

Presidencia de la República Dominicana Consejo Nacional para el Cambio Climático

y el Mecanismo de Desarrollo Limpio

Summer School 2013

of the

International Partnership on Mitigation and MRV "Tracking Progress and MRV for Greenhouse Gas Emission Reductions"

Hanoi, August 20th to 28th, 2013

Way forward at the national level – getting institutional support and political buy-in in setting ambitions. What makes ambitions achievable?

The Dominican Republic Case Study

Moises Alvarez
Technical Director











Outline

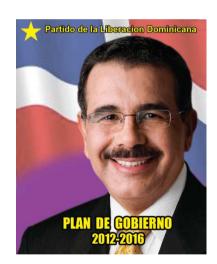
- INSTITUTIONAL
- LEDS
- CDM
- NAMA



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



National Council for Climate Change And Clean Development Mechanism

Administrative Structure:





Council Members

- •Ministry of Environment and Natural Resources
- •Ministry of Economy, Planning and Development
- •Ministry of Agriculture
- •Ministry of Foreign Affairs
- •Ministry of Treasury
- •Ministry of Industry and Commerce
- •Ministry of Public Health and Social Affairs
- Governor of Central Bank of the Dominican Republic
- National Commission of Energy
- Superintendent of Electricity
- Executive Vice-president of Dominican Corporation of State Electric Companies



Presidencia de la República Dominicana

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

NATIONAL COUNCIL FOR CLIMATE CHANGE AND CLEAN **Functional Structure** DEVELOPMENT MECHANISM FUNCTIONAL STRUCTURE NATIONAL COUNCIL FOR CC AND CDM (NCCC and CDM) NATIONAL Achieve ACCOUNT OF Council'decisions CARBON (NAC) Management EXECUTIVE ADMINISTRATIVE NATIONAL VICE PRESIDENT DIRECTORATE OZONE UNIT (EVP) (NOV) NATIONAL OFFICE NATIONAL OFFICE Coordinates OF CC actions, plans and FOR CDM (NOCC) policies (NOCDM) Supporting the EVP Implement projects and to meet SEMARENA PUBLIC SECTOR AND PRIVATE SECTOR under the UNPCCC and commitments the Kyoto Protocol UN CCC ENERGY SOLID WASTE AGRICULTURE INDUSTRY TRANSPORTATION FOREST TOURISM

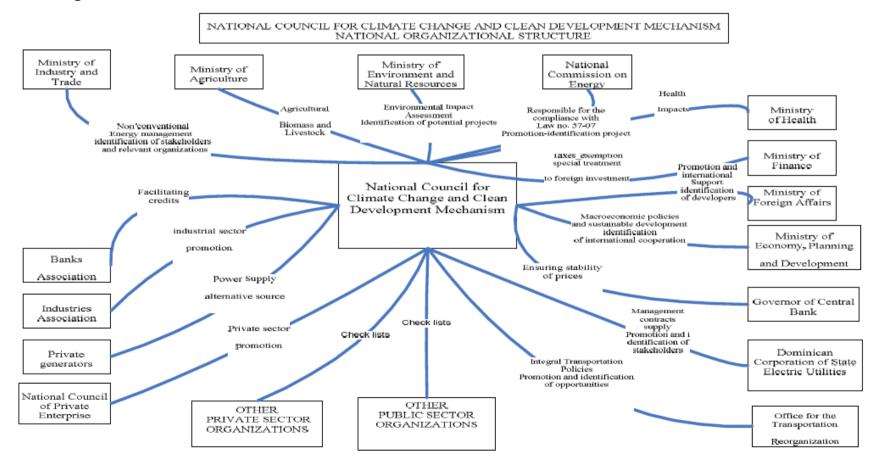
Roles of CNCCMDL and Public/Private Sectors



Presidencia de la República Dominicana

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

National Organizational Structure:





 Supervision and evaluation of the activities executed under the National Offices for Climate Change (NOCC) and Clean Development Mechanism (NOCDM)

Formulation, design and execution of public policies for mitigation and adaptation to Climate Change;

Develop and approval of the Project's investment strategies under the CDM;

Development of scientific and technical capacities for the formulation of CDM projects in the government and the private sector;

Promotion the development of mitigation projects of climate change that may generate Certified Emission Reductions (CERs), under the requirements of international agreements; and

Establish the inter-institutional coordination needed to assure the implementation of projects that will stabilize the emissions of GHG's.



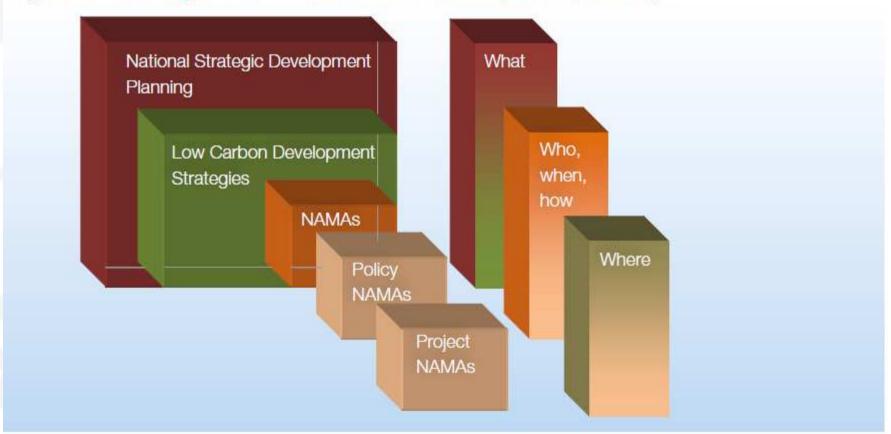
At the UNFCCC, the Council is the **National Focal Point (NFP)** for CC. The Council is also the **Designated National Authority (DNA)** for the CDM in the Dominican Republic (and the NAMA NFP).

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.



Figure 1: Relating LCDS and NAMAs to development planning





Dominican Republic included in the Constitution the adaptation to climate change as a key element of the policy of land use (territorial order) and environment of the nation (Art. 194)

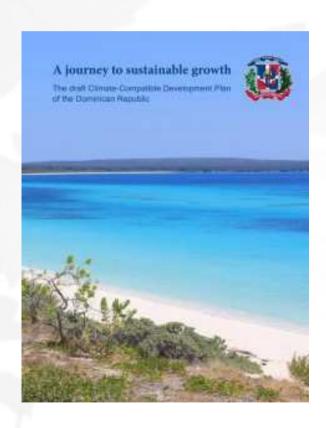


Climate-compatible development plan (CCDP) for the Dominican Republic





Climate-Compatible Development Plan – Phase I & II





National Launch September 15th , 2011, National Palace

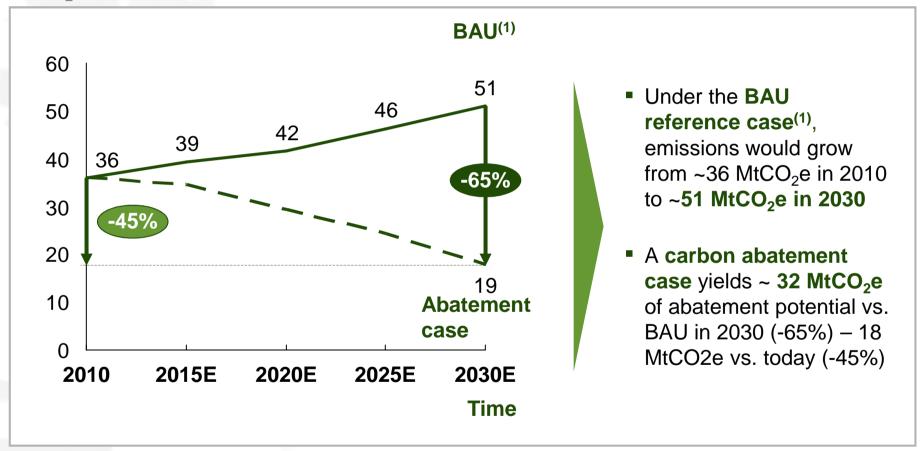


International Launch COP17 – Durban, South Africa

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

GHG emissions

MtCO₂e



^{(1) &}quot;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)



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International Partnership on Mitigation and MRV

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The Dominican Republic Commits to a 25% Reduction in Greenhouse Gas Emissions by 2030



The Dominican Republic will cut its greenhouse gas (GHG) emissions by 25%, a target set for 2030. The commitment was announced by Omar Ramírez Tejada, Executive Vice-President of the CNCCMDL (Dominican Republic's National Council for Climate Change and Clean Development Mechanism), during his address to the United Nations Climate Change Conference (COP 18) in the city of Doha, Qatar.

Mr Ramírez Tejada, who headed the Dominican delegation to the conference, explained that Law No. 1-12, which covers the country's National Development Strategy, establishes a binding commitment to achieve

an absolute reduction in GHG emissions in the Dominican Republic compared to 2010 levels.

Recommended readings

ALL

LEDS

NAMA

MRV

OECD (2012): Tracking Climate Finance: What and How?

UNEP RISOE (2012): Measuring Reporting Verifying: A Primer on MRV for Nationally Appropriate Mitigation

CPI (2012): The Landscape of Climate Finance 2012

OECD (2010): Low-Emission Development Strategies (LEDS): Technical, Institutional and Policy Lessons



2030 National Development Strategy

Artículo 28. Indicadores y Metas.- Los Indicadores y Metas correspondientes al Cuarto Eje Estratégico son los siguientes:

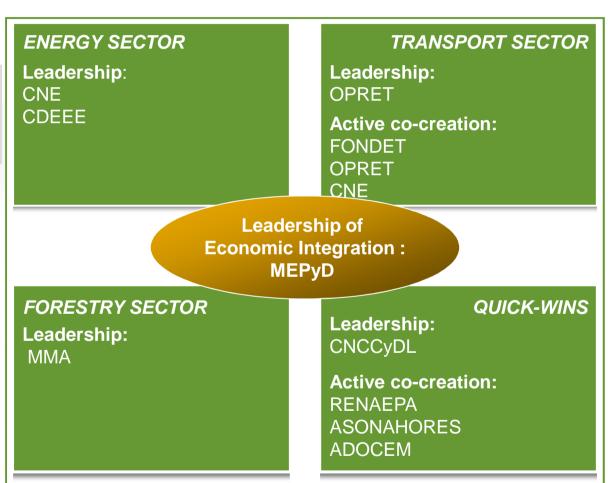
The Law No.01-12 of the 2030 National Development Strategy of the country, provides indicators to reduce emissions and adapt to climate change.

Indicadores	Unidad / Escala de medición	Línea Base		METAS QUINQUENALES			
		Año	Valor	2015	2020	2025	2030
4.1 Emisiones de dióxido de carbono	Toneladas métricas per cápita	2010	3.6	3.4	3.2	3.0	2.8
4.2 Áreas protegidas nacionales	Porcentaje del área territorial total	2009	24.4	24.4	24.4	24.4	24.4
4.3 Tasa de deforestación anual promedio	Porcentaje del área forestal total (Valores negativos indican aumentos en el área forestal total)	2005	0.1	-0.1	-0.2	-0.2	-0.2
4.4 Eficiencia en el uso de agua en sistemas y redes de distribución de agua y su aplicación final en sistema de riego.	Porcentaje del agua distribuida que fue aprovechada	2010	28.0	36.5	45.0	45.0	45.0

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

10 Core elements of sectoral action plans

- 1) Formulate CCDP aspiration
- 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
- Identify required policies and policy changes
- Indentify required financing and financing options
- 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



- 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

	at cost savings (** 110 00B abatement / ton). Het gams amour	11 to 2002 112 poi your by 2000
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

ENERGY

Stakeholder map

Multiple interactions with a wide range of stakeholders in the Energy Sector

International cooperation and Civil Society

- Close contact with international development agencies
- To involve all relevant NGOs

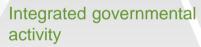












- Technical Work Group with regular meetings
- Monthly meetings of the National Climate Change Council

Stakeholder outreach

- Private sector involved in planning and legislation, Monthly Forum of Development Partners -Generators - Distributors
- Workshops on awareness regarding climate change with





















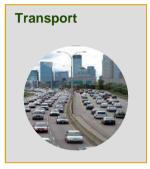






The transport sector has the potential to reduce the country's oil imports, thus significantly improving the DR's current account balance

Transport sector narrative



- 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**

	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 ta incentivesReliable 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)

TRANSPORT

Stakeholder map

Stakeholder map for the Transport Sector

Government

- OPRET
- FONDET

Institutions

- OMSA
- OTTT
- CNE
- MIC

OPRET

MOPC











Private sector

- Vehicle distributors associations
- Sugar producers
- Natural gas/CNG distributors (for example AES Dominicana)

Other government stakeholders

- Ministry of environment
- Ministry of agriculture
- Treasury Department
- DGII and DGA
- DGTT
- AMET



















Anadive





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

Forestry sector narrative



- 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)

Reduced deforestation (~30%)

Forest fire prevention $(\sim 20\%)$

Afforestation & Reforestation (~50%)

Proposed measures

- ~2,500 ha/yr illegal charcoal logging reduced by 100% through community support programs¹ 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
- ~4,500 ha/yr affected by forest fires brought down by 90% through
 - enforcement and fire prevention / response program
- 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

Success factors

- Capabilities to reach a fragmented rural population
- Trained staff of agronomists to implement program
- Increase size and capabilities of enforcement
- Build fire detection capabilities and increase enforcement size
- Improve clarity on land ownership and titling
- Educate land owners on associated benefits

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

FORESTRY SECTOR

Stakeholder map







PNUD

UNION

BANCO

EUROPEA

MUNDIAL

CATHALAC



















PNUMA SE DE







Government

- Ministry of environment
- Ministry of agriculture •
- Ministry of tourism
- National Council for Climate Change
- CNE
- **IDIAF**
- **CONIAF**
- MOPC
- CODIA
- **UAFAM**

Academia

- Universities
 - **PUCMM**
 - ISA
 - **UASD**
 - INTEC
 - **UNPHU**
 - **CATIE**

National NGOs

- Consorcio
 - Ambiental Dominicano
- CEDAF
- Cámara
- Forestal
- ANPROFOR
- IDARD
- ASODEFOS
- SODIAF

International organizations

USAID

FAO

BID

GIZ

TNC

JICA

AFD

AECID

- Sur Futuro Plan Sierra
 - Fund.
 - Progressio













































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

Quick wins narrative



- 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

SOLID WASTE

A successful implementation requires close cooperation between a wi range of stakeholders

Key actors of the **Solid waste Sector**

Close cooperation with the municipalities

- Reach all of the municipalities, closely cooperate with the largest ones
- Consult with provincial governments

















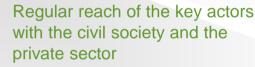








- Monthly meetings of the National Council for Climate Change
- Regular meetings of the **Technical Work Group**



- Regular meetings of the **Technical Work Group**
- Workshops with the private sector on business opportunities
- Close contact with international development agencies in order to attract support





AES Dominicana























edenorte









PNUMA

















CEMENT

A successful implementation requires close cooperation between the cemsector, the national, local and municipal governments, and the industry players

Key actors of the cement sector

International development agencies

 Close contact with international development agencies in order to attract support in the process of making the cement sector more sustainable













Integrated action from the government

- Cooperation in the regulation reform, assistance in the establishment of a supply chain and delivery guarantees
- Regular meetings of the Technical work group





Achieve win-win among the industry partners

- Cement industry working with the coal plant operators and other industry partners that produce clinker alternatives
- Technical Work Group meetings

















TOURISM

A successful implementation requires close cooperation between the private sector, national government and international partners



Key Actors in the Tourism Sector

International Development Agencies

 Close contact with international development agencies to attract support in the process of turning the tourism sector more sustainable and promoting the development of ecotourism













Comprehensive government actions

- Monthly meetings of the National Council for Climate Change
- Periodical meetings with the technical work groups



- Focus point in ASONAHORES
- Close cooperation and joint planning of the tourism sector with waste dumpster operators, electricity generators and distribution companies
- Periodical meetings with technical work groups, involving government representatives
- Work with touristic operators to communicate the sustainable tourism and ecotourism strategy of the DR







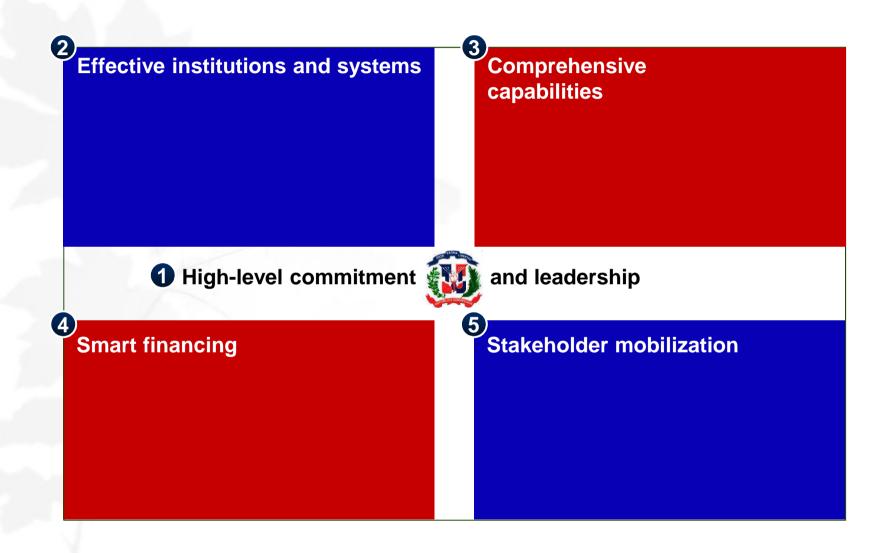








The DR needs to have 5 central success factors in place to achieve a high-impact, transformative CCDP







Total projec	ts found: 13					
Registered	Title	Host Parties	Other Parties	Methodology *	Reductions	Re
20 Oct 06	El Guanillo wind farm in Dominican republic	Dominican Republic	Spain	ACM0002 ver. 6	123916	01
09 Apr 10	Bionersis project on La Duquesa landfill, Dominican Republic	Dominican Republic	United Kingdom of Great Britain and Northern Ireland France	AMS-I.D. ver. 13 ACM0001 ver. 9	359810	25
28 Nov 11	Matafongo Wind Farm	Dominican Republic	France United Kingdom of Great Britain and Northern Ireland	ACM0002 ver. 12	70275	54
29 Mar 12	Quilvio Cabrera Wind Farm Project	Dominican Republic		AMS-I.D. ver. 17	10937	55
01 Jun 12	CEMEX Dominicana: Alternative fuels and biomass project at San Pedro Cement Plant	Dominican Republic	United Kingdom of Great Britain and Northern Ireland	ACM0003 ver. 7	99797	45
06 Aug 12	Textile Offshore Site Dominicana Biomass Residues Cogeneration Project (TOS-2RIOS)	Dominican Republic	France	AMS-I.C. ver. 19	35738	69
27 Aug 12	Los Cocos Wind Farm Project	Dominican Republic		ACM0002 ver. 12	54183	70
14 Sep 12	Steam Generation Using Biomass	Dominican Republic	France	AMS-I.C. ver. 19	48050	72
12 Oct 12	Palomino Hydropower Project in the Province of San Juan de la Maguana in the Dominican Republic	Dominican Republic		ACM0002 ver. 12	119598	65
17 Oct 12	Solar PV Project in Dominican Republic	Dominican Republic	France	ACM0002 ver. 12	35375	77
27 Oct 12	Granadillos Wind Farm	Dominican Republic	United Kingdom of Great Britain and Northern Ireland	ACM0002 ver. 12	69657	79
03 Dec 12	30MW Solar PV - Monte Plata	Dominican Republic	Switzerland United Kingdom of Great Britain and Northern Ireland	ACM0002 ver. 13	29254	85
30 Dec 12	La Isabela- Heat & Electricity generation from biomass residues	Dominican Republic		AMS-I.C. ver.	29968	94

^{*} AM - Large scale, ACM - Consolidated Methodologies, AMS - Small scale
** Estimated emission reductions in metric tonnes of CO2 equivalent per annum (as stated by the project participants)

International CDM Programmatic





Programa de Actividades para Tratamiento de Efluentes Industriales y Agroindustriales (PoA Ometepe Biogás)







HACIA UNA INDUSTRIA Y AGROINDUSTRIA SOSTENIBLE

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NEGOTIATIONS	UNFCCC N	UNFCCC NAMA Registry: NAMAs Seeking Support for Implementation					
Meetings							
Documents & Decisions	Back to NAMA	Back to NAMA registry page					
Bodies							
FOCUS	Submitted inf	Submitted information					
Adaptation							
Finance							
Mitigation	Ref.no.	Date of submission	Party	Support for NAMAs			
Technology	1	20 November 2012	Chile	⅓ PDF (128 kB)			
PROCESS							
Essential Background	2	27 November 2012	Uruguay	🔁 PDF (232 kB)			
Kyoto Protocol							
Cooperation & Support	3	O OON In combine 2010					
Finance	3	28 November 2012	Republic of Indonesia	🔁 PDF (131 kB)			
Technology Education & Outreach							
Response Measures	4	21 December 2012	Chile	🔁 PDF (127 kB)			
Capacity-building							
Cooperation with International Organizations	5	12 January 2013	Cook Islands	₫ PDF (65 kB)			
Activities Implemented Jointly							
NAMA Registry		0 M 2012	01.3	=1			
Market and Non-Market Mechanisms	6	8 March 2013	Chile	☑ PDF (310 kB)			
Science							
Adaptation	7	22 March 2013	Dominican Republic	🔁 PDF (145 kB)			
National Reports							
GHG Data				🔁 PDF (146 kB)			
Methods							
Gender and Climate Change				Additional information			



NAMAs

- NAMA in tourism (CCAP) (In NAMA Register)
- NAMA in cement and waste (GIZ, BMU) (In NAMA Register)
- NAMAs in energy efficiency (CNE, Worldwatch)



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

