PMR PROJECT IMPLEMENTATION STATUS REPORT (ISR)

The PMR Project Implementation Status Report should be prepared by the Implementing Country or Technical Partner, with the support of the Delivery Partner and/or the PMR Secretariat. For any questions related to the preparation of the PMR Project Implementation Status Report, please contact the PMR Secretariat at: pmrsecretariat@worldbank.org.

1. SUMMARY INFORMATION

Implementing Country/Technical Partner:	Costa Rica
Reporting Period:	From 02/18/2018 to 02/18/2019
Report Date:	02/15/2019
Implementing Agency:	Directorate of Climate Change, Minister of Environment and Energy (MINAE)
Contact Person:	Andrea Meza, Director, Climate Change, MINAE (Focal Point), Silvia Charpentier / Felipe De León (PMR Coordination Unit)

Grant Executed By:	*World Bank*
Grant Effectiveness and Closing Dates:	03/07/2016 to 06/30/2020, with retroactive financing for period 10/2015 – 02/2016
Grant Amount (USD):	USD 3,000,000
Funding Mobilized (USD):	

2. OVERVIEW

Please provide a general description of the progress made towards the Grant's Objectives and Activities (as per the Project Development Objective(s) Indicator(s) and Intermediary Results Indicator(s) included in the World Bank's Project Paper's Results Framework). Please also highlight critical issues as well as pending actions that may require the PA or the PMR Secretariat's attention.

The implementation of Costa Rica´s MRP progressed satisfactorily, showing important achievements during the reporting period, as described below.

Outcome 1. **Completion of the domestic market design**

A. *Domestic Carbon Market / Costa Rican Offset Mechanism*

The diagnostic and analysis work which preceded the conceptual redesign of the Costa Rican Domestic Carbon Market (MDC), all of which was supported by the PMR, identified two substantial issues beyond the core redesign itself which had to be addressed: a) in the context of the country´s very ambitious NDC, the possibility of exporting carbon credits had to be regulated in order to comply with the country´s international commitments, and b) unless an institutionalized demand for UCC was established, the only reliable demand for the domestic carbon market is the one generated by the Carbon Neutrality Program (PPCN- see Outcome 2 below). The difference in the magnitude of the scale between these demand scenarios (only PPCN, and PPCN + institutionalized demand) required substantial adjustment to the implementation strategy. Having incorporated these issues into the design and planning, the project concentrated in transforming the MDC into an Offset Mechanism (MCCR) as depicted in Section 3A of this

~~document.~~ The design of the offset mechanism is supported by the following products concluded during the reporting period:

- Mecanismo de Compensación de Costa Rica (offset mechanism) draft decree
- Technical document on offset unit import criteria and draft regulation (adopted)
- Technical document on offset unit export criteria and draft regulation
- Documentary framework of the MCCR
- Project Cycle Procedure
- Project requirements
- Guidelines for validation and verification of projects

Final consultations with key stakeholders and final legal review of the Decree for its signature are pending while the Ministry of Environment determines the best way to meet the MCCR staffing needs under current fiscal constraints. PMR-CR resources have been set aside for FY19-20 to support capacity building once MINAE has decided on a way forward. No international peer review will be carried out for this activity.

B. Registry/tracking tool

The registry/tracking tool originally envisaged in the MRP evolved into the first version of mitigation module of the National Climate Change Metrics System (SINAMECC-M 1.0), which was developed and implemented with PMR support. SINAMECC-M was developed to facilitate compliance with the Paris Agreement's Enhanced Transparency Framework and to enable data-driven decision-making. The Decree to formalize the SINAMECC (developed with GIZ support) was published in May 2018. The system came online (www.sinamecc.go.cr) on April 1.

PMR-CR support for the continual improvement of existing modules and the development of new modules is set to begin in early 2019. Legal work to develop and formalize institutional arrangements (with support from the Initiative for Climate Action Transparency/ICAT) is ongoing. (Section 3C below)

Outcome 2. Strengthening of demand by assessing a range of policy options

A. The TIMES-CR model developed with PMR support under the PAWP was used for the development of the National Decarbonization Plan which was launched in February 2019. It is also being used as the basis for the development of an OsEMOSYS energy model (with support from the Deep Decarbonization Pathway Program – DDDP/LAC). PMR-CR support for integrated land-energy-water modelling as an input to the upcoming NDC update and Low Emission Resilient Development Strategy development is set to begin early in 2019.
B. The existing Carbon-Neutrality Program (PPCN) created to foster voluntary demand of UCCs by organizations was redesigned and launched in version 2.0 with PMR support. The decree that updates the PPCN was published in La Gaceta number 93 as Executive Decree No 41122-MINAE of May 28, 2018. Currently the program is under implementation in the development of operational processes with the support of the PMR. (Section 3B below).
C. As mandated by the National Energy Plan, the PMR supported the initial design of an emissions levy targeting both CO2 emissions and local pollutants (See section 3C below). The technical assistance was addressed towards identifying and solving key technical needs associated to the levy design, such as (1) formulas, calculation methods, and report procedures to estimate emissions from mobile and stationary sources; (2) a proposal for establishing levy rates for carbon emissions and local pollutants, and scenarios using existing information, (3) a financial management mechanism for the allocation of

revenues arising from the emissions levy, (4) an assessment of the distributional impacts and the expected health benefits of the emissions levy implementation. These products, together with an analysis of the legal basis for the emission levy, merged into a proposed technical design for the emissions levy.

Outcome 3. Consolidation of supply through the implementation of mitigation and offset activities in three sectors

A. Activities in support of UCC supply from the electrical sector

- Supply and demand side energy efficiency and conservation

MRP activities concentrated on preparing the field for the implementation of Costa Rica's long-term VII National Energy Plan 2015-2030 while contributing to Costa Rica's climate goals set out in its Nationally Determined Contribution (NDC) under the UN Paris Agreement. PMR support has facilitated the development of a technical assessment about Costa Rica´s energy efficiency background, a benchmark of energy efficiency policy options in electricity and fuels, and a workshop with stakeholders to get inputs and suggestions to the preliminary policy proposal. The long-term energy efficiency strategy and action plan were finalized and officially delivered to MINAE (Energy Planning Secretariat). The measuring, reporting, and verification (MRV) scheme for energy efficiency priority actions was also concluded with PMR support.

- Non-conventional renewable options for self-supply (distributed energy and low-enthalpy geothermal power).

The incorporation of renewable energy projects for self-consumption and interconnected to the power grid--distributed power generation-DG had been limited until recently by the power and distribution companies because of their uncertainty regarding the financial and technical impact of allowing large amounts of DG users onto their electrical networks.

PMR support focused on creating the enabling environment to guarantee optimal DG implementation and allowing end-consumers to partially or totally self-supply their electricity needs. The following results were achieved: 1) development of a common methodology as well as the necessary tools for the different power utilities to estimate maximum penetration rates of DG in the power system maintaining quality and reliability standards of power supply; 2) a standardized methodology to carry out financial impact assessments, and 3) technical capacity building in power utilities to carry out all necessary studies to implement the proposed methodology in the relevant power grids.

B. Activities in the transport and agricultural sectors for the supply of UCCs are postponed in the climate agenda until the offset mechanism is consolidated.

3. IMPLEMENTATION REPORT BY COMPONENT

Differences between the Objectives/Activities in the 2018 Implementation Status Report and the current project objectives/activities

Are there any important and material differences between the objectives/activities proposed in the second Implementation Status Report endorsed by the Partnership Assembly of the PMR and the current project objectives/activities?	No

Implementation Progress by Component

A. **Component 1:** Completion of the domestic market design	
Status:	**A. Update market conceptual framework (MDC to MCCR) COMPLETED** In 2013 Costa Rica established a Domestic Carbon Market (Mercado Doméstico de Carbono, MDC) as a source of offsets for the National Carbon Neutrality Program (Programa País para la Carbono Neutralidad). The structure and functions of the MDC were established in the Executive Decree N° 37926-MINAE and related regulations ("Reglamento de regulación y operación del mercado doméstico de carbono"). Due to structural reasons, the MDC never became fully operational. The Government requested PMR support in 2017 to launch a diagnostic and redesign process. The diagnostic sought to determine "the suitability of the current National Carbon Neutrality Program (PPCN) and the Domestic Carbon Market (DCM) and propose the reforms required to these policy instruments". The report issued initial recommendations and proposed a reform program that served as the basis for the redesign process implemented during the reporting period. The design of the MCCR resolves the structural issues that had impeded the full implementation of the MDC and it incorporates lessons learnt from the MDC in terms of simplifying and streamlining both the governance scheme and the project cycle. In order to "right-size" the MCCR to the evolving context (particularly the emissions levy discussed below) the MCCR was designed with scalability in mind, with a 2-phase implementation approach. The first phase (MCCR 1.0) establishes a governance and process structure that is lean enough to operate at a very small scale but can be easily reinforced to meet growing demand; it focuses on providing an efficient framework from which to supply national offset units to a recently re-vamped PPCN. The second phase (MCCR 2.0), is designed as a complementary policy to the emissions levy, channeling a portion of the revenue from the levy through a reverse-auction mechanism to "transformational" mitigation actions in key sectors. **MCCR 1.0** **Changes** Strategic: • Activation of other sectors offering UCCs • Clarification on the sale and purchase of credits at the international level under the Paris Agreement Institutional: • Assigning roles to different institutions Methodological: • Simplification of methodological procedures **MCCR 2.0** **Changes** Strategic: • Link with the NDC and the Paris Agreement (transformational approach) • Strategic approach in key sectors Institutional: • Link with structural source of demand (*canon de emisiones*) Methodological: • Development of new methodologies (or a "meta-methodology" for the definition and reward of transformational characteristics)

Although the technical inputs for the transition from the MDC to the Costa Rican Offset Mechanism (MDC al Mecanismo de Compensación de Costa Rica, MCCR) have been finalized, the official adoption is being discussed with the current (new) authorities.

B. Governance and institutional arrangements **FOLLOW-UP/ADDITIONAL WORK ONGOING**

The PMR-CR will continue to support the Climate Change Directorate in transforming the MDC into the MCCR once the Ministry of Environment once the MCCR Decree has been signed and the required staff is officially assigned to the task. PMR-CR resources have been set aside for FY19-20 to support capacity building once MINAE has decided on a way forward.

C. Registry/tracking tool established **FOLLOW-UP/ADDITIONAL WORK ONGOING**

SINAMECC-M 1.0 is part of the National Environmental Information System (Sistema Nacional de Información Ambiental), operated by the National Center for Geo-Environmental Information (Centro Nacional de Información Geo-Ambiental, CENIGA). The SINAMECC Committee is made up of DCC, CENIGA, the National Meteorological Institute (Instituto Meteorólogico Nacional, IMN) and the National Statistics and Census Institute (Instituto Nacional de Estadística y Censo, INEC). The system includes a proof-of-concept (POC) MCCR Registry to test registry rules before developing a permanent platform using distributed ledger technology. It also includes modules for the National GHG Inventory, the Biennial Update Report, a mitigation action database, the online platform for the National Carbon Neutrality Program and a range of visualization tools.

Further activities during 2019 will build on the codebase for SINAMECC-M 1.0 to develop SINAMECC-M 2.0 working in two tracks, with the first one developing new modules including form management, content consistency management, business process management and advanced role management, while the second track continues support for SINAMECC-M 1.0 deployment and works on continuous improvement and advanced feature development for the existing modules. Although the tracks are independent in terms of their activities and planning, they must remain closely coordinated to ensure an integrated product.

D) MRV protocols and methodologies designed **COMPLETED**

Core MRV&R logic and initial rules for the development of indicators were documented through collaboration with the GIZ Accounting Rules project as inputs for the development of SINAMECC-M. A sectoral metrics scheme for the Agriculture, Forestry and Other Land Uses sector was developed and implemented through the collaboration with the NDC Support Program while a similar scheme and dashboard for the transport sector is being developed with support from the Initiative for Climate Action Transparency program. Rather than developing a small number of "seed" methodologies for the generation of UCCs, support under the PMR-CR was redirected towards developing a "Procedure for the development, revision and clarification of methodologies or methodological tools" which facilitate the development and evaluation of all future methodologies under the MCCR.

E) Facilitating and coordinating engagement with stakeholders **FOLLOW-UP/ADDITIONAL WORK ONGOING**

Stakeholder engagement was carried out throughout the process at several levels, including:

	• Continuous bilateral communication with the DCC, which is also the PMR Focal Point • Periodical communication with the Minister of Environment • Support for the SINAMECC Committee • Datathon organized with the University of Costa Rica to begin developing a community of practice around SINAMECC • Deep technical-validation sessions with local experts and representatives from OVVs • A capacity development plan to ensure the required competencies are in place and to facilitate engagement will be developed for subsequent implementation (FY19-20).
Comments:	
B. **Component 2: Strengthening of demand by assessing a range of policy options**	
Status:	**A) NDCs scope and impact** **FOLLOW-UP/ADDITIONAL WORK ONGOING** The PMR-CR team is directly embedded within the DCC and provides continuous technical support to the DCC and other MINAE officials. This support includes the participation in international climate negotiations (Transparency, Article 6 and Climate Finance) and related events as well as the coordination with other international cooperation initiatives involved in areas in which the PMR-CR project is also active. Recognizing the importance of solid projections for the sort of long term planning necessary for future NDCs, Costa Rica, through the support of the PMR-PAWP, developed a national implementation of TIMES modeling platform and a national Analysis Team (AT) to take over maintenance, expansion and stewardship of the TIMES-CR model. In addition, two primary policy options have been identified as key demand drivers: updated PPCN (which may grow into a substantial demand driver in the future) and potentially, the emissions levy as a generator of institutional demand. **B) Voluntary Demand by organizations from the Carbon-Neutrality Program (PPCN)** **FOLLOW-UP/ADDITIONAL WORK ONGOING** In the context of complying with the country's NDC and the Paris Climate Agreement, the Government of Costa Rica assessed the suitability of the existing PPCN with PMR support. Such assessment revealed the need to reform this policy instrument to make it effective to achieve the country´s mitigation objectives and seeking to carry out a simplification process to make it more accessible to more types of organizations. The redesign process began with the conceptual design of the new PPCN, which was validated by program stakeholders (the national accreditation body, ECA and accredited validation/verification organizations, OVVs and other organizations). The PMR-CR team led this process, which was later completed with international technical assistance. In close coordination with the DCC, the PMR prepared technical inputs for decree to update the PPCN's legal framework, including an additional decree for the new brand system. Both decrees are now officialized and operational by the following register:

- Officialization of the 2.0 Carbon Neutrality Country Program. Published in La Gaceta No. 93 as Executive Decree N° 41122-MINAE of Monday, May 28, 2018.
- Regulation for the use of the Symbols of the 2.0 Carbon Neutrality Country Program. Published in La Gaceta number 174 as Executive Decree N° 41122-MINAE of Friday September 21, 2018.

The PPCN 2.0 was launched on Sept 28, 2017 with PMR support in an event led by the Minister of MINAE and with an audience of 300 participants. The implementation of the new PPCN 2.0 began in January 2018. Start-up activities and the operation of the new program was supported by the PMR-CR team through 2018. Activities included technical assistance and the development of all operational processes that were needed for the correct functioning of the PPCN 2.0.

Following is the list of completed products developed through March 2019.

- Programa País de Carbono Neutralidad 2.0 program document and decree
- Design of a new a brand system for the recognition of organizations that participate in the PPCN and legal inputs for decree
- Registers and existing database of the PPCN updated
- The PPCN new brand and logos
- A program participation guide for organizations
- A program participation manual for organizations
- A new database for the registration of PPCN data to be implemented on the SINAMECC platform
- GHG emissions calculation tool for organizations.

In addition, the PMR contributed to the expansion of the PPCN to the municipal level by providing technical and logistical support for the review and edition of the following documents:

- Municipal Country Program
- MRV Methodology - Municipal Country Program
- Implementation Guide Municipal Country Program
- Mitigation Actions Portfolio for Local Governments – waste
- Mitigation Actions Portfolio for Local Governments - sustainable mobility
- Mitigation Actions Portfolio for Local Governments - electric mobility

The PMR supported training-for-trainers activities for ECA --the accreditation entity- and verification and validation professionals. The objective is to train qualified professionals to disseminate, explain and provide technical assistance to participating organizations, new potential participants, local governments, and more general audiences.

C) Emissions levy design **FOLLOW-UP/ADDITIONAL WORK ONGOING**

The VII National Energy Plan (2015-2030) mandates the formulation of an emissions levy as a policy instrument to promote GHG reductions through carbon price signals. Once the Government of Costa Rica clarified the legal background to create the levy, the PMR supported the Government in developing the needed technical inputs to complete the instrument design, based on current Costa Rica´s data availability and gaps.

	The proposed levy approach for mobile sources is based on three factors: (a) estimated emissions of carbon and local pollutants, in grams per kilometer; (b) estimated social cost of CO2 and local pollutants, in $ per gram and (c) measured vehicle kilometers traveled. The U.S. EPA Motor Vehicle Emissions Simulator (MOVES) model is used to estimate emission factors for CO_2 and local pollutants per kilometer. The model is used to generate emissions factors (CO_2, NOx, SO_2, hydrocarbons (HC), and particulate matter (PM) for 25 vehicle categories, each further delineated into 31 model years. The estimates of the social cost of carbon and local pollutants was estimated as part of the consultancy and constitutes a basic inputs that needs to be complemented by a political decision on how much of those costs needs to be charged to the polluters. The amount of kilometers travel per vehicle is obtained annually during the mandatory technical vehicles inspection. For stationary sources the starting point is slightly different from mobile sources. Stationary sources annually monitor and report several important operating parameters (daily fuel usage rate, local pollutant (SOx, NOx, and PM) emissions concentrations (mg/Nm3), and exhaust flow rates (m3/min) to the Ministry of Health. These factors can be combined to estimate emissions rates per time period of operation. Therefore, the emissions rates for calculating the stationary source emissions levy are based on self-reported fuel use, exhaust flow rates and pollutant concentrations, consistent with the current legal reporting framework. Still, the implementation of an emission levy for stationary sources will require the implementation of improved protocols for MRV by the Ministry of Health. Key deliverables include: **A. Levy rates for carbon emissions and local pollutants and levy modeling**: The model was designed to explore levy impacts on mobile and stationary sources, based on existing data. The main model outputs are: a) projections of emissions and revenues from alternative levy designs and, b) responsiveness of the sectors to the emissions levy revenues investments. Results include 3 potential levy sizes (based on how much of the social cost of CO2 and local pollutants will be charged on polluters) and 3 investment scenarios. The recommendation is that the levy be phased-in gradually to allow consumers and businesses time to adjust and to minimize shocks to the economy. **B. Co-benefits and distributional impact analysis of the emissions levy**: the co-benefit analysis focuses on assessing the number of avoided premature mortality caused by local air pollutants. Finally, the reports included a first analysis of the potential distributional impact of the emission levy under the current design. **C. Financial management mechanism for revenues arising from the emissions levy:** The proposal sets out the legal requirements for the management of public funds in Costa Rica. It discusses the core objectives, the eligibility and evaluation criteria that provide the practical framework for guiding funding decisions in line with the objective and scope, and other relevant components to design the final levy funds management mechanism. **D. Integrated emissions levy design:** This report includes the key sectorial scope, rates and trajectories, measurement and reporting instruments, financial management mechanisms and governance and institutional arrangements, as well as a framework for evaluation and review of the policy instrument.

	A final workshop was delivered in January 2019 for building local capacity on the use of models to estimate rates, pollutants and impacts of the emissions levy. Manuals were translated to Spanish to ensure that the knowledge developed remains widely available and accessible in the future. In parallel, a technical overview on the readiness status of the emissions levy for mobile and stationary sources for implementation purposes was carried out. The report yielded useful recommendations to bring policy-makers closer to the adoption of the levy. A fiscal coherence report is still pending, which will also provide the broader context for the implementation of carbon pricing in Costa Rica, especially after the country is still healing politically from an embattled fiscal reform in November 2018.
Comments:	
C. **Component 3:** Consolidation of supply through the implementation of mitigation and offset activities	
Status:	Completed **A. Activities in support of UCC supply from the electrical sector** **1. Supply and demand side energy efficiency and conservation COMPLETED** The technical assistance to the Government of Costa Rica provided advisory assistance in the assessment of climate-friendly energy efficiency policy instruments, measures and regulations, intended to prepare the field for the implementation of Costa Rica's long-term VII National Energy Plan 2015-2030 while contributing to Costa Rica's ambitious climate goals set out in its Nationally Determined Contribution (NDC) under the UN Paris Agreement. During the ISR reporting period a robust technical benchmark of energy efficiency policy options in electricity and fuels was developed, designed to achieve Costa Rica's energy and mitigation goals established in Costa Rica´s VII National Energy Plan and the Nationally Determined Contribution (NDC). A consultation workshop with relevant public and private stakeholders to acquire inputs and suggestions to the preliminary policy proposal was also carried out. The final report with the broader policy analysis was approved in January 2018. The long-term energy efficiency strategy and action plan were concluded and approved by the authorities, as was the measuring, reporting, and verification (MRV) scheme for the selected energy efficiency actions and policies. **2.Non-conventional renewable options for self-supply (distributed generation) COMPLETED** The PMR provided support to the government of Costa Rica to 1) develop a common methodology and the necessary tools for the different power utilities to estimate maximum penetration rates of DG in the power system maintaining quality and reliability standards of power supply; 2) identify a standardized methodology to carry out financial impact assessments, and 3) build technical capacity in power utilities to carry out all necessary studies following the proposed methodology in the relevant power grids . The PMR support was focused on creating the enabling environment to guarantee optimal DG implementation and allowing end-consumers to partially or totally self-supply their electricity needs. In addition, these tools strengthen the generation of data for MRV schemes

	The technical assistance also included training for the electrical engineers in charge of grid planning and operation and other utilizes professional involved in distributed generation technical analysis, such as impacts and profitability of DG projects.
Comments:	*Please describe the reason(s) for the early/timely/delayed achievement of the expected results.*

If necessary, please add components in the table above.

4. PROGRESS, CHALLENGES, AND LESSONS LEARNED

Important policy or regulatory developments related to the Grant's objectives and activities:

Developments: *Please describe important policy and regulatory developments related to carbon pricing that have occurred during the Reporting Period and/or that are expected in the future.*

After a highly contested presidential election that underwent a second round of voting on April 1, 2018, the new Administration took office on May 2018. Although the party in power remained the same, the authorities at the Ministry of Environment and Energy changed (Minister and Deputy Minister for Energy). The end of the cycle for the previous Government meant that a substantial amount of attention and resources were devoted to end-of-term work and reports, as well as to the transition to the new authorities and policy priorities.

More importantly, the new administration launched a National Decarbonization Plan on February 24th ,2019 (summary attached in Annex 2).

Challenges: *Please describe how such developments might affect the achievement of the Grant's objectives and/or the implementation of specific activities under the Grant, either positively or negatively, and how possible policy and regulatory challenges may be addressed going forward. Please also refer back to any potential policy and regulatory challenges that may have been identified in the previous PMR Project Implementation Status Report and, if applicable, explain how such challenges are/have been handled.*

Since the major MRP project activities have been completed, the project's Implementation Plan 2019-2020 submitted to the Secretariat was designed and proposed with two compatible objectives:

A. Complying with our overall Project Objective: "*Contribute to advance Costa Rica´s integrated, long-term strategy through the development, design and implementation of market readiness activities...*" in the context of the national objective contained in the project's Results Framework (Annex 1): "*The Costa Rican National Climate Change Strategy and the recently submitted NDCs are the main pillars for an integrated, long-term strategy for sustainable development that seeks to transform Costa Rica into a low-carbon climate resilient country*"; and,

B. Aligning with the National Decarbonization Plan (Annex 2) through MRP sub-activities in selected technical areas, as explained below:

   1. **Focus Area 8: Promotion of highly efficient food systems that generate low-carbon local consumption and export goods.**
      Transformational Vision (Actions). By 2030, coffee, livestock, sugarcane, rice, and banana value chains will implement emission reduction technologies, both at the farm level and at the processing stage. By 2050, the most advanced methods and technologies will be applied to achieve a sustainable, competitive, low carbon, resilient agriculture with the lowest levels of contamination.
      PMR Sub-activity 1. Expansion and enhancement of Costa Rica's Carbon- Neutrality Program

(PPCN) and pilot programs for new categories: methodologies developed for carbon footprint in export products and carbon-neutrality for public events.

PMR Sub-activity 2. develop capacities in organizations interested in becoming experts in validation and verification for the PPCN and MCCR to ensure the technical sustainability of the program´s operations.

2. **Cross-cutting strategies to catalyze change**

   Green Tax Reform. It is fundamental to decouple the revenues of the Ministry of Finance from the sales of gasoline and to move forward in carbon pricing. The price may start with the green tax reform and the debate on the economic valuation of negative externalities such as pollution. The process must respond to a comprehensive analysis of the country's tax structure and it must define the actions that allow coherence with the public policy packages to achieve decarbonization while also considering the costs.

   PMR sub-activity: Mainstreaming carbon levy through the assessment of distributional impacts of upstream and downstream levies, health co-benefits, integration of digital platforms, adjustment of technical operations, institutional involvement and coordination, and communications.

3. **Transparency, Metrics and Open Data Strategy** The country will consolidate the National Climate Change Metrics System (SINAMECC) to guarantee a supply of open and updated data on the performance of the decarbonization agenda and to enable forward-looking modeling to support decision making. SINAMECC will be provided as open-source software, free of restrictions, to help other countries improve their metrics and promote an international open-source community around the system.

   PMR Sub-activity. SINAMECC: advanced features package pilot source code published and implemented

   PMR Sub-activity. Support for the development of integrated decarbonization pathways and associated modelling for the updating of Costa Rica's Nationally Determined Contribution (NDC) and the development of its Low Emission Resilient Development Strategy (LERDS)

4. **Next steps.** The Decarbonization Plan is being used as the foundation for the construction of our National Development and Public Investment Plan (2018-2022), and the Costa Rica 2050 Strategic Plan (Long-Term Strategy). It will provide information to update and formulate new sectoral policies, and the country's public investment system based on robust modeling. Its implementation will be coordinated by the Presidency of Costa Rica, with support from the Ministry of Planning and Economic Policy (MIDEPLAN), the Ministry of Environment and Energy (MINAE), and the Ministry of Finance. In addition, there is an Action Plan 2018-2022 that details the actions that this Administration will implement. The Plan will feed the ambition and transparency system of the country and will be the basis for updating and improving our following Nationally Determined Contributions or NDCs.

   PMR Sub-activity. Support for the development of integrated decarbonization pathways and associated modelling for the updating of Costa Rica's Nationally Determined Contribution (NDC) and the development of its Low Emission Resilient Development Strategy (LERDS)

Lessons learned: *If applicable, please provide a brief description of the lessons learned regarding carbon pricing policy and regulatory developments during the last Reporting Period.*

In terms of the issues emerging from political changes, the project team adhered to the Project Results Framework as the guiding framework for preparing end-of-term and new-term deliverables and

~~presentation~~s at the Ministerial level. The fact that the PMR Focal Point, the Director of Climate Change at MINAE remained in her position was key to provide continuity to project work.

Important changes in the technical design or approach related to the Grant's activities:

Developments: *Please describe any important change in the technical design or approach related to the Grant's activities that have been made during the Reporting Period or that are expected in the future.*

The only major technical design change from the original MRP is the transition from a domestic market approach to an outright compensation scheme.

Challenges: *Please describe how such changes might affect the implementation of the Grant's activities, either positively or negatively, and how possible technical design challenges may be addressed going forward. Please also refer back to any potential technical design challenges that may have been identified in the previous PMR Project Implementation Status Report and, if applicable, explain how such challenges are/have been handled.*

The transition from a domestic market approach to an outright compensation scheme was addressed substantially with PMR international support and validated with the new Minister of Environment and Energy. Initial discussions with stakeholders and affected parties (mainly the forest sector) so as to allow for a smooth transition have been held throughout the design process. Further consultation with parties will be held once the political decision is made.

Lessons learned: *If applicable, please provide a brief description of the lessons learned regarding the technical design or approach related to the implementation of the Grant's activities during the last Reporting Period.*

The project's evolution has taught the team and the authorities that keeping the long-term objective in sight is key for focusing efforts and activities. In times of uncertainty, and also in innovative areas of work like the ones included in this MRP, a good use of resources is the development of instruments, metrics and other key tools as stepping stones towards learning and the achievement of long term goals.

Key capacity issues (implementation, technical, financial management, procurement) related to the Grant's activities:

Developments: *Please describe key capacity issues (institutional, technical, financial management, procurement) related to the implementation of the Grant's activities encountered during the Reporting Period or that are expected in the future.*

- Stakeholder and user engagement for the new PPCN and the MCCR will continue to involve both consultations and capacity building, as these innovative structures cannot be properly implemented without first providing sufficient information to stakeholders.
- The deployment of IT infrastructure like SINAMECC will continue to require substantial change-management, particularly as it relates to technical experts who may have been performing their duties in much the same way for years or decades and who will now have to adapt to new tools and methods.
- The results of COP 24 in Katowice, particularly as they relate to the Enhanced Transparency Framework (ETF) under Article 13 are currently being assessed. Initial analysis suggests that the data structures and features that have been developed under SINAMECC 1.0 will not require substantial changes, however the process will still require substantial technical engagement for implementation.
- Because Article 6 did not arrive at substantial decision, related local elements must remain flexible and adaptable.

- Despite substantial improvement in data availability data gaps to carry out carbon pricing modeling and impacts estimations continue to be a key barrier to developing and implementing carbon pricing and MRV activities. PMR is called to continue its contributions towards the development of databases, models and other tools to enable data-driven decision-making.

Challenges: *Please describe how such issues are affecting the implementation of the Grant's activities, either positively or negatively, and how possible challenges may be addressed going forward. Please also refer back to any potential challenges that may have been identified in the previous PMR Project Implementation Status Report and, if applicable, explain how such challenges are/have been handled.*

- As for other change management and stakeholder engagement challenges, the project has foreseen these needs and they are being planned for accordingly.

Lessons learned: *If applicable, please provide a brief description of the lessons learned regarding the key capacity issues related to the implementation the Grant's activities during the last Reporting Period.*

- Close attention must be paid to developments at the international level, particularly as they relate to Articles 6 (initial decision on "Rulebook" elements) and 13 (further work mandated in COP24 decision) of the *Paris Climate Agreement*.
- It is important to develop strong rapport with key users of the proposed system and to engage them early on and very actively to minimize pushback. Ensuring these stakeholders feel empowered and not left behind or threatened is critical for the success of the system. In some cases, this requires more formal agreements and approaches.

Coordination with other carbon pricing initiatives, including those funded by other donors:

Developments: *Please describe any developments related to other carbon pricing initiatives, including those funded by other donors, that have occurred during the Reporting Period or that are expected in the future.*
There are a variety of programs, projects and initiatives that relate directly or indirectly to climate change which are being carried out by various agencies. Coordination with these activities is of paramount importance to ensure consistency and avoid duplication of activities and to maximize synergies.

Coordination is especially relevant with:

- FONAFIFO and the REDD+ Strategy
- The MRV component of the IADB transport program
- Potential crediting NAMAs (livestock and coffee), which may become part of the MCCR or seek to export credits abroad
- The Regional Accounting Rules Project and Transport and Mobility Energy Efficient led by GIZ
- The EUROCLIMA initiative, the Enhancing Capacity for Low Emissions Development Strategies project by USAID, Low Emissions Capacity Building Project by UNDP, and
- Some specific project in the power sector from the World Bank and the Inter-American Development Bank
- The Initiative for Climate Action Transparency (ICAT) and Capacity Building for Increased Transparency (CBIT)
- Climate Action Project (II) by GIZ.
- NDC Support Programme (NDC-SP) by United Nations Development Programme (UNDP)

~~Challenges:~~ *Please describe how such developments might affect the implementation of the Grant's activities, either positively or negatively, and how any coordination challenges may be addressed going forward. Please also refer back to any potential coordination challenges that may have been identified in the previous PMR Project Implementation Status Report and, if applicable, explain how such challenges are/have been handled.*

- Challenges remain regarding the interplay between other offset-related carbon pricing mechanisms and schemes like the Japanese Joint Crediting Mechanism (JCM), the World Bank Forest Carbon Prototype Fund (FCPF) and the International Civil Aviation Market Based Mechanism (ICAO-MBM) on the one hand and the ambitious target set by Costa Rica in its NDC.
- Because these mechanisms require the transfer of ownership of the offset units from Costa Rica to another Party, possibly through some form of intermediary, these transfers would have to be reflected through some form of "corresponding adjustment" and could not be used by Costa Rica towards its own NDC compliance. This is especially relevant for the REDD Strategy, which is aimed at exporting a large number of forestry credits but affects CDM projects and potential crediting NAMAs as well.
- The PMR-CR team has provided technical support to MINAE to establish a set of criteria to analyze and evaluate potential offset transactions in light of the NDC goals.

Lessons learned: *If applicable, please provide a brief description of the lessons learned regarding coordination with other carbon pricing initiatives during the last Reporting Period.*

- The importance of informal contact and coordination as a way to reduce the complexity of engagement has proven very valuable. It is sometimes easier to call directly than to go through formal channels.
- Having a clear technical understanding of the desired outcomes is fundamental to have clear roles and responsibilities and avoiding overlap.
- Direct engagement in the UNFCCC negotiation process continues to provide substantial value to the PMR-CR project, and through it, to the country. Supporting the negotiation team has allowed for continual updating of the PMR-CR support package to remain fully aligned with Costa Rica's international obligations, including in the products that are developed through PMR-CR support.
- Continued coordination with the REDD Strategy Secretariat and the National Civil Aviation Directorate, which represents Costa Rica at ICAO are necessary to ensure alignment between the relevant carbon pricing related instruments.

Stakeholder engagement related to the Grant's activities:

Developments: *Please describe any developments related to stakeholder engagement (consultation, participation and disclosure), that have occurred during the Reporting Period or that are expected in the future.*

- As previously mentioned, the PMR-CR team holds coordination sessions and/or meetings with a variety of organizations, including:
    - Continuous bilateral communication with the DCC, which is also the PMR Focal Point
    - Periodical communication with the Minister of Environment and Energy, the Vice Minister of Energy and the Vice Ministry of Transport
    - Technical meetings with the Validation/Verification Organizations (Organismos Validadores/Verificadores, OVVs) and the Costa Rican Accreditation Body (Ente Costarricense de Acreditacion), the Costa Rican Metrology Laboratory and National Meteorological Institute.
    - Meetings with Carbon Neutral organizations, the Alliance for Carbon Neutrality various NGOs

and other stakeholders
- SINAMECC Committee
- Coordination meetings with REDD Strategy Secretariat and the National Civil Aviation Directorate.
- Coordination meetings with other agencies supporting the DCC, including by complementing PMR-CR supported activities such as GIZ and UNDP in relation to SINAMECC and the IDB in relation to decarbonization pathway modelling.

Challenges: *Please describe how such developments might affect the implementation of the Grant's activities, either positively or negatively, and how any stakeholder engagement challenges may be addressed going forward. Please also refer back to any potential stakeholder engagement challenges that may have been identified in the previous PMR Project Implementation Status Report and, if applicable, explain how such challenges are/have been handled.*

- High-level visibility and buy-in implies the team has access to and support from key stakeholders in all relevant Ministries. This is instrumental to achieving high-impact results. However, it also means expectations are high and the pressure to start delivering results is also high, making expectation management and fluid status communications extremely relevant.
- Engaging with such a large number of stakeholders can be complex and can easily take up substantial amounts of team time.

Lessons learned: *If applicable, please provide a brief description of the lessons learned regarding stakeholder engagement during the last Reporting Period.*

- The value of an operational focal point and a core team of experts with their own networks within key Ministries to facilitate coordination and cooperation with various dependencies at various levels beyond the formal Steering Committee.
- Communication with the Bank is key, especially as a Bank-executed grant.

Other issues related to the Grant's activities

Please describe any developments, challenges and lessons learned regarding any other issue related to the achievement of the Grant's objectives and the implementation of the Grant's activities.

- The strong links to technical teams in the relevant ministries continue to prove invaluable for this process. These relationships allowed for detailed technical discussions about Ministry priorities and how they related to PMR objectives to find high-impact activities that were relevant and coherent in both frameworks.
- The strong links the team has with international colleagues, often formed through the PMR have also provided insights and support which would hardly have been available locally and sometimes even regionally.

1. ADDITIONAL INFORMATION

In this Section, please provide any additional information that may be relevant for the achievement of the Grant's objectives and/or the implementation of the Grant's activities. Please also provide any relevant information related to carbon pricing and the use of market-based instruments for climate change mitigation.

In April 2018, after highly contested elections, Costa Rica elected a new government under the leadership of President Carlos Alvarado, who is from the same party as the previous government. After

~~the adaptat~~ion period which inevitably follows a change in government, the new government has expressed continued support for PMR-CR activities. The Office of the First Lady has taken a very active role in climate change-related activities, especially as they relate to urban development and mobility which has led to close collaboration with her and her staff. The country has also developed a National Decarbonization Plan which was officially launched in February which relied heavily on PMR-CR supported TIMES modeling to determine energy-related targets and policies. These developments have provided further high-level visibility for the PMR-CR and related products and capacities and will continue to be very relevant for the final phase of the PMR-CR.

Integration with the *Paris Climate Agreement* is indispensable for the success of pricing mechanisms, which in turn rely on MRV&R schemes compliant with Article 13 of the *Paris Climate Agreement* that will demonstrate progress in the implementation of the NDC. Direct participation in the negotiations and related events provides an unrivaled depth of understanding of the current and upcoming issues.

Maintaining the current momentum for implementation through the end of the project will be strategic to meeting project goals.

ANNEX 1

MRP RESULTS FRAMEWORK

COSTA RICA MRP: IMPLEMENTATION PHASE					
Country Objectives: The Costa Rican National Climate Change Strategy and the recently submitted INDCs are the main pillars for an integrated, long-term strategy for sustainable development that seeks to transform Costa Rica into a low-carbon climate resilient country.					
Primary Key Result: The carbon mitigation component of the strategy focuses on aligning with net GHG emissions of 9.47 million tons of CO2e by 2030. Central to this aspiration goal is the design and operation of carbon pricing mechanisms, both as policy and financing instruments.					
	Status	**Indicator**	**Baseline**	**Targets** **End of Project**	**Source of verification**
Project Objective *Contribute to advance Costa Rica´s integrated, long-term strategy through the development, design and implementation of market readiness activities.*		*Technical inputs for market readiness activities designed and implemented*	*Market and C-Neutrality program out of date, disjointed from INDC, and National Energy Plan. Insufficient data and mostly ad-hoc, report-specific data gathering and analysis. Mitigation activities not anchored in policy yet and will require support for implementation.*	*Carbon pricing mechanisms designed and ready for implementation*	*Reports produced; processes established*
Outcome 1 Completion of the domestic market design					
• Update market conceptual framework	*Completed*	• *C-neutrality and carbon pricing mechanisms concept notes discussed and agreed*	• *Fragmented concept of C-Neutrality (2005 baseline vs net neutrality vs decarbonization); market designed for pre-INDC conditions.*	• *Market infrastructure ready for operation*	• *Concept notes* • *Signed MOUs*

• Governance and institutional arrangements	*Follow up/additional work ongoing*	• *Governance instruments modified* • *Key institutional collaboration arrangements for governance and data measurement codified* • *New sub-activity MCCR: advanced workshops delivered and training materials for workshops produced* •	• *Gaps in legal instruments: Agreement 36-2012-MINAET and Decree 37926-MINAE which create the Carbon Neutral Program and the Domestic Carbon Market as well as rules and regulations adopted by the Carbon Board and Methodologies Committee* • *Most institutional collaboration on ad hoc basis.*	• *C-neutrality and carbon pricing mechanisms concept notes reflected in Presidential decrees* • *Carbon Board and Secretariat appointed, trained and operational* • *MOUs prepared with key institutional partners*	• *Carbon Board minutes and agreements* • *Registry/tracking tool in place* • *MRV protocols and methodologies documented* • *External expert review*
• Registry/tracking tool	*Follow up/additional work ongoing*	• *Registry/tracking tool designed; continuous data measurement and analysis system established* • *New sub-activity SINAMECC: advanced features package pilot source code published and implemented*	*Data collected on an ad hoc basis Rudimentary registry tracking. No continuous data gathering and processing capacity*	• *Data measurement and analysis is institutionalized with operating IT infrastructure and updated on periodic basis*	
• MRV protocols and methodologies	*Completed*	• *MRV protocols and methodologies designed*	• *Project-driven MRV with no cohesive strategy in place*	• *Selected methodologies submitted to Methodologies Committee for approval.*	
• Capacity building, communications and consultation	*Follow up/additional work ongoing*	• *Facilitating and coordinating engagement with stakeholders*	• *No outside evaluation or input on design or implementation*	• *Stakeholder alliances formed*	
• International peer review of market design	*Suspended*	• *Market design evaluated by international panel of experts*		• *Third party validation of market design*	
Outcome 2 Strengthening of demand by assessing a range of policy options:					

• NDCs scope and impact (incl. market component)	*Follow up/additional work ongoing*	• *Policy options preliminary identification* • *Technical support to the Climate Change Directorate and the Sectoral Climate Change Coordinator in approaching analytical challenges and gaps related to the design and operationalization of INDC implementation strategies* • *Support in enabling policy options for INDCs (including upstream policy analysis and carbon neutrality program)* • *New sub-activity: Support for the development of integrated decarbonization pathways and associated modelling for the updating of Costa Rica's Nationally Determined Contribution (NDC) and the development of its Low Emission Resilient Development Strategy (LERDS)*	• *NDC sets decarbonization pathway and net maximum emissions target for 2030. Widely expected to be translated into some form of cap and act as a driver for the Carbon Neutral Program.*	• *NDC internalization roadmap* • *Convergence of demand and supply analyzed*	• *Project documentation* • *Adopted NDC Strategy and 2016 Climate Change Strategy (tbd)* • *Air quality levy decree* • *Energy efficiency tax* • *Carbon neutrality certification*
• Voluntary Demand by organizations from the Carbon-Neutrality Program	*Follow up/additional work ongoing*	• *C-neutrality concept notes discussed and agreed* • *Governance instruments modified* • *Key institutional collaboration arrangements for*	• *Demand options partially assessed, intention to use the carbon neutrality program to internalize INDCs, reverse-auction mechanism concept put forth*	• *Demand stimulus policy options assessed*	

		governance and data measurement codified ● *New sub-activity: Expansion and enhancement of Costa Rica's Carbon- Neutrality Program (PPCN) and pilot programs for new categories* ● *New sub-activity: develop capacities in organizations interested in becoming experts in validation and verification for the PPCN and MCCR to ensure the technical sustainability of the program´s operations.*			
● Regulatory demand from the yearly emissions levy (canon)	*Follow up/additional work ongoing*	● *Reverse auction mechanism design* ● *New sub-activities: distributional impacts of upstream and downstream levies, health co-benefits, integration of digital platforms, adjustment of technical operations, institutional involvement and coordination, and communications.*	● *Levy from emissions from mobile and static sources as well as energy efficiency tax approved in National Energy Plan 2015-2030. Funding for remediation efforts related to these instruments could provide basis for institutionalized demand via reverse auction mechanism.*	● Reverse auction mechanism in place ● *Demand policy mix formulated*	
● Capacity building, communications and consultation	*Follow up/additional work ongoing*	● Facilitating and coordinating engagement with stakeholders. Communications and logistics		● *Stakeholder alliances formed*	
Outcome 3 Consolidation of supply through the implementation of mitigation and offset activities in three sectors:					

• Activities in support of UCC supply from the electrical sector ○ Supply and demand side energy efficiency and conservation ○ Non-conventional renewable options for self-supply (distributed energy and low-enthalpy geothermal power)	*Completed*	• *Specific LED Policy Instruments including laws, regulations, programs and other specific instruments to promote low emission development proposed.* • *Structures, schema and tools for the generation and capture of data to quantify mitigation activities and/or potential issuance as UCCs developed and operating.* • *Climate finance structures for specific mitigation actions analyzed and best relevant practices proposed.* • *Specific technical elements necessary to develop policy instruments, MRV schemes and/or provide an enabling environment for mitigation actions with potential for UCC issuance*	• *National Energy Plan 2015-2030 sets out political support for a vision, plans and activities for energy and transport sectors, 2/3 of key MRP emission sectors.* • *Limited data available, highly atomized and of variable quality.* • *Mostly ad-hoc data collection schemes and/or limited reporting and analysis in infrastructure.* • *Agriculture NAMAs leading edge of NAMAs in Costa Rica require support to consolidate* • *Well established governance structure and documented MRV structures still required in all sectors.* • *Abundant opportunities to facilitate implementation and reduce mitigation MAC.*	• *Market potential and suitability assessed* • *Enabling environment (including market mechanism, MRV schema, IT infrastructure, etc) ready for inclusion of each sector in market* • • *Sectoral activities/inputs completed and delivered*	• *Project documentation Sectoral products (tbd)*
• Activities in support of UCC supply from the transport sector ○ Electrification of the private vehicular fleet and the public transport system ○ Public transport sectorization in the Greater Metropolitan Area (GAM) ○ Gradual substitution of fossil fuels with biofuels	*Suspended*				

• Activities in support of UCC supply from the livestock and agriculture sector ○ Coffee NAMA ○ Livestock NAMA	*Suspended*				

NATIONAL DECARBONIZATION PLAN

COMMITMENT OF THE BICENTENNIAL GOVERNMENT

COSTA RICA
BICENTENNIAL GOVERNMENT
2018 - 2022

DECARBONIZE
COSTA RICA
COUNTRY COMMITMENT 2018-2050

DECARBONIZATION PLAN
GOVERNMENT OF COSTA RICA

Costa Rica aims to be a modern, green, emission-free, resilient and inclusive economy

Costa Rica has set out to lay the foundations of the new Costa Rican economy of the 21st century by creating a positive, innovative and inspiring vision of the future. An economy that responds to changes in the global context, moving towards a green economy, which promotes the sustainable use of natural resources.
Although the transition to a low-emission economy requires a profound transformation, it is worth noting that Costa Rica has made important progress in previous decades, including an electrical grid that is over 95% free of emissions and a very low rate of deforestation, with a forest cover that exceeds 52% of its territory.

However, the challenges are important and require transformational efforts, such as the development and implementation of one of the few decarbonization strategies in the world with short and long-term goals.

Costa Rica seeks to inspire all kinds of stakeholders to go beyond "the usual" and be part of this positive transformation, becoming the best version of itself and demonstrating that it is possible to fulfill the commitments acquired in the 2030 Development Agenda.

No one left behind
Decarbonization and resilience are based on the principles of inclusion, respect for human rights, and gender equality

Planning the decarbonization of the economy requires a balance between the long-term vision and immediate actions

Planning for decarbonization sets the path between the current goals and those of 2050, in line with the objectives of the 2030 Agenda and the Paris Agreement.
This National Plan identifies technological transformation routes for each one of the sectors. The actions are presented in 10 sectoral focus areas with policy packages in three periods: foundations (2018-2022), inflection (2023-2030) and massive deployment (2031-2050), and also 8 cross-cutting strategies to enhance change.

Decarbonization is the great task of our generation and Costa Rica must be among the first countries in the world to achieve it, if not the first.

10 Focus areas to achieve Decarbonization

The 10 focus areas are key areas to reverse the increase of greenhouse gas emissions, as well as to encourage the modernization and revitalization of the economy through a vision of green growth.

1. Transport and Sustainable Mobility

Focus Area 1	**Development of a mobility system based on safe, efficient and renewable public transport, and active mobility schemes**	**Transformational Vision (Actions)** By 2035, 30% of the public transport fleet will be zero emissions, and the Electric Passenger Train will operate 100% electric. By 2050, the public transport system (Buses, Taxis, Electric Passenger Train), will operate in an integrated manner, replacing the private car as the first mobility option for the	population at the Great Metropolitan Area (GAM). By 2050, 85% of the public transport fleet will be zero emissions. By 2050, The main urban areas of the GAM will consolidate as compact cities, and the main secondary cities of the country, would have an increase of 10% of non-motorized modes.
Focus Area 2	**Transformation of the light duty vehicle fleet to a zero emissions one, nourished by energy that is renewable and not of fossil origin.**	**Transformational Vision (Actions)** By 2025, The motorcycle fleet growth will stabilize and standards will be adopted to migrate to a zero emission fleet. By 2035, 30% of the vehicle fleet - private and institutional - will be electric. By 2050, 95% of the fleet - will be zero emissions.	By 2050, new mobility scheme models, and shared mobility schemes will consolidate. By 2050, the country will have an extensive electric charge network throughout its territory, and complementary infrastructure for zero emission technologies (eg, hydrogen stations).
Focus Area 3	**Promotion of a freight transport fleet that adopts modalities, technologies and sources of energy, aiming to achieve zero or the lowest emissions possible.**	**Transformational Vision (Actions)** By 2022, Electric Freight Train of Limón (TELCA) will operate.. By 2030, 20% of the freight fleet will operate with LPG. By 2035, models of sustainable logistics will be consolidated on the	major ports and urban areas of the country. By 2050, freight transport will be highly efficient and there will be a 20% of emission reduction compared to 2018.

2. Energy, Green Building and Industry

Focus Area 4	**Consolidation of the national electric system with the capacity, flexibility, intelligence, and resilience needed to supply and manage renewable energy at competitive cost.**	**Transformational Vision (Actions)** By 2025, country's electrification process of different uses, will be incorporated on the energy integrated intersectoral planning. By 2030 the electric grid will operate with a 100% renewable energy.	By 2050, electric power will be a primary source of energy for transport, residential, commercial, and industrial sectors. By 2050, institutional processes will be digitized, an they will facilitate efficiency and competitiveness.

Focus Area 5	**Development of buildings of different uses (commercial, residential, institutional) under high efficiency standards and low emission processes.**	**Transformational Vision (Actions)** By 2025, the use of wood, bamboo and other local materials in buildings will increase by 10%. By 2030, 100% of new buildings are designed and built adopting low emission and resilience systems, and technologies under bioclimatic	parameters. By 2050, 50% of commercial, residential, and institutional buildings will operate with low emission standards (high electrification or use of renewables in cooking processes and water heating).
Focus Area 6	**Transformation of the industrial sector through processes and technologies that use energy from renewable sources or other efficient and sustainable low and zero emission sources**	**Transformational Vision (Actions)** By 2030, the sector will have innovative productive models based on "Cradle to cradle" or circular economy on main productive chains of agro-industry,	services, construction, among others. By 2050, the industrial sector would have changed energy sources to decouple the growth of its activity from its emissions.

3. Integrated Waste Management

Focus Area 7	**Development of an integrated waste management system based on separation, reuse, revaluation, and final disposal of maximum efficiency and low greenhouse gas emissions.**	**Transformational Vision (Actions)** By 2025, 10 Municipalities would implement a National Compost Strategy. By 2040, 100% coverage in high population density areas of sanitary sewer and wastewater treatment. By 2050, 100% coverage of sanitary	sewer and wastewater treatment in other priority areas. By 2050, 100% of the territory has solutions on waste separation, reuse, and disposal. By 2050 20% of Great Metropolitan Area's rivers have been restored.

4. Agriculture, land use change and nature-based solutions

Focus Area 8	**Promotion of highly efficient food systems that generate low-carbon local consumption and export goods.**	**Transformational Vision (Actions)** By 2030, coffee, livestock, sugarcane, rice, and banana value chains will implement emission reduction technologies, both at the farm level and at the processing stage.	By 2050, the most advanced methods and technologies will be applied to achieve a sustainable, competitive, low carbon, resilient agriculture with the lowest levels of contamination.
Focus Area 9	**Consolidation of a livestock model based on productive efficiency and reduction of greenhouse gases.**	**Transformational Vision (Actions)** By 2025, shchemes of circular economy will be implemented in livestock farms through a Biodigester Program. By 2030, 70% of the cattle herd and 60% of the area dedicated to livestock, will implement low carbon	technologies. By 2050, livestock activity will use the most advanced technology according to standards of sustainability, competitiveness, low emissions and resilience to climate change effects.
Focus Area 10	**The rural, urban and coastal territory will be managed, oriented towards conservation and sustainable use, increasing forest resources and ecosystem services based on nature-based solutions.**	**Transformational Vision (Actions)** By 2030: Maintainance of forest coverage and increasing it to 60%; at the same it will not compete with the agricultural sector. By 2050, 4,500 hectares of green areas will operate as recreational parks in the Great Metropolitan Area, and a system of	environmental-pedestrian network will consolidate, and will act as biological and pedestrian corridors. By 2050, the rural and coastal landscape will allow restoration and protection of other high carbon ecosystems (Mangroves, wetlands, peatlands, soils).

8 Cross-cutting Strategies to catalyze change

It is necessary to modernize the institutional and tax frameworks as well as the education system through comprehensive approaches in order to consolidate the process of transformational change. This can be achieved through the cross-cutting strategies which seek to address the social, financial, environmental and technological considerations:

1) Comprehensive reform for new institutionality

The country needs to advance its environmental institutional reform that will endow it with modern, digitalized, and flexible institutions with the capacity to manage the disruptive changes that this new economy entails. Key components include the modernization of the Costa Rican Petroleum Refinery (RECOPE), the Costa Rican Electricity Institute (ICE) the Ministry of Public Works and Transportation (MOPT), and the Public Transportation Council (CTP).

2) Green Tax Reform

It is fundamental to decouple the revenues of the Ministry of Finance from the sales of gasoline and to move forward in carbon pricing. The price may start with the green tax reform and the debate on the economic valuation of negative externalities such as pollution. The process must respond to a comprehensive analysis of the country's tax structure and it must define the actions that allow coherence with the public policy packages to achieve decarbonization while also considering the costs.

3) Finance and Foreign Direct Investment Strategy

Financing and attracting investments requires mobilizing public and private funds. This will be achieved by working on "financial engineering" schemes of public-private partnerships to support the portfolio of actions and projects. We will work with the national and international financial sectors using new approaches. Costa Rica will set the conditions for promoting an FDI strategy in key areas, consistent with the vision of the Plan.

4) Digitalization and Knowledge-based Economy Strategy

The country must advance in processes of digitalization, digital connectivity, smart cities and telecommuting. For this, it requires the development of tools for analyzing and using digital data and the availability of infrastructure in data centers, fiber optics and submarine cables. It also requires interconnection with the region.

5) Labor Strategies for a Just Transition

It is recognized that the political feasibility of these major transitions is associated with the process of adapting to the opportunities and challenges that will arise in the labor market. The best practices in just transition processes will be identified and relevant plans will be prepared for the sectors that are exposed to the greatest impacts.

6) Strenghtment of the principles of inclusion, respect for human rights and promotion of gender equality.

Costa Rica reiterates its commitment to the protection and respect of human rights. At the same time, the country will continue to promote gender equality and improve the quality of life of its citizens.

8

DECARBONIZATION PLAN
GOVERNMENT OF COSTA RICA

7) Transparency, Metrics and Open Data Strategy
The country will consolidate the National Climate Change Metrics System (SINAMECC) to guarantee a supply of open and updated data on the performance of the decarbonization agenda and to enable forward-looking modeling to support decision making. SINAMECC will be provided as open-source software, free of restrictions, to help other countries improve their metrics and promote an international open-source community around the system.

8) Education and Culture Strategy: The bicentennial Costa Rica- Free of Fossil Fuels.
Consumer and user work plans will be developed in order to promote the acceptance of a value proposition of technologies and modalities as well as cultural and educational initiatives for teachers and students of all kinds. Modernization, the teaching of the English language and the interconnection of schools, will all be steps towards this new Costa Rica.

DECARBONIZATION PLAN
GOVERNMENT OF COSTA RICA

The process of change has begun. Next steps

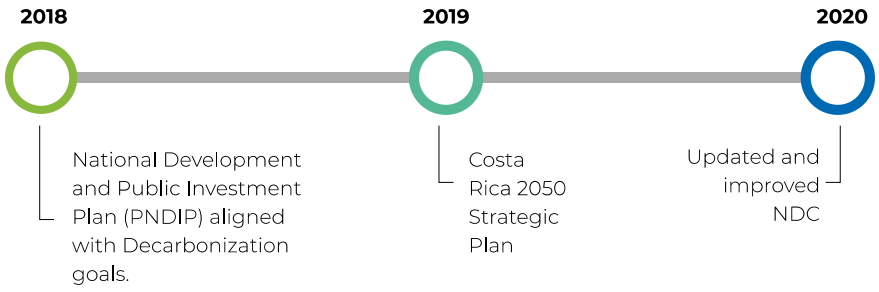
The Decarbonization Plan is being used as the foundation for the construction of our National Development and Public Investment Plan (2018-2022), and the Costa Rica 2050 Strategic Plan (Long-Term Strategy).

It will provide information to update and formulate new sectoral policies, and the country's public investment system based on robust modeling.

Its implementation will be coordinated by the Presidency of Costa Rica, with support from the Ministry of Planning and Economic Policy (MIDEPLAN), the Ministry of Environment and Energy (MINAE), and the Ministry of Finance.

In addition, there is an Action Plan 2018-2022 that details the actions that this Administration will implement.

The Plan will feed the ambition and transparency system of the country and will be the basis for updating and improving our following Nationally Determined Contributions or NDCs



10

2019-2022 Goals

DECARBONIZATION PLAN
GOVERNMENT OF COSTA RICA

Focus Area 1: Sustainable Mobility and Public Transportation

Public transport
8 active trunk lines.

Electronic payment system integrated in one mode of public transport.

Electric Passenger Train tendered Public transport electrification and adoption of zero emission technology
Electric buses piloted on public transport routes.

Concession contracts include zero emissions technology goals.

Roadmap for the consolidation of the Hydrogen Cluster.

Low- emission urban development
3 municipalities implementing transport-oriented development practices.

6 municipalities participate in the National Carbon Neutrality Program 2.0, cantonal category.

Focus Area 2: Light Vehicle Fleet Powered by Renewable Energy

Vehicle fleet towards zero-emission technology
National Electric Transportation Plan published.

3 new public institutions acquire zero-emission fleets.

By 2022, 69 fast recharge stations installed nationwide.

Combustion fleet efficiency
Blending between 5% -10% of ethanol into both gasolines.

Roadmap for the production and use of biodiesel.

Eco-Labeling for vehicle efficiency.

Focus Area 3: Efficient Cargo Transport

Cargo logistics program for emission reduction
1 low emission cargo logistics pilot

Limon Electric Freight Train (TELCA) in operation.

Technological efficiency on heavy and light freight transport
Efficiency and emissions reduction in freight transport plan.

1 efficiency improvement pilot in freight transport (use of biofuels and LPG).

Focus Area 4: Renewable Electric Energy at Competitive Cost

Modernization of the electrical system
Maintenance of the electric grid, with an average of 95% use of renewables.

Design of 2 plans and/or strategies for sectoral electrification.

Installation and operation of 274,240 smart meters.

Improvement plan for investment climate for the electrical system.

Energy efficiency promotion
Energy Efficiency Law updated.

20 public macro-consumers improve energy efficiency.

Focus Area 5: Low Emission and Sustainable Buildings

Sustainable construction practices on buildings and other infrastructure
20 new buildings applying voluntary environmental standards.

Best practices on existing buildings and other infrastructure to reduce their impact on emissions
20 existing buildings implementing at least one action to reduce their emissions.

Focus Area 6: Low Emission Industrial Sector

Technological transformation process on low emissions of industrial sector.
2 industry roadmaps for emissions reductions
1 natural refrigerants substitution pilot
Update official list of exonerated goods through Article 38 of Law N ° 7447.

Product consumption and service development under circular economy
2 industrial circular economy pilots.
3 products will have an environmental label or recognition based on the official government scheme.

Focus Area 7: Integrated Waste Management

Policies that promote the integral management of low-emission waste and circular economy
National composting strategy launched
3,800 tons of solid waste managed daily.
NAMA designed for the waste sector.
4 circular economy pilots documented.

Effective wastewater management Sanitary sewer projects in priority sectors: Palmares, City of Jacó Garabito, Golfito and City of Limón.

Focus Area 8: Low-Carbon Food Systems

Development of innovation processes of priority product value chains, which facilitate decarbonized agricultural goods.
2 new programs to reduce emissions in: banana, rice, sugar cane.
2 financial instruments enabled to promote transformation in producers.

Focus Area 9: Low Emission Livestock Model

Livestock sector contributes to decarbonization through the use of efficient practices
Government guideline that consolidates the Low Carbon Livestock Strategy as the official policy of the sector.
1773 livestock farms implementing NAMA technologies.
Technical support mechanism to farms.
Education campaign on organic agricultural residues for producers and technicians.
1 pilot for food industry and SMEs on the usage of organic agricultural residues.

Metric system (MRV) associated with livestock farms
Designed roadmap for national research on emission factors.
1700 farms implementing MRV.

Focus Area 10: Rural, Urban and Coastal Territory Managed Oriented Towards Conservation

Strategy for forests restoration and degradation implemented in rural and urban areas
Costa Rica leads a new coalition for forest carbon
3 kilometers of restored urban corridors.
Ecosystem Service Payment System (PSE) 2.0 developed.
Program to prevent illegal logging and land degradation.
National road restoration program.

Management, protection and restoration of other ecosystems
2 pilots in progress on management and protection of wetlands and mangroves.
Analysis of other high carbon ecosystems carried out.

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