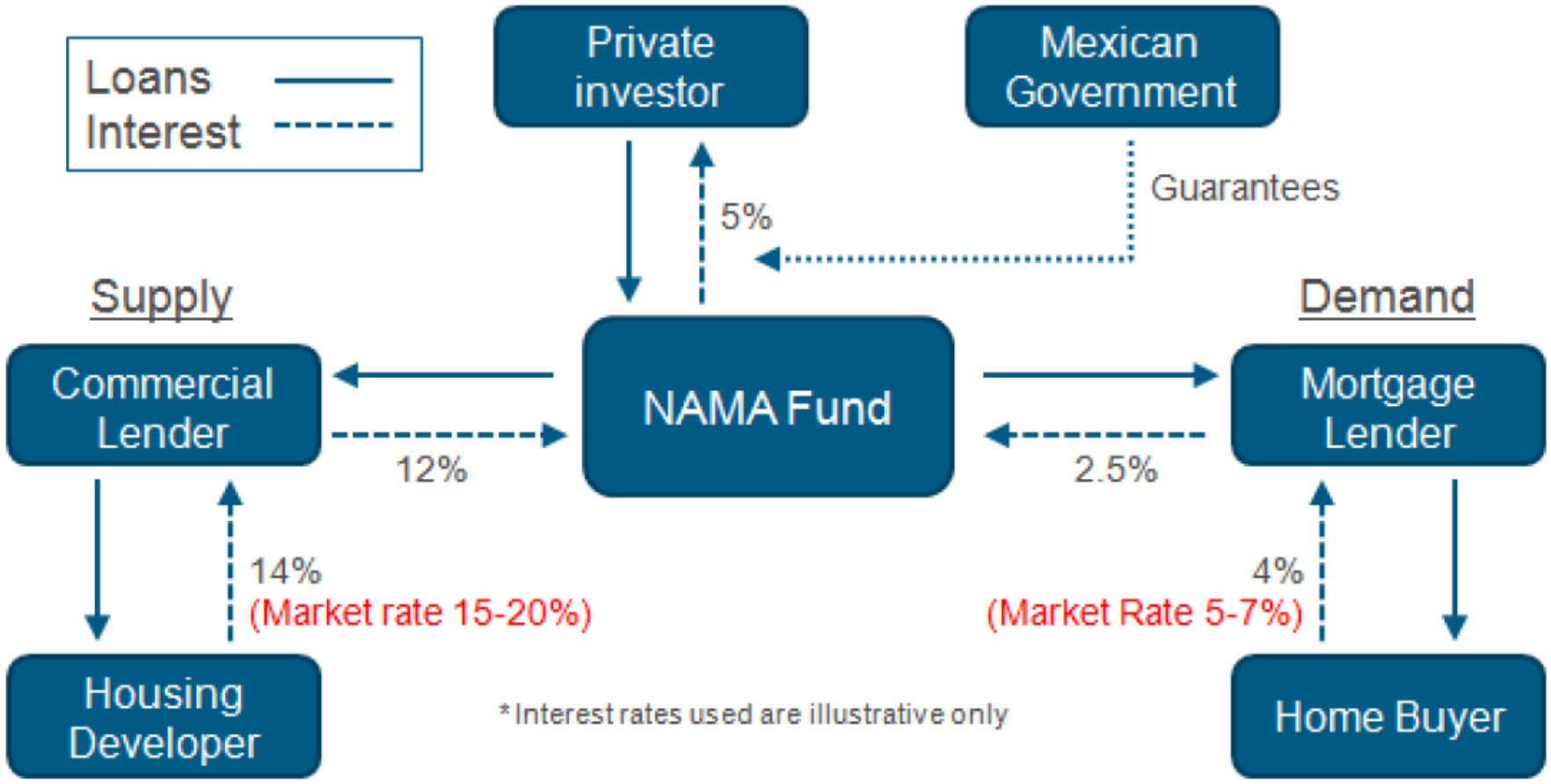


- Demand side: Households (soft credits, subsidies
- Supply side: Housing developers (bridge loans)

Source: SEMARNAT, CONAVI, GIZ. 2012

Possible financing scheme:

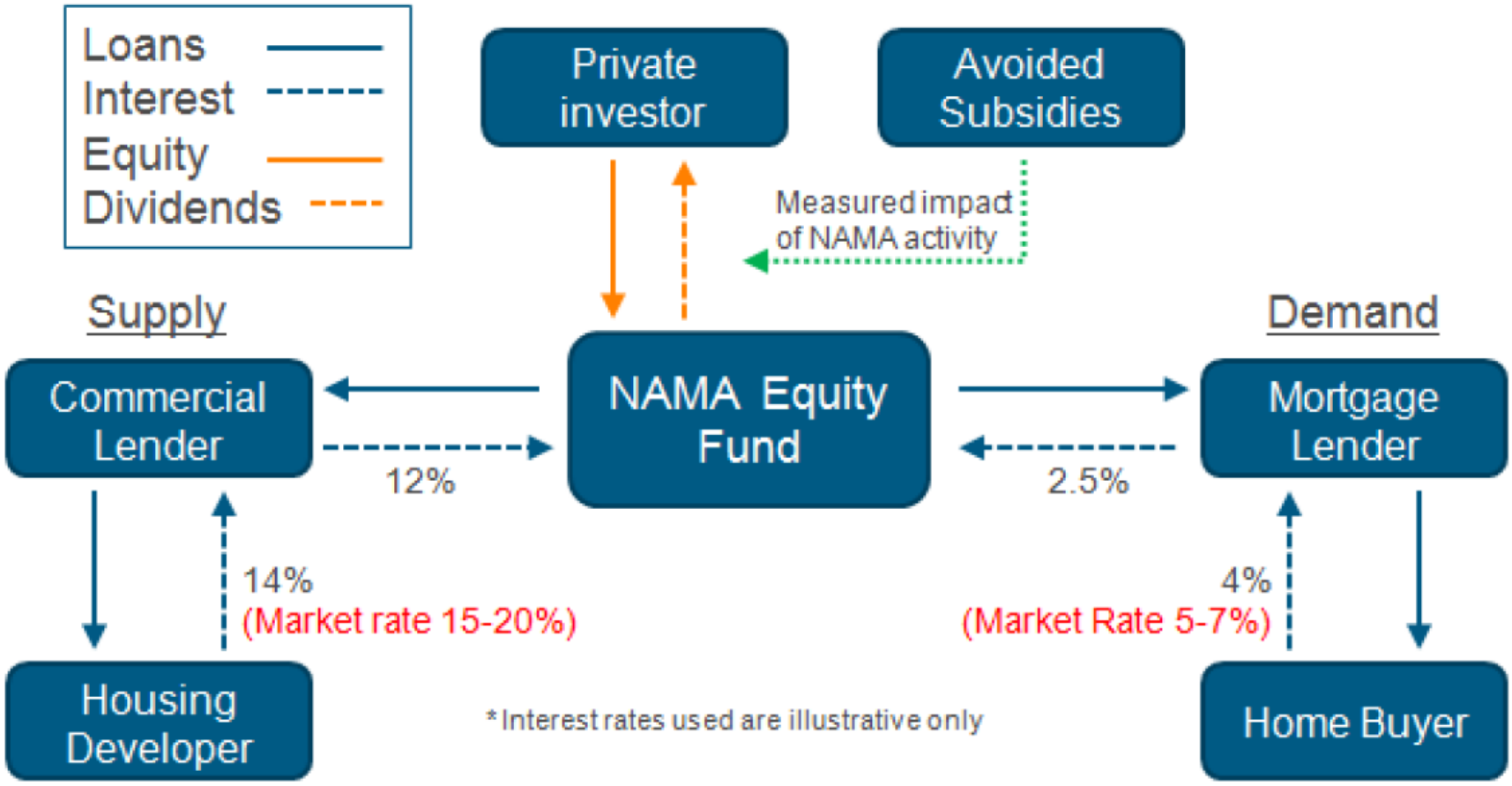
The Underwriter Model



Source: SEMARNAT, CONAVI, GIZ. 2012

Possible financing scheme:

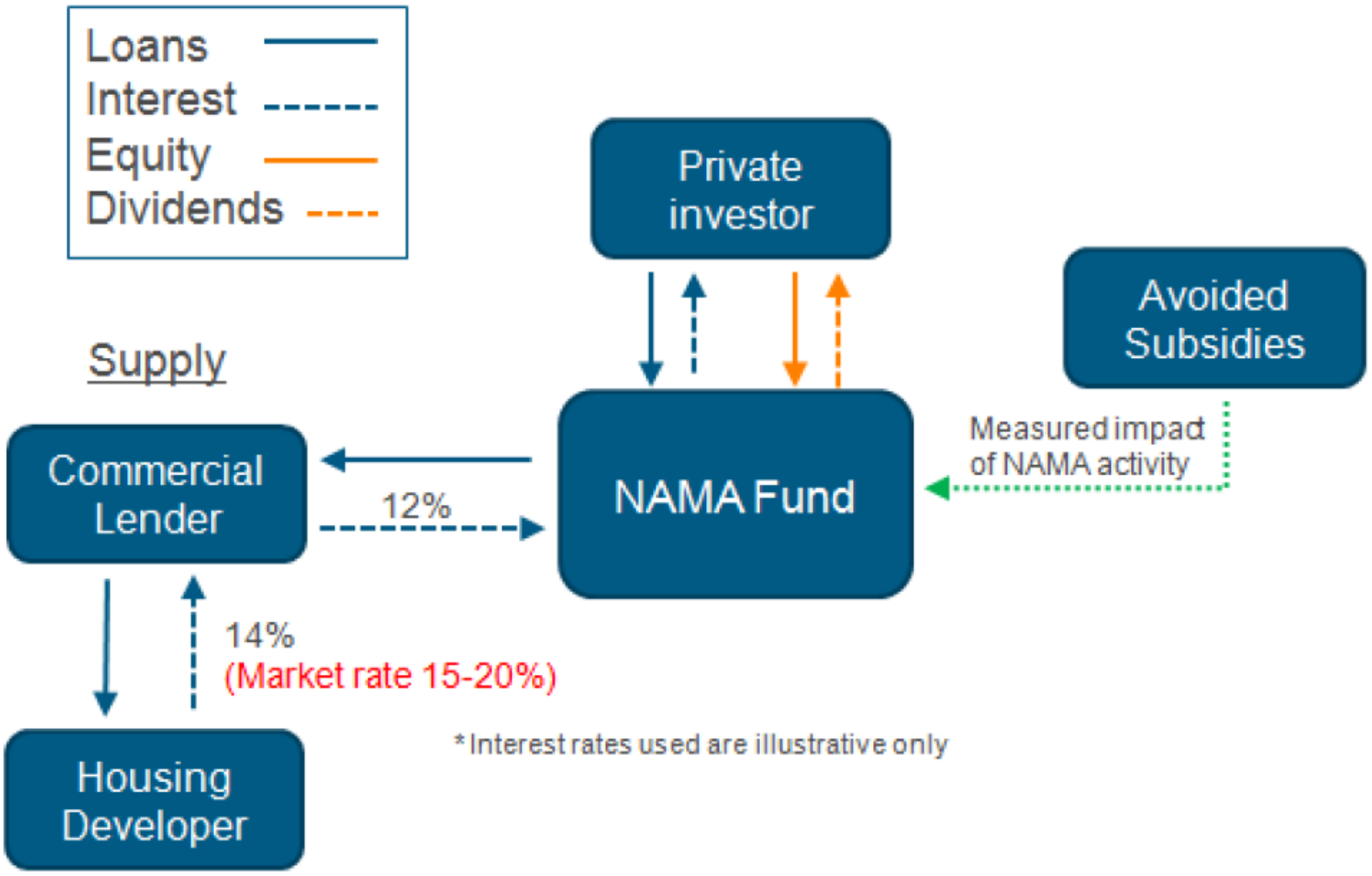
Subsidy Driven Models



Source: SEMARNAT, CONAVI, GIZ. 2012

Possible financing scheme:

The Reinvestment Model



Source: SEMARNAT, CONAVI, GIZ. 2012

NAMA financing packages offered to the international donor community

- Financing needs are split into three categories:
  - subsidies to homeowners,
  - bridge loans to developers in the form of soft loans and
  - support required for the implementation of the passive house pilot.

Soft loan revolving fund for bridge financing, million USD

	2012	2013	2014	2015	2016	Total
Accumulated revolving fund size	5.68	12.67	24.64	50.51	98.97	192.47
Additional financing requirement per year	5.68	6.99	11.97	25.87	48.46	
Minimum grant component required	1.14	1.40	2.39	5.17	9.69	

Source: SEMARNAT, CONAVI, GIZ. 2012

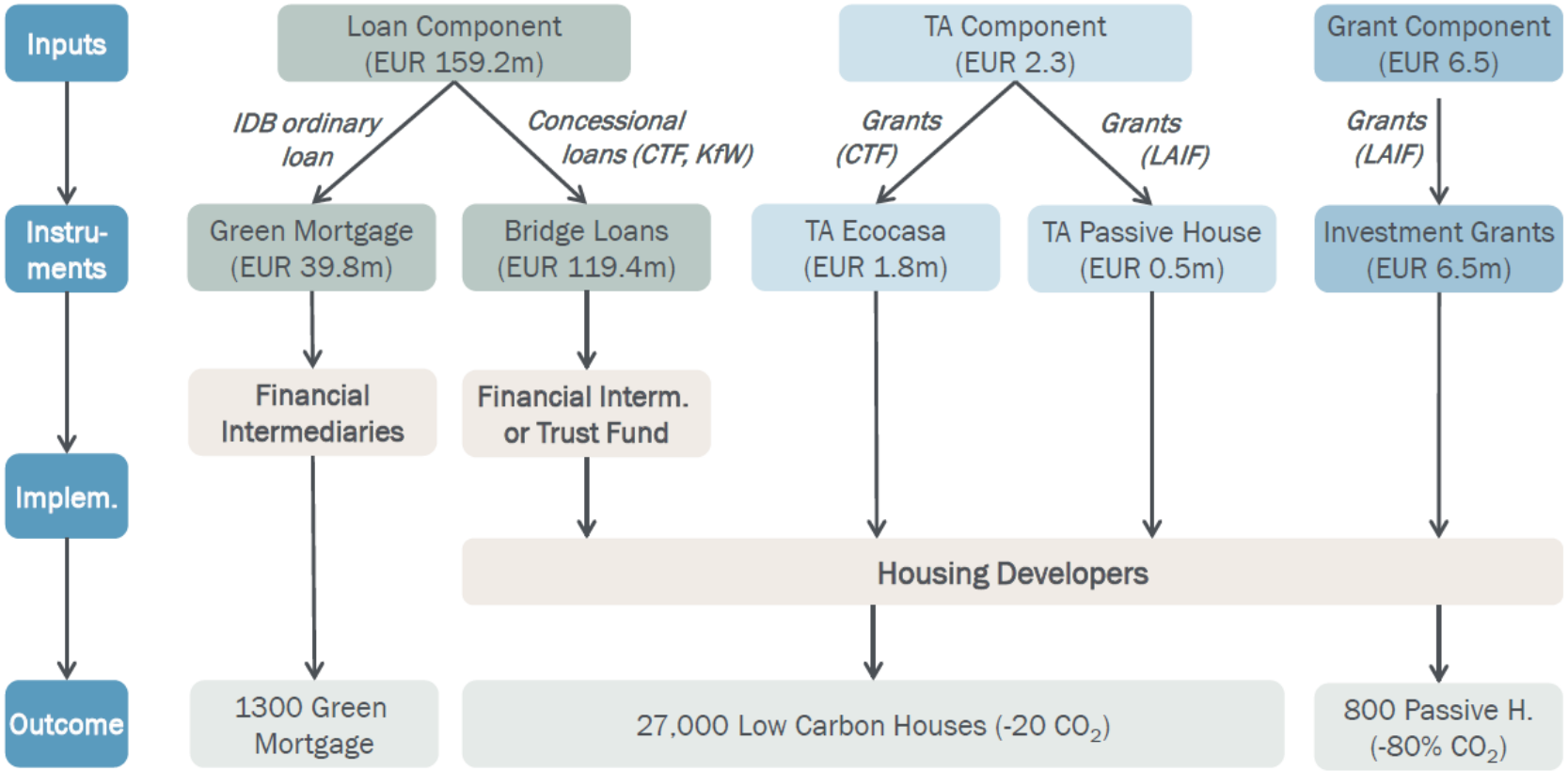
Financing structure to date

Financing and implementation started

- Mexico is the first country to access World Bank's Clean Technology Fund (CTF) via a NAMA for Sustainable Housing
  - approximately $50 million from the multi donor CTF
- Financing deal creates a revolving fund
  - can create $350 million in generous cut-rate loans to builders over the next seven years.
- Money is expected to filter down to contractors in equal shares from
  - German Economic Development Bank (KfW),
  - Inter-American Development Bank (IDB), and
  - Mexican Development Bank's Federal Mortgage Society.

Workers from a Mexican construction firm build energy-efficient homes in Tula, in Hidalgo state.
THOMSON REUTERS FOUNDATION/Monica Healy

Financing structure



Note: LAIF = European Commission's Latin American Investment Facility
Source: KfW

Key Features according to KfW funding criteria

Level of ambition

- *First NAMA in the housing sector*
- Supply of mortgage for low energy housing and financial incentives for EE investment (incl. TA): Support for up to *27,000 low energy houses (-20% CO_2) and 800 passive houses (-80% CO_2)*
- *Co-financing* to provide large-scale financing of EUR 160m and allow *transformational effects*

National interest and ownership

- Mexico as one of the first non-Annex I countries pledging to *reduce its GHG emissions voluntarily*
- NAMA program launched by the ntl. government in 2011 and *integrated into the broader national climate strategy* (PECC)
- *Co-benefit* of poverty reduction: focus on low middle income households

Maturity and bankability

- Detailed NAMA concept developed by the National Housing Commission (CONAVI) and GIZ supported by the German Environment Ministry
- Detailed *economic analysis* of the NAMA with a significant NPV
- *High modularity* of the NAMA program

MRV system

- *Robust and pragmatic MRV* methodology for a baseline and different standards for energy efficient houses (EcoCasa I, EcoCasa II, Passive House)

Source: KfW

Outlook: Support for large scale implementation

- Germany and the United Kingdom launch “NAMA Financing Facility” in Doha, 2012 > Mexican Housing NAMA 1st project

Source: BMU, DECC. 2012

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Many thanks!

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International Partnership on Mitigation and MRV