Presidencia de la República Dominicana
Consejo Nacional para el Cambio Climático
y el Mecanismo de Desarrollo Limpio

UNFCCC REGIONAL WORKSHOP FOR LATIN AMERICAN AND THE CARIBBEAN REGION ON PROMOTING INTERNATIONAL COLLABORATION TO FACILITATE PREPARATION, SUBMISSION AND IMPLEMENTATION OF NATIONALLY APPROPRIATE MITIGATION ACTIONS
Mexico City
10 to 13 December 2013

The role of the NAMA registry in facilitating mitigations actions and national level arrangements: The Dominican Republic Case Study

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Consejo Nacional para el Cambio Climático
y el Mecanismo de Desarrollo Limpio

Outline

- **INSTITUTIONAL**
- **LEDS**
- **NAMA**

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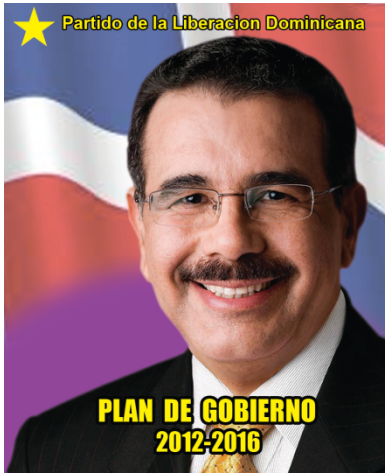
National Council for Climate Change And Clean Development Mechanism

Date: **September 20th, 2008**

Creation: **Decree 601-08, as an instance of public policy coordination and joint efforts in mitigating the causes and adapting to the effects of Climate Change**



H.E Danilo Medina Sanchéz
President of the Dominican Republic
and President of the Council

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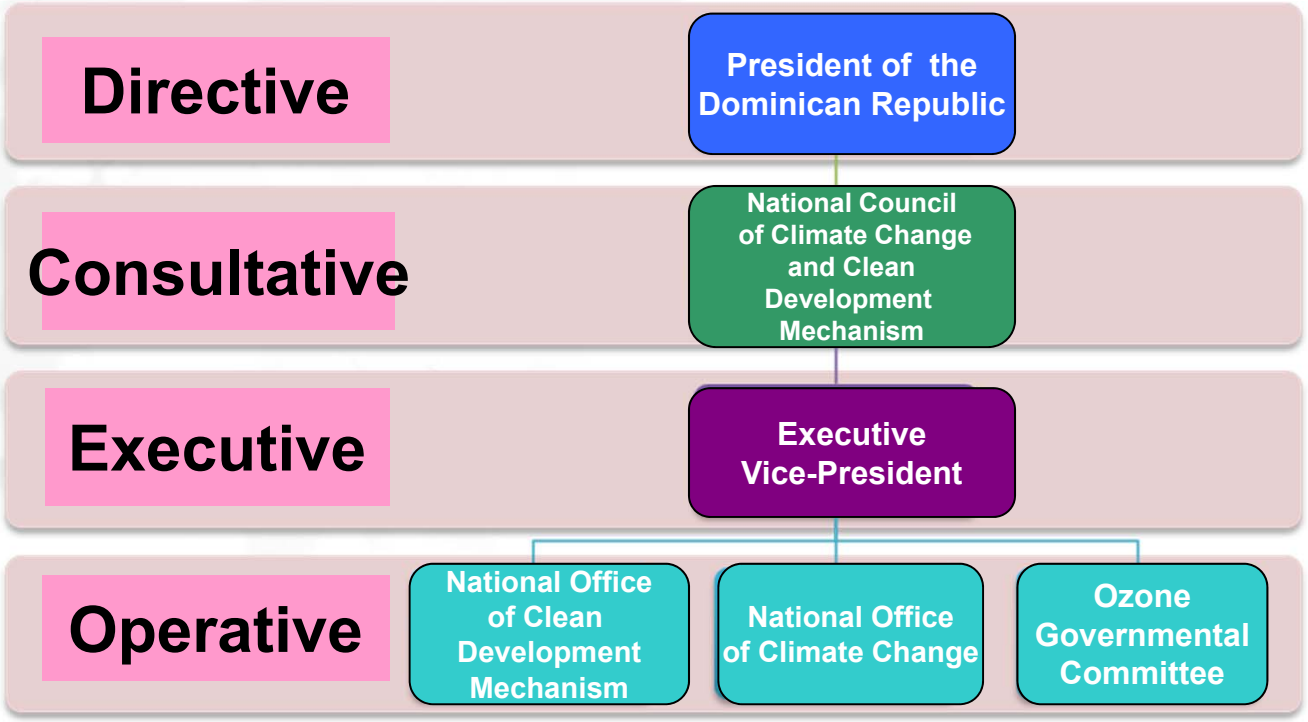
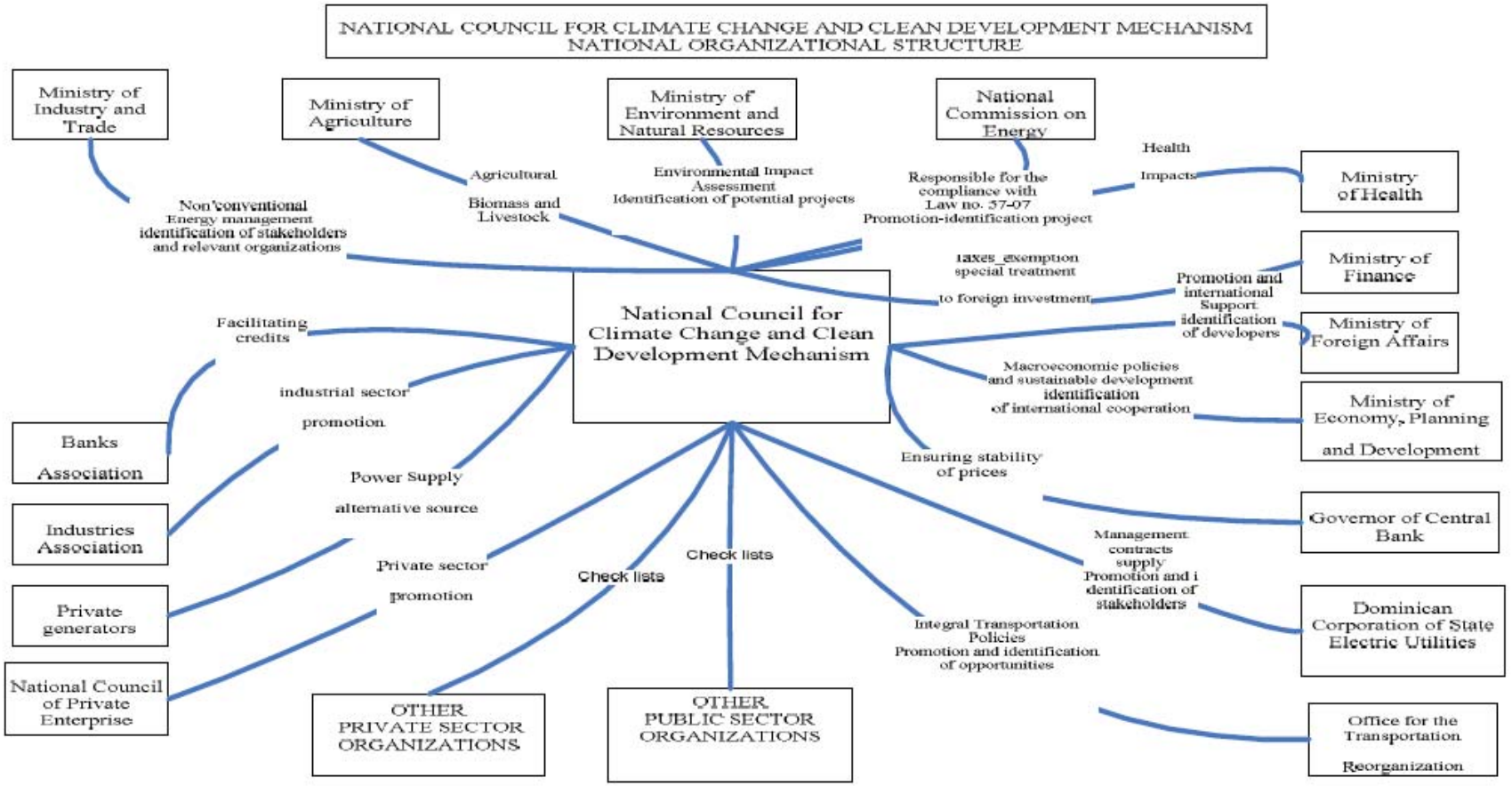
National Council for Climate Change And Clean Development Mechanism

Administrative Structure:



National Organizational Structure:



Roles of Key Actors in CDM Project Development

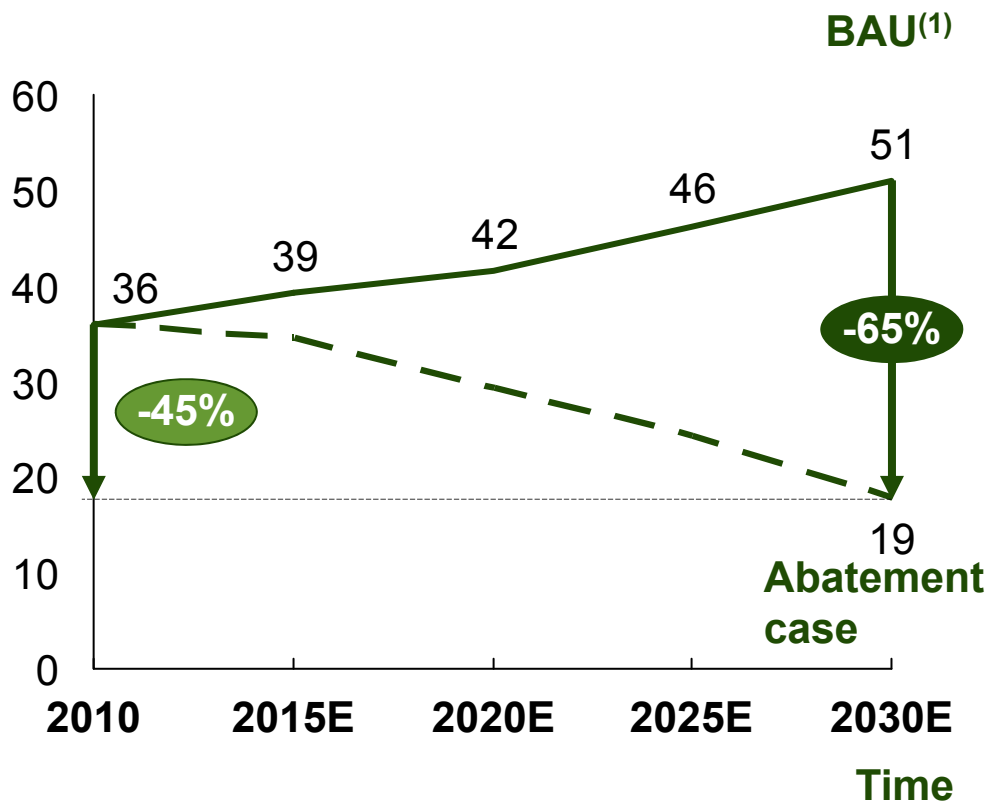
At the UNFCCC, the Council is the **National Focal Point (NFP**) for CC. The Council is also the **Designated National Authority (DNA)** for the CDM in the Dominican Republic (**and the NAMA NFP**).

Its **objectives**, among others, are:

- **Promote and facilitate the implementation of renewable energy, energy efficiency, methane capture, use of less carbon intensive fuels projects, etc.;**
- **Facilitate the removal of barriers for the implementation of mitigation projects;**
- **Advise the public and private sectors in the preparation of CDM projects;**
- **Identify and promote initiatives in terms of Emission Reduction Purchase Agreements in the international market; and**
- **Promote the creation and strengthen of local technical capacities for the preparation and development of GHG mitigation projects, following the environmental protection policy of the Dominican State.**

Based on DR-specific analysis of technical abatement potential, ~ 65% of its BAU GHG emissions can be reduced by 2030

GHG emissions
$MtCO_2e$



- Under the **BAU reference case**(1), emissions would grow from ~36 $MtCO_2e$ in 2010 to ~**51 $MtCO_2e$ in 2030**
- A **carbon abatement case** yields ~ **32 $MtCO_2e$** of abatement potential vs. BAU in 2030 (-65%) – 18 MtCO2e vs. today (-45%)

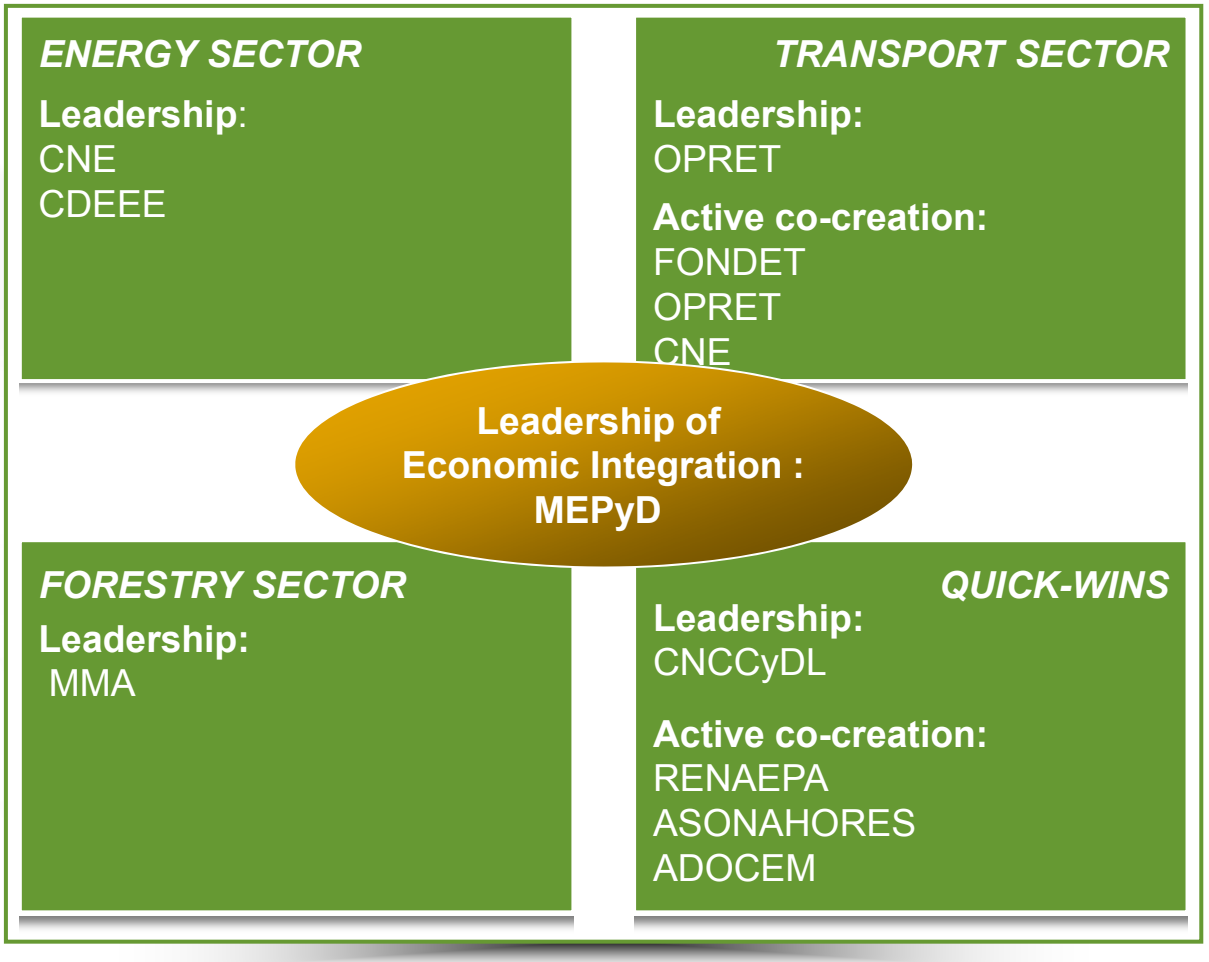
(1) "BAU" reference scenario is a basis for assessment of mitigation levers and carbon finance negotiations. It is not the most likely scenario, but a theoretical case assuming a country acts in its economic self-interest and does not include additional action for avoiding GHG emissions (e.g. renewables only added if cost competitive with fossils)

SOURCE: GHG abatement cost curve v2.0; Team analysis

Moving the strategy forward, the respective government agencies have developed concrete action plans

10 Core elements of sectoral action plans

1) Formulate CCDP aspiration
2) Prioritize major programs and initiatives
3) Define implementation road maps
4) Learn from international experience and policy options
5) Outline pilots to test impact and feasibility
6) Build underlying institutional capabilities
7) Overcome hurdles and risks
8) Identify required policies and policy changes
9) Indentify required financing and financing options
10) Plan stakeholder outreach and management



The power sector holds 1/3 of the DR's abatement potential and will yield significant net gains in energy efficiency and generation

Power sector narrative

Power

- Under **BAU**, power generation will increase by ~**80%** from **16 to 28 TWh** until 2030, generated by a high-carbon fuel mix, dominated to 90% by **coal, gas, fuel oil, and inefficient off-grid generation**
- Power generating cost will grow even more expensive from **180 to 220 USD/MWh** while emissions increase from **11 to 18 MtCO2e** until 2030
- Total **abatement potential** in power sector is ~ **11 MtCO2e** by 2030, approx. ~**60%** of BAU emissions
  - **A cleaner generation mix** contributes 60% of sector abatement potential (~ 7 MtCO2e)
  - **Energy efficiency** amounts to 40% of sector abatement potential (~4 MtCO2e)
- Because power generation under BAU is so expensive, ~**95%** of abatement potential can be captured at cost savings (~ -110 USD abatement / ton): **net gains** amount to ~**BUSD 1.2 per year** by 2030

Prioritized Levers (share of potential)	**Proposed measures**	**Success factors**
Energy efficiency (~40%)	▪ Energy efficiency can reduce needed power generation by ~18%, mainly through efficiency standards for new buildings, electronics, appliances, by changing light bulbs, and efficiency in industry	▪ Convince public of net savings ▪ Ensure access to (cheap) capital ▪ Craft and enforce clear policy
Renewables (~45%)	▪ Renewables potential is preliminary but significant and could provide up to ~40% of power generation by 2030 if the DR doubled hydro capacity to 1.1 GW, built 20 wind parks of 50MW each, and built 300MW of biomass and 800MW of solar capacity	▪ Attractive policy and incentive structure for (foreign) investors ▪ Grid improvements to integrate intermittent sources
Replace off-grid generation by gas (~5%)	▪ Reducing off-grid generation from 24% to 5% of power generation and replacing it with 200 MW of new gas plants by 2030 would save an annual MUSD 40 and 0.4 MtCO2e in annual emissions	▪ Sufficient peak capacity to guarantee reliability ▪ Auto-generators planning with grid operators about joining ▪ Sufficient infrastructure in place
Retire fuel-oil capacity early & replace by gas (~10%)	▪ Retiring all 1.4 GW of fuel oil plants that would remain in 2030 under BAU and replacing them with new gas plants would save ~MUSD 210 and ~1 MtCO2e per year	▪ Revisit contractual obligations where possible ▪ Give attractive incentives for early retirement

The transport sector has the potential to reduce the country's oil imports, thus significantly improving the DR's current account balance

Transport sector narrative

Transport

- Under **BAU**, the DR's **vehicle fleet will increase from 1.9 to 3.5 million** vehicles in 2030 (from ~100 to ~160 cars per 1000 inhabitants), resulting in **increased fuel consumption** (from 2.4 to 4.4 billion liters) and **emissions** (~8 to ~11 MtCO2e)
- Total **abatement potential is ~6 MtCO2e** amounting to **~50% of 2030 BAU** emissions and is driven by
  - Increased efficiency standards across all vehicle categories
  - Shift of high-emitting gasoline/diesel vehicles to CNG
  - Substitution of traditional gasoline/diesel by biofuels
  - Shift of urban traffic in Santo Domingo to public transport
- Given the **low fuel efficiency** of today's BAU car fleet and **attractive biofuel potential** in the DR, **~80%** of abatement potential can be captured at cost savings (Ø -60 USD abatement / ton): **net gains** in the sector amount to **~MUSD 360 per year**

Prioritized Levers (share of potential)	**Proposed measures**	**Success factors**
Efficiency standards (~20%)	▪ Efficiency standards on imported cars through regulation / taxation could reduce consumption of gasoline by ~150mn liters (3%) and diesel by ~250 mn liters (5%) p.a. by 2030, saving USD ~270 mn p.a.	▪ Effective policy of regulation and tax incentives ▪ Reliable enforcement at customs
Shift to CNG (~20%)	▪ Achieve a 25% share of vehicles using CNG by 2030 (~1.1 MtCO2e), while eliminating the share of vehicles that currently use LPG	▪ Secure sufficient supply of CNG and build distribution infrastructure
Biofuels (~50%)	▪ Aspirational scenario of domestic production (E20 + B15) plus imports of E50 + B68 by 2030 yields a ~2.8 MtCO2e abatement potential ▪ In a purely domestic base case, the DR achieves E20 fuel blend by producing ~340 million liters of ethanol from sugarcane p.a. by 2030 ▪ Local B15 biodiesel production can provide 15% of diesel needs by 2030 through jatropha plantations on 200 kha of marginal lands	▪ Opportunity to import Biofuels at competitive rates and volumes ▪ Attractive incentives FDI ▪ Sugarcane yield growth ▪ Successful introduction of jatropha cultivation
Public transportation (~10%)	▪ Shift ~700,000 passengers per day traveling in public cars and buses to 5 new metro lines, displacing ~2,000 old, inefficient vehicles and saving ~50 million liters of fuel per year ▪ Build 9 BRTs lines, transporting 1.3 million passengers per day, substituting older bus fleet and saving ~150 million liters of fuel per year	▪ Smart financing of required capex of **~2.4 BUSD** (~80% is for the metro and ~20% is for the BRTs)

The forestry sector can attract tangible international funding to the DR and create sustainable employment trough active abatement

Forestry sector narrative

Forestry

- Acknowledging the high **uncertainty** given the lack of reliable/consistent land use data, **BAU** 2030 emissions from the forestry sector could account for **~4 MtCO2e from deforestation**, while carbon **sequestration** from A/R could account for **~3 MtCO2e**
- The forestry sector **could abate** up to **~7 MtCO2e** by 2030 (14% of BAU), almost equally driven by reduced deforestation / forest fire prevention and increased af-/reforestation efforts
- Implementation will have **significant economic impact** on the DR in terms international capital flows (REDD+ and CDM funding of ~ MUSD 35) and increased employment (~ 15.000 additional jobs)

Prioritized Levers (share of potential)	**Proposed measures**	**Success factors**
Reduced deforestation (~30%)	▪ ~2,500 ha/yr illegal charcoal logging reduced by 100% through community support programs[1] and enforcement ▪ ~800 ha/yr of clearing for agriculture reduced by 100% through extension program and enforcement ▪ ~1,300 ha/yr of deforestation reduced by 50% through structured urban planning / zoning program ▪ ~1,300 illegal clearing for infrastructure reduced by 50% through enforcement	▪ Capabilities to reach a fragmented rural population ▪ Trained staff of agronomists to implement program ▪ Increase size and capabilities of enforcement
Forest fire prevention (~20%)	▪ ~4,500 ha/yr affected by forest fires brought down by 90% through enforcement and fire prevention / response program	▪ Build fire detection capabilities and increase enforcement size
Afforestation & Reforestation (~50%)	▪ Increase A/R efforts by a factor of 4, from 6.3 kha in 2010 to ~25 kha/yr in 2030 to a- / reforest an additional 180 kha over the next 20 years ▪ Implies a 9% growth p.a in the A/R rate	▪ Improve clarity on land ownership and titling ▪ Educate land owners on associated benefits

(1) Agro-forestry, productivity, land ordering and forest management programs

Selected easy-to-implement levers in the waste, cement, and tourism industries could yield an additional ~10% of abatement potential

Quick wins narrative

Quick-wins

- Under BAU, **waste, cement, and tourism** will account for **~9.5 MtCO2e** of annual emissions in 2030
- While these sectors are not key sectors, they present a few **outstanding abatement opportunities**
- Technical abatement potential in the waste and cement sectors is an annual **~6 MtCO2e** by 2030, of which ~5 MtCO2e can be captured by only 5 measures that are relatively easy to implement
- Implementing these quick wins yields a net benefit: Average abatement cost is a saving of USD 25 per ton, generating in sum **cost savings of an annual USD 110 million by 2030** for the DR
- In addition, the **tourism sector can be a catalyst for implementation** of strategies for emissions reduction in the power, transport, and waste sectors

Prioritized Levers (share of potential)	Proposed measures	Success factors
Waste (~80%)	▪ Recycling 50% of valuable waste can save ~1 Mt and USD 9 million p.a. ▪ Equipping 30% of landfills to capture methane for cooking or power generation would save 1 MtCO2e and USD 5 million per year by 2030 ▪ Using half of all organic waste for power generation using anaerobic digestion would reduce annual emissions by ~1.3 MtCO2e	▪ Recycling system implemented ▪ Create demand for methane ▪ Attract investment for retrofitting ▪ Investment facilitation
Cement (~20%)	▪ Cement production is currently powered to 90% by fossil fuels. Increasing the share of bio- and fossil waste from 10% now to 50% by 2030 would save ~0.4 MtCO2e and USD 35mn per year ▪ Reducing the ingredient share of clinker in cement from 95% to 77% by 2030 would reduce emissions by 0.8 MtCO2e and save another USD 75mn per year	▪ Support and assistance for sector's ongoing initiatives ▪ Profitable supply chain for biowaste and fossil waste ▪ Achieve agreement between cement and coal industry for provision of fly ash
Tourism (N/A)	▪ The tourism sector is currently responsible for ~1 MtCO2e of annual emissions from power, transport and waste, but is poised to change ▪ A Sustainable Tourism Strategy would be an exemplary catalyst ▪ Tourism also is a key opportunity to promote and capitalize on the CCDP by promoting the DR as a green, high-value destination	▪ Get buy-in from tourism association and large hotels ▪ Joint decision of major stakeholders to promote the DR as a sustainable destination

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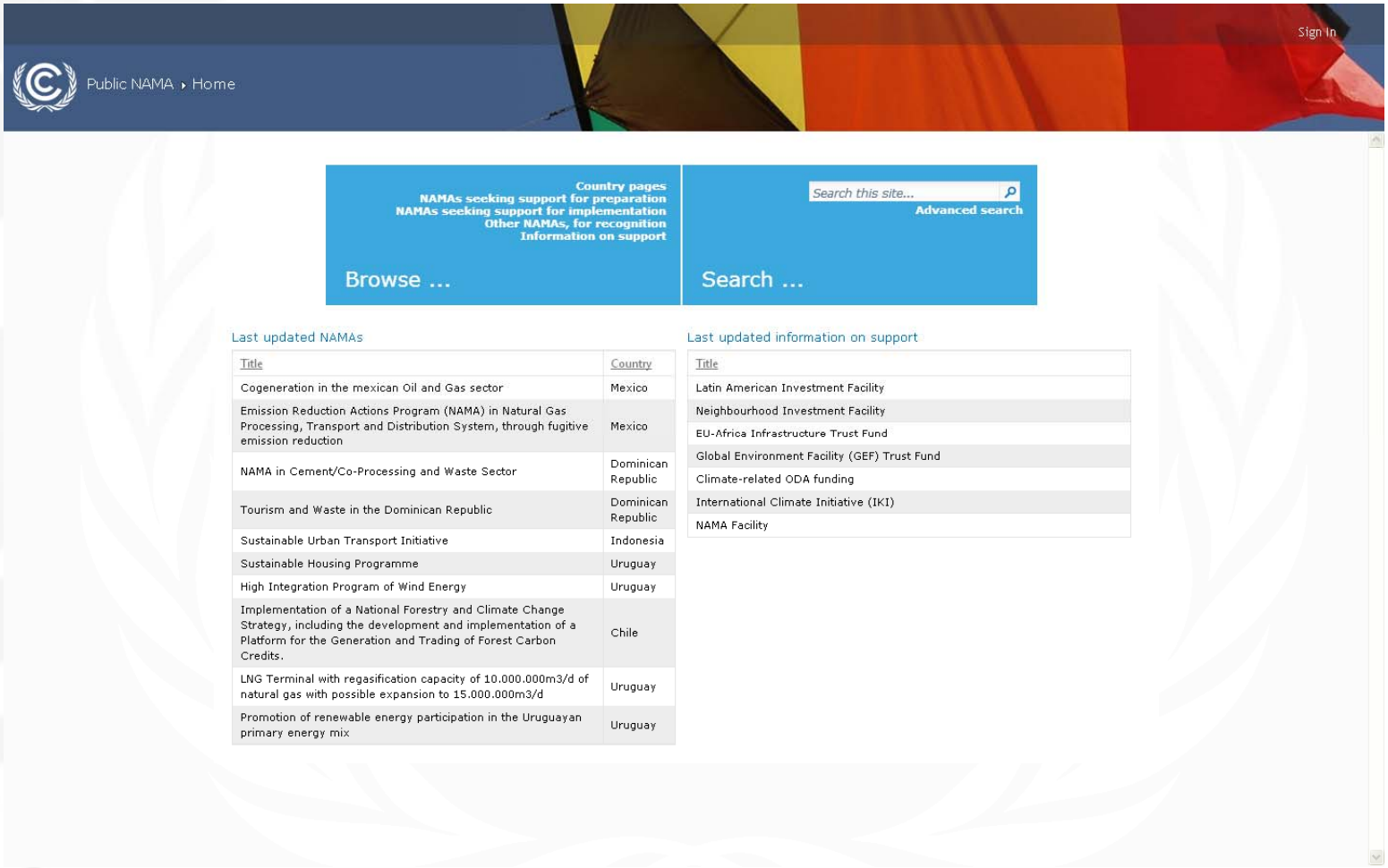
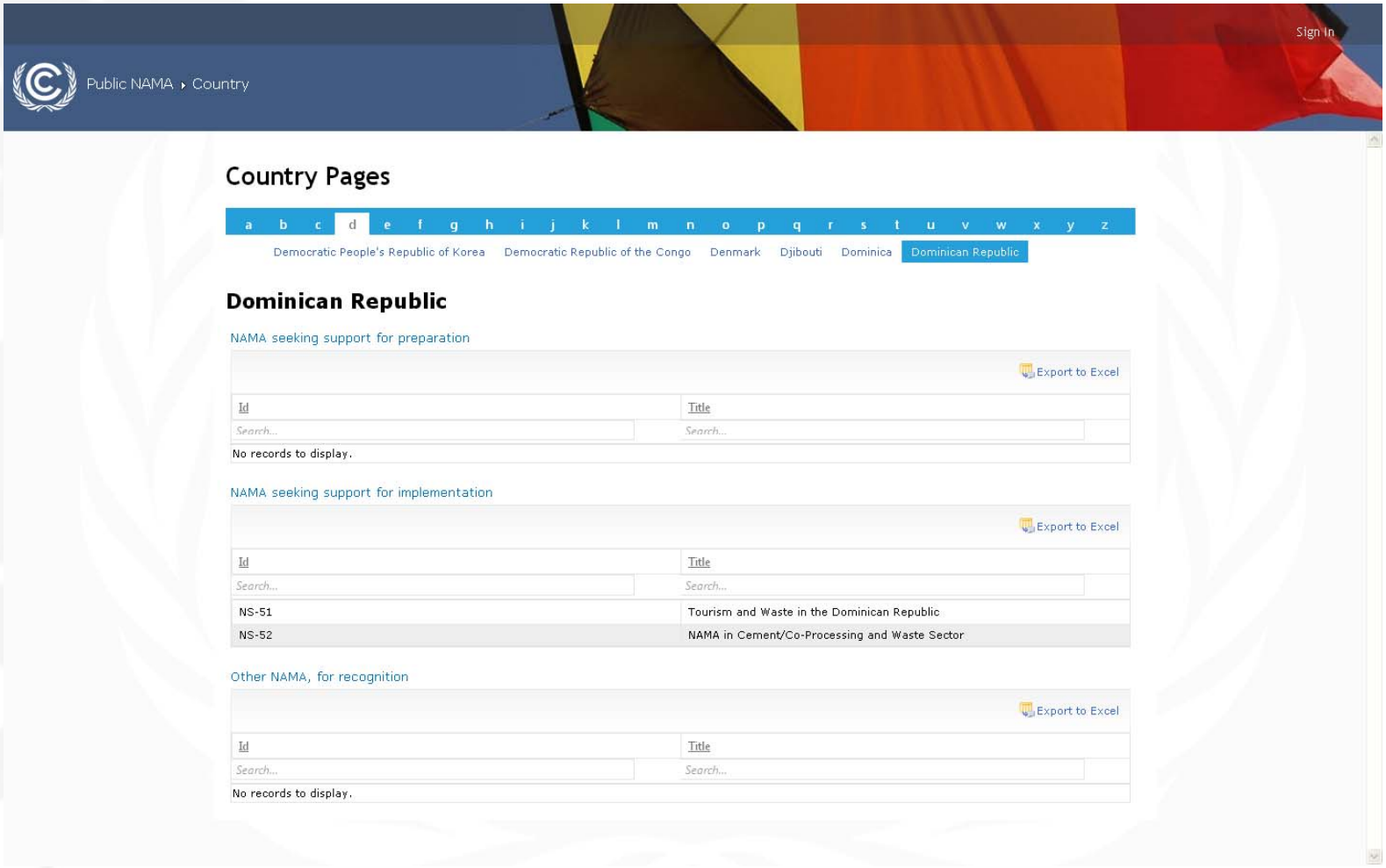


Last updated NAMAs

Title	Country
Cogeneration in the mexican Oil and Gas sector	Mexico
Emission Reduction Actions Program (NAMA) in Natural Gas Processing, Transport and Distribution System, through fugitive emission reduction	Mexico
NAMA in Cement/Co-Processing and Waste Sector	Dominican Republic
Tourism and Waste in the Dominican Republic	Dominican Republic
Sustainable Urban Transport Initiative	Indonesia
Sustainable Housing Programme	Uruguay
High Integration Program of Wind Energy	Uruguay
Implementation of a National Forestry and Climate Change Strategy, including the development and implementation of a Platform for the Generation and Trading of Forest Carbon Credits.	Chile
LNG Terminal with regasification capacity of 10.000.000m3/d of natural gas with possible expansion to 15.000.000m3/d	Uruguay
Promotion of renewable energy participation in the Uruguayan primary energy mix	Uruguay

Last updated information on support

Title
Latin American Investment Facility
Neighbourhood Investment Facility
EU-Africa Infrastructure Trust Fund
Global Environment Facility (GEF) Trust Fund
Climate-related ODA funding
International Climate Initiative (IKI)
NAMA Facility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Tourism and Waste in the Dominican Republic
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NAMA in Cement/Co-Processing and Waste Sector
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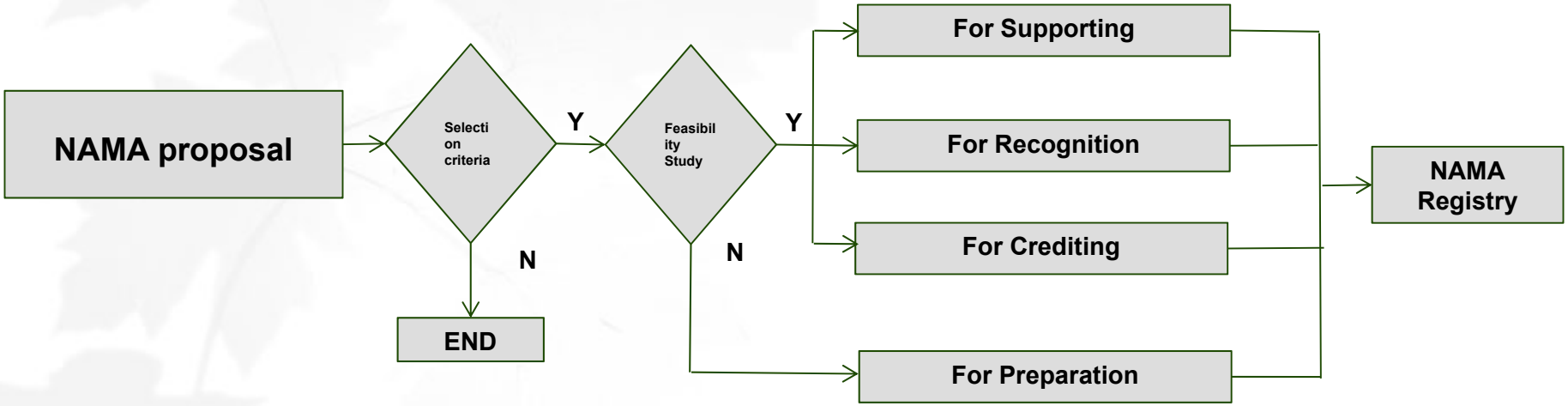
NAMA Registry



NAMAs

- **NAMA in tourism (CCAP) (In NAMA Register)**
- **NAMA in cement and waste (GIZ, BMU) (In NAMA Register)**
- **NAMA in EE in governmental buildings (CNE, CNCCMDL & MEPYD)**
- **NAMA in transport (CNG fuel switching)**

For the good of our world, our region, and our country

Thank you!