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WINDFARM DOMINICA I AND II – MEXICO

Figure 1: General view of the project
Sources: Enel Green Power, "Evidencia Fotográfica [Photographic Evidence]"

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Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective project design or implementation.

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EXECUTIVE SUMMARY

This report evaluates the Dominica I and II Wind Farm, located in northeastern Mexico, on its social, environmental, and economic benefits, based on the Envision methodology. The project combines delicate care of the region's fauna and flora with a combination of equitable programs, showing innovative ways in which a wind farm can transform communities through its overarching sets of context-driven community plans. Sustainability goals are achieved in all areas, including material usage, energy, water, and other key areas.

Dominica I and II Wind Farm is located in a desert region, where droughts characterize the landscape as well as its geological features. Sloped hills combine with flat land, the sloped parts making installation of the wind farm a challenge; but the wind farm has reached its goal of adding a new source of renewable energy to the national grid, saving 337,236 tonnes of CO_2 per year that would have been produced by conventional generation. The program identifies when its sustainability practices match the country's overall regulations and when there is a potential conflict, both of which are carefully documented. Among the project strategies we can find the relocation of flora and fauna while enabling a domino effect of socially centered programs, designed to spark change in northeastern Mexico near San Luis Potosí. The program's combined human-centered programs and protective ecological relocation programs set it apart.

The Dominica wind farm used stakeholder engagement and community outreach efforts throughout the preliminary phases of the project. This has helped to enhance the lives of the residents from a mining town near the present-day wind farm. One particularly interesting project was the wind farm's registration of a charitable foundation, whereby a set of funds were allocated as an act of corporate social responsibility (CSR) in order to continuously develop stakeholder alignment and public-private partnerships that meet community needs. Another set of sustainability programs uses agricultural recuperation of local food and plants as a way to develop the local economy. Through this project, seven ejidos (communal lands) and 20 families were given capacity training to increase productivity and taught methods to develop their own businesses or increase efficiency in the ones they already have. The project's social aspects are being addressed with new infrastructure at the nearby schools, and the capacity-building program stimulates new forms of social activities in the communities. The project provided excellent leadership, identifying key stakeholders in the installation of Dominica I and II Wind Farm. As a result, the project management team met with seven ejidos (communal lands), a cultural and natural protected area 10 km away, 20 private landowners, and the Wirikurta indigenous community.

The indigenous groups were able to integrate their priorities in terms of natural landscape and

community assets. Following the initial set of meetings with the community, the project team created a project plan to restore the plants disturbed by the project in a detailed manner, analyzing their position in relation to shade and sunlight and in terms of the ecosystem from which they originate. This is one of the most ingenious ways the project excelled. Monitoring was an area that performed well. The project manager created a set of long-term monitoring plans to ensure frequent maintenance on the equipment and materials of the wind farm, with annual maintenance as well as monitoring for all the turbines performed by two contacted technicians, with best-practice-style check-in-the-box monitoring sheets filled out and archived. Nothing outside of the ordinary was shown, but an outstanding attention and transparency in all its procedures amounted to an excellent performance.

The assembling of the project's installations is all conducted on site; all transport, assemblage, commissioning, and administration are conducted through an international contractor called Gamesa. The project should include a percentage of materials manufactured locally. The construction phase relies on national contractors; Gamesa technical monitoring and maintenance are of international origin. Insurance for the various potential hazards and employees' health insurance are not specified. Gamesa, a supplier for the wind farm's turbines, works with other manufacturers of the gearboxes, generators, and convertors to assemble the wind turbine. In order to score higher, a life cycle analysis of the wind farm's products with information pertaining to their raw material extraction is recommended.

The site is in an area that is dry; one potential contribution would be enabling the renovation of the watershed as part of the project's CSR programs. The administration of the project is essentially managed locally, with maintenance and monitoring being delivered ad hoc through the Gamesa contract. The local project is enhanced through its community programs, which is a great first step toward creating an independent economy through capacity building in Mexico, while utilizing national social capital to advance the country's labor force. Ecologically, replanting the flora and restoring habitat for the fauna allows the ecological life cycle to continue. These programs are evaluated and monitored. Specifically, the relocation of flora identified 16,891 specimens that were removed to nearby habitat to protect them from damage. This initiative will save these cacti, thus helping to maintain the culture and landscape of the area. The project has also set up a foundation (charity NGO) to allocate funds for CSR and upgrade the two nearby schools with new infrastructure for their civic auditoriums. Collaboration with indigenous groups was also established to examine their priorities in terms of the natural landscape and community assets.

While the Project Design Document identifies water as a negligible component, the environmental strategic design includes contingency systems for the drainage of water, the disposal of liquids separately from waste, and the overall design to avoid contamination. In

these cases, the risk associated with water goes beyond a “check-in-the-box” mentality in applying rigorous safety and hazard controls in the plant; it is essential for wind farms to preserve balances in order to protect the larger ecosystem. While Dominica’s site location is far removed from large water bodies as an important geological variable, the water scarcity in this region of Mexico makes it paramount to include a more comprehensive view of the water resource as one that *is* scarce. All man-made physical constructions have an overall effect on a natural environment.

Possible improvements include developing synergetic systems that would involve more coordination between supply chain mechanisms, finding opportunities in the local community, and enhancing the connections between these. In topics where the wind farm scored high, such as in community programming, the wind farm must improve in terms of developing a more robust water supply system for the community. The ripple effects are bountiful and affect a place and environment longer than the life of its contract. In this case, the wind farm has developed positive community relationships; it is not just a renewable energy project but a green farming and community development opportunity for the people surrounding it. These efforts make the medium-scale wind farm a leader in equity and natural considerations. It is recommended that the project develop a life cycle analysis, which would develop an even broader set of positive effects and offer further perspective on the concept of sustainable improvement.

Figure 2: People & Leadership award Summary of results

Figure 3: Climate & Environment award Summary of results

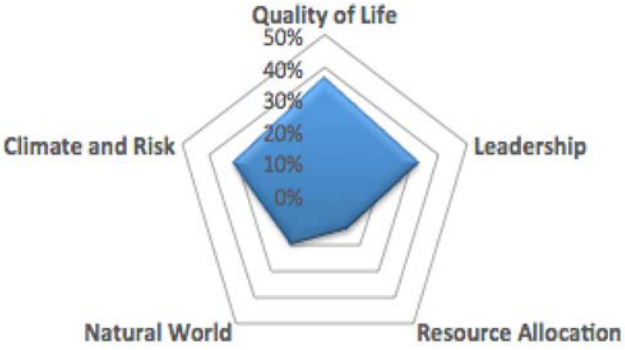

Figure 4: Infrastructure 360 award Summary of results

1. PROJECT DESCRIPTION AND LOCATION

Mexico is a country with relatively high CO_2 emissions by Latin American standards. Consequently, the country has begun to create a regulatory environment to attract alternative energy investments that make use of the country's topography, which is perfect for wind farm projects to flourish. The Dominica I and II projects are thus part of a national push to decrease reliance on fossil fuels and develop a cleaner energy outlook to support the sustainability of Latin America.[1] The construction of the Dominica I and II wind farm is an exhibition of Mexico´s strategy for achieving the country's sustainable goals for 2024, whereby renewable energy sources replace a previous dependence on fossil fuels (thus increasing the pace of investments in wind-related energy sources). It is located in Charcas municipality in the state of San Luis Potosí, 135 km northeast of Huasteca de Potosina and 84 km southeast Matehuala.

Dominica was built in two stages (I and II) to install 200 MW total capacity of electrical energy; this capacity produces an estimated 260 GWh annually, and meets the industrial sector's energy requirements in Charcas municipality. The wind farm relies on San Luis Potosí's wind sources to generate clean and renewable energy. Dominica I was installed by Enel Green Power (EGP), an Italian-based company, through *Dominica Energia Limpia* and consists of 50 turbines, each producing 2 megawatts. In July 2015, the second phase of the project, Dominica II, was put into service adding another 100 MW of total installed capacity. Together, Dominica I and II save an estimated 337,236 tonnes of CO_2 emissions each year that conventional fuels would have produced to generate an equivalent amount of electricity.[2] The project represents a $196 million investment in Dominica I and a $160 million investment for Dominica II. The construction of the latter alone created 600 jobs, of which 95% were Mexican jobs (equal to 20% of the local workforce in Charcas municipality). Overall, employment opportunities in the nearby area were created during the installation of the wind turbines, construction of the civil and electrical works, and the operational phase.

In terms of the topography and environmental context, the project is considered to be located on greenfield land.[3] This area is predominantly used for cattle grazing activities, which is the official land use designation; no other relevant activity currently exists in the project area.[4]

[1] AENOR (Asociación Española de Normalizacion y Certificacion), "CDM Validation Report," Dominica Energía Limpia S. de R.L. de
[2] Ibid.
[3] Ibid.
[4] Ibid.

Taking advantage of the Mexican topography and high winds, Dominica I and II currently supply the Mexican national grid, administered through the public utility company Comisión Federal de Electricidad, with a zero-emissions renewable energy source.[5] In Mexico, 9,500 MW of energy is attributable to wind energy sources; overall, 20% of the energy matrix is represents renewable energy and the remaining 80% is still dependent of fossil fuels. Of the 20% from renewable sources, most of it is generated by wind farm operations throughout the country.[6]

Dominica's "Una Mano para la Vida" initiative has implemented three programs to benefit the local community. The first involves harvesting escamoles, which is a pre-Hispanic food source (ant larvae from the *Liometopum apiculatum* species); to teach the community how to harvest sustainably this resource into something that can add significant economic value to the community, and to conserve the specimens that are endangered according to the Mexican law.

The second program is called "Molinos de Maguey" and promotes the development of food alternatives for the cattle that graze the lands; this program trains women and men to use to use grinder to take advantage of nopal and maguey (plants typical of the region) as a supplement for cattle in times of drought, which increases cattle survival as well as employment opportunities. The final program is related to the production of ornamental cactuses; these cacti are used for resale or allocated for industrial reforestation purposes; in addition, in the course of the wind farm construction, 16,891 specimens were replanted to nearby habitat to protect them from damage. This initiative will save these cacti, thus maintaining the culture and landscape of the area. The project has also set up a foundation to allocate funds for corporate social responsibility (CSR) to upgrade the two nearby schools with new infrastructure for their civic auditoriums. Collaboration with indigenous groups was also established to examine their priorities in terms of the natural landscape and community assets.[7] Several meetings have been conducted with the community to create a plan to enhance and preserve the landscape through a relocation program for all flora and fauna found in the 18 ha site (as already mentioned).[8]

In financial terms, EGP has invested about US $196 million, supported mainly through a loan from Santander that is covered by CESCE insurance, in the installation and implementation of *Dominica I*. Meanwhile, *Dominica II* invested approximately $160m in the construction of the new wind farm, financed through a loan with Banco Santander and supported through long-term PPAs. Dominica I and II represent an approximate investment of $356 million. There are

[5] AENOR, "CDM Validation Report."
[6] Ibid.
[7] La Unión Wixarika de Centros Ceremoniales de Jalisco, Nayarit y Durango, A.C., and Empresa Dominica Energía Limpia S. de R.L de C.V. "Minuta de trabajo centros ceremoniales," San Luis de Potosí, June 22, 2012, p. 2.
[8] Dominica Energía Limpia, S. de R.L. de C.V., "Condicionante 4: actualización de los programas de rescate de flora y fauna silvestre, proyecto 'Dominica Energía Limpia' S.G.P.A./DGIRA.DG.7698.10," N/A.

various levels of stakeholders but they mainly include the Charca municipal government, San Luis Potosí's inhabitants, the Mexican central government, and EGP and its counterparts in Mexico (Enel Green Power Mexico and Dominica Clean Energy Company). EGP has invested a total of US $336 million in the wind farm in Mexico, which is considered a medium-scale infrastructure project. Its lifespan is expected to be for 25 years of operations, which began in 2015 and is estimated to continue until 2040.

2. APPLICATION OF THE ENVISION RATING SYSTEM

The Envision™ system is a set of guidelines that aid in optimizing the sustainability of an infrastructure project during the planning and preliminary design phases, as well as a means to quantify the relative sustainability of the project. Envision consists of 60 credits grouped into five categories: Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Risk. Each credit pertains to a specific indicator of sustainability such as reducing energy use, preserving natural habitat, or reducing greenhouse gas emissions. Those credits are rated on a five-point scale referred to as a "level of achievement": "improved," "enhanced," "superior," "conserving," and "restorative." Evaluation criteria are provided to determine whether the qualifications for each level of achievement have been met for a particular credit. In each of the five categories there is a special credit called "Innovate or exceed credit requirements." This is an opportunity to reward exceptional performance that applies innovative methods within the subjects that Envision evaluates.

The criteria for the levels of achievement vary from credit to credit, but generally an "improved" level of achievement is awarded for performance that slightly exceeds regulatory requirements. "Enhanced" and "superior" levels indicate additional gradual improvement, while "conserving" often indicates performance that achieves a net zero or neutral impact. "Restorative" is the highest level and is typically reserved for projects that produce an overall net positive impact. The Envision system weighs the relative value of each credit and level of achievement by assigning points. Credit criteria are documented in the Envision Guidance Manual, which is available to the public on the ISI[9] and Zofnass Program[10] websites.

[9] www.sustainableinfrastructure.org
[10] www.zofnass.org

3. QUALITY OF LIFE CATEGORY

Envision's first category, Quality of Life, pertains to potential project impacts on surrounding communities and their well-being. More specifically, it distinguishes infrastructure projects that are in line with community goals, clearly established as parts of existing community networks, and consider long-term community benefits and aspirations. Quality of Life incorporates guidance related to community capacity building and promotes infrastructure users and local members as important stakeholders in the decision-making process. The category is divided into four subcategories: Purpose, Well-being, Community and Vulnerable Groups.

Purpose

The Purpose subcategory evaluates the project's impact on the local and national community's employment growth, quality of life enhancements, as well as community synergies that improve the overall functionality of the area. The credits evaluate how the project team conducted community outreach, provided training via capacity building, and constructed infrastructure to enable local growth and development.

Private-sector investments in renewable energy in Mexico provide an opportunity for a company to draw upon its CSR budget in order to finance social capital improvements already inherent within the community but often left dormant. The CSR goals are conceived through the effective intersection of design and community development programs.[11]

The Dominica wind farm attempts to use stakeholder engagement and community outreach throughout the preliminary phases of the project, in order to enhance the lives of the residents who lived in what was historically a mining town, with zinc its main economic resource. The community's quality of life has been enhanced through specific programs such as "Una Mano para La Vida." The various programs include small-scale harvesting of escamoles, which are ant larvae from the *Liometopum apiculatum* species, a pre-Hispanic food that currently has significant economic value; this program helps with communal innovation in food variety, and also with food security.

Parallel to this program is the "Molinos de Maguey" project that trains women and men on the use of nopal and maguey o teach the community how to harvest sustainably this resource as supplemental food for cattle during times of drought; this allows for an increase in cattle

[11] La Unión Wixarika and Empresa Dominica Energía Limpia, "Minuta de trabajo centros ceremoniales." Oscar Salcido, "From CSR to CSV Dominica I y II – Proyecto Piloto CSV," PowerPoint presentation, Mexico, March 28, 2014, pp. 2-3. Jesús Paulo Cerda, José Luis de la Rosa Muniz, Fundación Produce San Luis de Potosí A.C., and Enel Green Power, "Evaluación de proyecto escamoles 2015," Enel Green Power, March 2015.

survival rates, aiding with food security and increasing employment opportunities. Finally, another program relates to the production of ornamental cacti for sale or to be planted for reforestation projects. These three programs allow the project to become holistic and assess community needs through a macro lens, thus enhancing community goals and better meeting their needs.

The project scores highly in this subcategory, particularly because it uses stakeholder engagement with local NGOs, such as Fundación Produce San Luis de Potosí, to engage local vulnerable residents on harvesting escamoles and using them as an alternative income source, whether primary or discretionary. The escamoles program created a 20% increase in local employment. In addition, the project upgraded the infrastructure of two schools in the area, with roof repairs in the civic centers and auditoriums to protect residents from sun or rain, and in donations of solar-powered transformers to the community after their project use is finished. The Molinos de Maguey program helps to feed cattle, which is essential for survival during the drought season. The combination of projects is very well conceived, and it attempts to incorporate both a top-down and bottom-up mentality through private-public partnerships, thus ensuring a positive future outlook when working in a low-density area.

Since the project is located on greenfield land, it impacts a low-density population, which made it easier to approach communities for conducting interviews and gaining participatory information before the construction phase. However, the project team does not conduct interviews that could help to identify other negative effects that the turbines may have on the community itself. The documentation has a great deal of detail provided in the minutes, which allows the project to score above the minimal score, and demonstrates a commitment to including indigenous groups.

Well-being

The Well-being subcategory includes analyzing how the project performs with regard to the visual and functional impacts of infrastructure projects on their immediate surroundings. Projects that use innovative ways to integrate with the local community and enhance its infrastracture, without disturbing its character and natural features, are commended and encouraged.

Wind farm infrastructure projects affect surrounding communities through the installation of turbines that create noise, vibrations, and pressure changes and visually affect the landscape. Therefore, wind farm infrastructure projects need to pay special attention to creating a context-sensitive design. The engineered turbines and site selection are extremely important.

The Dominica I and II project receives some above-average scores for its careful relocation of the flora and fauna to standards above the pre-project baseline that could otherwise have been destroyed.[12] For another set of credit scores, the project reaches the appropriate standards without exceeding them. The project team meets regulations according to international standards, and hence meets the required construction criteria for the turbines, but does not include design documents that outline a context-sensitive approach. The project could score higher if it had performed above regulation on the construction of the turbines. Furthermore, the project has not provided noise performance results showing that it minimizes the noise levels in specific locations. The monitoring efforts do appear to be sufficiently rigorous to identify noise flaws, and thus provide a way to identify and correct specific turbines' noise levels.[13]

Finally, the project does not appear to have made available alternative modes of nonmotorized transportation. Some possible efforts might include electric buses, bicycle programs, and sidewalks, with incentivization programs for employees to use these (or similar) modes of transportation during the construction and operations phases. Also, no information was provided regarding signage or improved accessibility to certain areas of the site. In conclusion, the project has varying levels of performance in this subcategory, with some high-scoring credits, and others for which opportunities for improvement were identified.

Community

This subcategory attempts to push infrastructure designs to take the surrounding views, local character, and built environment into consideration when developing projects. One way to design appropriately according to context is to choose an area with the lowest population density and land usage.

Dominica I and II demonstrates a strong performance in this subcategory, due to the understanding of the holistic relationship between this large infrastructure project and its impacts on flora and fauna. Through the removal and replanting of different species in the area, the negative effects of the wind farm were mitigated.

[12] Salvador Pulido Mendez, Dirección de Salvamento Arqueológico, Instituto Nacional de Antropología e Historia, CONACULTA, and Estados Unidos Mexicanos. "Oficio Núm 401.F(4)50.D2013/378," March 27, 2013; and Dominica Energía Limpia, S. de R.L. de C.V. "Condicionante 4: actualización de los programas de rescate de flora y fauna silvestre, proyecto 'Dominica Energía Limpia' S.G.P.A./DGIRA.DG.7698.10," N/A, p. 3.

[13] Victor Flores, "Procedimiento para recepción y puesta en servicio de transformadores de potencia. Anexo a especificación técnica transformadores de potencia," Transformador de Potencia de 100/133 MVA Subestación Transformadora Parque Eólico Dominica, Code S.24.MX.W.58004.10.081.02, Enel Green Power Engineering & Construction, Mexico, March 6, 2014.

By relocation of flora and fauna, the project preserves elements of the ecosystem, enabling a good balance between energy production and ecological protection. The project plan preserves the landscape, relocating endangered flora and fauna found on an 18-hectare plot of land that contains 16,891 plant specimens. The program restores these plants by conducting detailed analyses of each species' position in relation to its needed shade or sunlight, in order to improve the overall ecosystem from which it originates.

The project also upgrades the nearby state highway by engaging the state government as a meaningful stakeholder and conducting road improvements that could not be accommodated within the state's budget. In addition, the project team identified vulnerable populations and their needs. Thus they found two public schools within a short distance of the wind farm and invested in upgrading their auditoriums to help keep the children's public forum areas available during times of rain, excessive sunlight, and extreme heat.

The project provided improvements for the community that provided outside-the-box thinking. Using the available ecological scenario to understand the needs in the area shows on-the-ground investigation of the needs of the population. The project understands the topography, environment, weather trends, and how the socioeconomically vulnerable populations can use their surrounding conditions to increase their discretionary income. The project identified the local regulations and standards needed to be achieved by national institutions in Mexico in order to operate. An example of this can be seen in the conducting of an archaeological evaluation of the site through the National Institute of Anthropology and History (INAH), which required Dominica I and II to avoid, minimize, and mitigate impacts that the project might have on the cultural heritage of Mexico.

The site exists on or near a place of archaeological interest; fossils could exist near a 2,738 ha site in EL Palmar (the name of the Dominica I project property). The fossils found were the *Vinalesphinectes* from the late Jurassic period, dated 120 million years ago. INAH conducted a feasibility and practicality study of the proposed construction and gave the wind farm explicit permission to construct on the site, with the requirement that it report finding any fossils during excavation of the site, stopping construction until the fossils could be removed to INAH for safety, if necessary. This requirement was successfully met, and in many cases obligated the project to complete the installation with industry standards being met.

Finally, the project involved the indigenous population through meetings, in order to protect the ecosystem and enhance the use of local pre-Hispanic foods (like escamoles) as a way to preserve the cultural heritage of the region.

Vulnerable Groups

The purpose of this subcategory is to identify how the project team incorporated the needs of women and vulnerable groups into the design of the wind farm, as well as ways in which it developed plans to increase employability, training, and empowerment through consistent community feedback for women, as well as indigenous and African-descended groups.

For this subcategory, the project showed a mixed performance. The project team has created a diverse set of projects and programs to benefit diverse minorities and low-income populations, including training programs from Molinos de Maguey, cattle feeding alternatives, harvesting ant larvae, and solar panel training, among others. However, the project team did not seem to keep marginalized groups in mind when designing technical aspects. The project reached out to community members that have a stake in the land near the site that could interfere with the wind. In these instances, the project team demonstrated a very thorough and consistent communication. However, no such evidence is seen in other places that affect the vulnerable communities' mobility, livelihoods, and lifestyles.

Dominica I and II has achieved a very great understanding of community development projects by implementing them with outside-the-box thinking. One area that needs improvement is in conducting interviews to learn how the wind farm affects the community. More rigorous studies and participatory feedback loops could improve the ways in which the community perceives the infrastructure and its effects on their day-to-day lives.

The project embraces community engagement programs that have trained the population in ingenious ways, but has done poorly in trying to design by keeping in mind the community's perspectives. While the complaint form is a way that EGP strives to achieve a better design, the complaints that are made should be turned into actions within the project as a way to develop a strong feedback loop. In general, creating these specific programs provide avenues through which EGP achieves close ties to the community, and more feedback can easily be gathered through the encounters made during the ingenious and proactive community training and capacity building programs.

4. LEADERSHIP CATEGORY

The Leadership category evaluates project team initiatives that establish communication and collaboration strategies early on, with the ultimate objective of achieving sustainable performance. Envision rewards stakeholder engagement as well as encompassing a holistic,

long-term view of the project's life cycle. Leadership is distributed into three subcategories: Collaboration, Management, and Planning.

Collaboration

The Collaboration subcategory addresses the importance of including input from a wide variety of stakeholders to fully identify potential synergies, establish savings, and create opportunities for innovation in the field of wind farms. Collaboration necessitates a new kind of leadership and commitment to more effectively manage processes.

In Dominica I and II the project created a shared value plan for US $200,000 and partnered with CONAFOR and SEMARNAT (national-level stakeholders) to identify needs at the national level, while consulting with landowners and the Wirikuta indigenous communities to come up with a set of programs designed to help them achieve the triple bottom line. They came up with a way to harvest escamoles (Mexican caviar), a reforestation program, a 10 KW photovoltaic plant, and maguey milling for cattle feed as well as production of ornamental cacti to increase the community's discretionary income.

These programs demonstrate a high level of organization, coordination, and collaboration among national, state and local stakeholders as well as within EGP's international and national management operations. The project team used effective guidelines and communication between EGP headquarters and their counterpart in Mexico to offer a holistic, long-term view of the impact of the project. The project team has documented the community farms that were set up. The project, however, must include the full feedback loop and the consequent changes.

The project is especially progressive in its stakeholder engagement process. This began early in the project and included 20 landowners, ejidos, foundations, and local NGOs in order to respect the needs of each constituency while improving the outputs of their five programs by finding opportunities to develop synergies.

One way this is achieved is by offering meetings with all stakeholders and negotiating terms that were reasonable at multiple scales. At the national scale, a state highway was upgraded; the local environment was enhanced through the Mano para un Vida program that harvests escamoles, trains for the development of Molinos de Maguey, improves the infrastructure of the nearby school, and adheres to local regulations. EGP has also invested US $200,000 in a foundation created for these programs and other community needs. The foundation is included as documentation, but details regarding processes and criteria for fund allocation are not included.

Management

The Management subcategory covers how a broader and more comprehensive understanding of the project can allow the team to see and pursue synergies between systems, either within the project or among larger infrastructure systems, leading to new ways of managing the project while increasing sustainability.

The project took into account infrastructure integration by identifying opportunities for improvement in the community through local stakeholder engagement processes. A private foundation is registered to allocate US $200,000 to the community and prepare for any unforeseen infrastructure developments that could benefit the community. Improvements already include local school upgrades that help integrate the community, with small interventions such as roof construction for times of rain or extreme weather.[14]

The project, however, can improve its performance in the reuse of materials. One important concept in this subcategory is a principle of industrial ecology called by-product synergy, whereby one industry's waste stream can be used by another as a primary resource. The project hasn't identified or assessed potential opportunities to buy or source materials in other facilities nearby.

One way to develop this synergy is to develop an inventory of the materials used in all the project's phases and tries to identify future ways to reuse this material. It is also highly recommended to have a list or inventory of materials that can be used from nearby facilities. In this case it is recommended to hire a specialist and conduct a life cycle analysis in order to identify ways to establish a plan for reused materials.

The project could improve by identifying vendors' unwanted materials that can be used in Dominica. The objective is to create potential social and environmental benefits as well as savings from reusing discarded materials and by-products instead of buying raw material. The resulting collaborative network achieves triple bottom line objectives. This process can be achieved by contacting facilities that are within a reasonable distance from the project to seek materials or equipment that might be used.

In terms of other types of infrastructure integration, the project restored a nearby highway and school rooftops, scoring high for these two infrastructure upgrades, even though they seem to work in isolation from one another. In order to improve in this subcategory, infrastructure

[14] Salcido, "From CSR to CSV," PowerPoint presentation, pp. 1–10.

assets should be developed with a conscious effort demonstrated to connect to the surrounding municipalities through a systems integration perspective.

The project can also expand on infrastructure upgrades such as roadways, sidewalks, and linkages to connect communities. This would create a comprehensive understanding of how the project can pursue synergies within the surrounding infrastructure and allow for further development, decreasing barriers.

Planning

Planning is about long-term vision. One important procedure is in understanding the regulatory environment, in order to streamline processes involved in developing the infrastructure for the wind farm. Overall this subcategory meets industry standards without achieving above-standard results. For Dominica I and II, the project team conducted a thorough review of Mexican laws and regulations and found ways to follow these while maintaining EGP's standards, which are outlined in the company's sustainability protocols. The latter are stringent, and follow the industry norm of establishing best sustainable principles.

In some cases, the project team conducted above-average planning, creating a system to streamline monitoring with ways to extend the useful life of the project. The project conducts planning within a very top-down, hierarchical structure, following health and safety, monitoring, and quality assurance protocols written by EGP headquarters. Any of their country offices need to submit plans to the firm's Italian headquarters to be effectively implemented. The project's top-down hierarchy becomes contextualized to the Mexican scenario, including the local regulations and laws, and the headquarters protocols are put into effect through adequate employee training. Since EGP has a set of sustainability policies, these trickle down the hierarchy to its Mexican office, promoting a corruption-free environment as well as sustainable best practices. It is recommended that EGP streamline the planning process, with more communication between its suppliers such as Gamesa and its monitoring mechanisms and design elements in order to improve the wind farm's functionality over its contract years.

The project documentation shows that Mexico's laws and regulations are very strict and would ensure project compliance to above-average sustainability standards, which oblige EGP to have a thorough planning process. While the project shows high commitment to leadership and stewardship in reaching its sustainability goals, it should provide a sustainability plan from EGP.

To improve based on best practices, the project management has conducted feasibility studies to identify long-term areas where there may be need for further maintenance and potential

cost savings. A recommended set of materials and their respective durability and long-term plans have not been reported to show evidence of a longer project life-span. Instead, Gamesa's brochure on the turbines and their durability seem to be the demonstration of the types of materials used. It is recommended to include inventories of materials that achieve long-term durability to weather changes, such as extreme heat.

The project has an average score in monitoring the turbines, which is achieved through two technicians using a check-the-box monitoring style. This credit encourages an overall plan to maintain throughout the life of the project, which can include a life cycle analysis.[15]

In addition, it is suggested to make a list of materials and demonstrate how each material can perform above wind farm industry norms. In addition, quality assurance testing on the overall turbines guarantees long-term durability of the wind farm. Finally, the overall design could include a longer-term plan, which will allow the wind farm to be more flexible, through reconfigurations of the turbines if wear and tear get in the way after proper maintenance. Reconfigurations are a design aspect, and their idea can be demonstrated in renderings.

The project includes a comprehensive long-term plan on monitoring and maintenance, with funds allocated to monitor the turbines and other equipment. The project includes noise monitoring responses and ensures that the turbines are functioning within applicable noise levels.

5. RESOURCE ALLOCATION CATEGORY

The Resource Allocation category deals with material, energy, and water requirements during the construction and operation phases of infrastructure projects. The quantity and source of these elements as well as their impact on overall sustainability are investigated throughout this section of the Envision rating system. Envision guides teams to choose less toxic materials and promotes renewable energy resources. Resource Allocation is divided into three subcategories: Materials, Energy, and Water.

Materials

The Materials subcategory looks for a reduction of the total amount of material used as a primary consideration for infrastructure projects. Minimizing material reduces the amount of

[15] "G8X 6 Months Preventative Maintenance with 2 Technicians Tev 1.3," IGR/DSG/JMR, July 28, 2010, SB8300901 ANNEX A0; Enel Green Power, "Programa de mantenimiento anual linea de transmision y S.E. 115 KV PE Dominica I 2016," 2016; Enel Green Power. "Programa de mantenimiento 2016 Dominica I Enel Green Power Mexico Tecnologia Wind," ENG, 2016.

natural resources that must be extracted and processed, as well as the energy involved in production and transportation. It is crucial to have a good balance between designing a wind farm that minimizes materials and maintaining long-term stability, safety, flexibility, and durability to ensure the wind farm functions properly.

In wind farms, maintaining high-performing material at a low cost and minimal material use often depends on the design process. EGP subcontracted Gamesa to design, manufacture, and install the wind turbines at Dominica I and II while also operating and maintaining the turbines afterward. This system gives Gamesa full control of the equipment and ensures long-term functionality while maintaining high-quality materials coupled with quality assurance and performance quality of the technology.[16] The manufacturing centers for this wind farm include one in Brazil and two in the United States, which is important to the management of sustainable goals because most of the materials must be assumed to travel from one or the other.

The project team sourced materials and equipment that, according to the supplier, have longer durability and flexibility.[17] Another consideration that is highly recommended is to develop a life cycle analysis to understand the full life cycle of the materials used in the project, including where the materials are sourced, from its raw state to its fully assembled state.

A problematic area in this subcategory is demonstrating the amount of materials that are being reused or recycled. In the listing materials, a breakdown by percentage of used and raw materials would enable EGP to demonstrate its keen thinking, which is ahead of its industry. In general, it is important to negotiate with the supplier to allow for the materials used to be recycled in the future. In order to improve the overall score, the project should enhance the information on the materials, including information on the place/country where they are sourced, and the place where they will eventually be placed as waste.

Energy

The Energy subcategory addresses the importance of reducing overall energy use, particularly from nonrenewable fossil fuel sources. Taking advantage of Mexican topography that allows for high winds, Dominica I and II will deliver an annual energy generation that saves the emission of 337,236 tonnes of CO_2 per year by equivalent conventional generation. It will be connected to the Mexican national grid, administered through the national public utility company Comisión

[16] Gamesa, "Gamesa G9X-2.0 MW Technological Evolution," presentation, internal use/supporting documentation, March 2012, www.gamesacorp.com, p. 7.
[17] Ibid., pp. 7–8.

Federal de Electricidad, at the substation of the grid located in the Charcas municipality.[18]

The project supplies the on-site energy required for the operation of the wind farm through photovoltaic plants located on the project site. The third-party monitoring process will be conducted by Gamesa, its turbine manufacturer, which will monitor turbine equipment and any potential malfunctions to ensure continuous energy outputs. The monitoring process is crucial to increase energy efficiency and reduce overall energy use. Moreover, this project is identified as a net positive renewable energy generator due to the nature of the facility.

Finally, ENP's Personnel and Recruiting and Training Manual indicates a checklist to monitor the energy outputs and identify any energy leaks to make sure the energy outputs are consistent. According to Gamesa, they are responsible for operation and maintenance from the construction of the turbines through their operation until their life cycle ends. However, the human organization is organized under ENP, whose personnel will receive specific training to ensure that preventative and corrective maintenance is put into place on site. Therefore both Gamesa and ENP contribute to the monitoring, each ensuring the turbines and energy outputs are maximized through specific guidelines in the EGP Personnel Recruiting and Training Manual.

The project could improve by conducting a life cycle assessment of its energy consumption, which provides the project managers and owners with specific data needed to address related maintenance and cost-saving changes. In addition, the wind farm should calculate all energy reductions and document energy input versus energy outputs for a better understanding of the overall energy usage, comparing it with industry regulations.

Water

The Water credits are meant to analyze how the project performs relative to the site and the population size, consumption trends, and climate conditions in the community around the site, to understand the water conditions of the geographic location.

The Water subcategory seeks to decrease the demand for potable water and increase alternative water sources such as runoff stormwater stored in cisterns for gray water use (such as cleaning dust that settles on the equipment during the construction phase), instead of depending on piped municipal water which stresses the demand for piped resources. In addition, this subcategory aims to understand whether the project assessed water availability and planned its usage according to the amount available per capita.

[18] AENOR, "CDM Validation Report," 2, 36–37.

In San Luis Potosí state, where the wind farm was constructed, water is scarce, with less than 500 m^3 per person available for annual usage. The project team uses less than 5% of the water available in the area, keeping its demand for this scarce resource at a minimum but not showing any additional strategies for gray water use through water-harvesting practices. With only 8 employees on site during the operational phase, the project should seek to explore ways to decrease its dependence on municipal sources, and it should monitor the discharge produced with proper monitoring practices prorated per capita.

A few other improvements could be made. The project uses water-only toilets on site; there are more sustainable options available, which could be considered in future projects. The study of porta-potty suppliers that use advanced sustainable mechanisms such as chlorine tablets to clear all toilet wastes is one of many usages that that could reduce water consumption. Some waste management records ask the company to filter out liquids from discharge and provide a waste system from an authorized company to discharge these liquids in an appropriate place. In this way, the project assesses the amount of water used on site while keeping a record of water outputs. Runoff from rain is canalized through designs incorporated in the turbines, channeled to cisterns that are later trucked outside the site and disposed of according to municipal regulations. The final destination of the water is not specifically determined nor explicitly stated.

The project would be able to score higher if the disposal was taken into account and managed in a sustainable manner. A waste management plan would showcase where water and waste are separately disposed of, with specific records of liquid disposal, kept in a daily record book. This data compiled on liquid and waste disposal is key in ensuring synergies between waste and water records, which benefits an effective monitoring plan. Finally, if the project were to conduct a life cycle analysis, more crucial information on water could be identified in its full loop of usage, from its original source through the water treatment plant where it is cleaned and later the waterways where it is discharged. Understanding the complete cycle of water usage is central to any infrastructure, as its construction creates meaningful changes to watercourses, contamination, and water flows. In addition, the project could use the fact that the surrounding community has limited water to create a CSR project and promote a change in local laws for the improvement of this limited resource.

6. NATURAL WORLD CATEGORY

The Natural World category focuses on how infrastructure projects may impact natural systems and promotes opportunities for positive synergistic effects. Envision encourages strategies for

conservation and distinguishes projects with a focus on enhancing surrounding natural systems. Natural World is subdivided into three subcategories: Siting, Land and Water, and Biodiversity.

Siting

The project site selection is especially important because it balances the built infrastructure with the ecology of the site's geography. The site of Dominica I and II is characterized by a variety of geologic features, in a semi-desert region where agriculture is scarce due to droughts. The primary land use is for medium-scale herding. The land is on semi-rocky ground in northeastern Mexico that features extreme weather conditions, scarce vegetation, and natural greenfield landscape.

The choice of this site was based on a series of factors, including an analysis of the area's land uses in combination with finding a location within Mexico where the winds blow strong and the energy is needed. The site also had to be located in proximity to the national grid. Another key factor that greatly helps the site selection is the fact that the soil is dry and desert like, Nonetheless the project had to comply with national regulations and relocate the flora to protect the many species that would otherwise die from the project's construction.

The Charcas municipality, specifically, is an area that depends on mining as its main labor activity and has a population of around 11,000 inhabitants. The geological features combine hills that allow the turbines to pick up the relevant wind speeds and farming potential. A wind farm is an effective use for this depleted and overused land, because it offers renewable energy in an area where herding is smaller-scale due to the climate. The site uses relatively little landscape surface for the benefits the country obtains. The new infrastructure remediates the area's decreasing land value.

Large-scale infrastructure projects such as this have the potential to disrupt an area's biodiversity. In the case of a wind farm, the turbines cause bat and bird deaths at a higher rate than usual. However, the wind farm's use of site location, as well as its medium scale with 55 advanced-technology turbines, have decreased the potential for bird collision. In fact, birds and bat monitoring studies prior construction and during construction were conducted, which results will be compared with the results obtained for the birds and monitoring during O&M project stage. In general, flora and fauna are taken into account and benefit overall from the project's relocation programs.

Land and Water

The Land and Water subcategory calls for minimal impact on existing hydrological and nutrient cycles, taking particular care to avoid introducing contaminants through stormwater runoff carrying pesticides and fertilizers.

The design of the wind farm takes into account the effect of the infrastructure on the quality of the surrounding soil and water. As per environmental considerations during the project design phase the wind turbines are not located in waterways. In addition, though, the project team conducted studies that identified the proper way to monitor, using water management plans to decrease risks of contaminants leaking from the site into the water systems around the project site as well as the effects of the dust on hydrological studies.

The area's waterways are generally dry except during the rainy season. Water quality baseline samples were not taken because of the dried stage of the region, with no water available to verify the quality of surface and underground water. The hydrological studies concluded that the project does not affect surface or underground water bodies, but it is recommended to collect water quality baseline data during the rainy season during which water flows quickly downhill to the natural floodplains.

Stormwater is dealt with through design interventions, with the infrastructure placed over land ditches, using 7 fords and 13 culverts to drain rainwater safely and avoid damage downstream. One way the wind farm could improve is to develop water management systems whereby cisterns store stormwater runoff with its measured volume. In addition, it is important to consider designing rainy season functions, whereby the wind farm can use rain-harvesting activities to supply toilet use, obtain gray water to wash off the dust on the turbines, or irrigate the ground to minimize dust dispersal, among other potential water uses.

In terms of soil, the project has a best-practice solid restoration plan to use the soil excavated for the turbine installations for the dirt roads used by heavy trucks in the construction phase. Some additional uses could include restoring the soil for the cactus-planting program, and compacting practices to prevent the dust from contaminating the air. Recommended practices include minimizing truck velocity to avoid dust dispersion. In terms of spillage and waste removal plans, the project has a very rigorous set of plans that minimize the risk of chemicals spilling. All liquids and chemicals are contained, isolated, and disposed of in preplanned waste disposal containers. The project follows best practices that avoid pollutants that would affect the community's health and the environment's biodiversity.

In general, all soil and water management systems follow best practices according to environmentally conscious goals. The site selection allows for the minimum amount of drainage so as not to affect its surroundings because of the drought conditions. Barriers built in front of or around defined waterways could further help prevent any rain-washed contaminants from reaching the watercourses downstream. In its overall site location, the project can be considered conscious of its effects on the surrounding environment.

Biodiversity

Envision ensures the site's biodiversity is protected, using designs that are conscious that it is placed in a natural area. Particularly, wind farms potentially create conflicts between advancing on climate change agendas and harming a region's biodiversity through their usual effects on bird and bat populations. In Dominica I and II, the wind turbines are carefully placed to take into account their effects on the greenfield and the surrounding biodiversity. To address the latter, the project has conducted environmental assessments such as hydrological studies of the surrounding watershed. Geological studies and land use analyses showcase the diversity of soils and slopes, the number of flora species, and the wildlife with particular attention to the bat and bird populations. The final report on the flora rescue and relocation program, also prepared by CESCA, recovered flora and fauna in a very impressive manner (see pg. 10).

In addition, the project site is in a nationally declared Hydrological Priority Zone called Camacho-Grunidora, which is characterized by herding with related soil use to feed cattle. The land is also used for mining and overall is overexploited. According to its environmental authorization documents, the project mitigates any potential deleterious effects on the Priority Hydrological Zone through good design.[19] Specific attention is paid to designing drainage on the contours to retain runoff and capture water, with the contours creating trenches formed by stone barriers to channel surface runoff. The design elements allow for the wind farm to avoid soil erosion with designs that replicate the natural flow of surface water, a very advanced and holistic way of ensuring that water runoff after a rain does not contaminate the dried-out watershed.

The Centro de Estudios, Servicios, y Consultorías Ambientales (CESCA) reported on the fauna rescue and relocation program, which was done in order to meet national regulations but exceeded it in many instances. According to the report, between December 23, 2013 and August 2014, the project team developed a rescue scheme to comply with the Treaty on

[19] Subsecretaría de Gestión para la Protección Ambiental, Dirección General de Impacto y Riesgo Ambiental, and Secretaria de Medio Ambiente y Recursos Naturales, "Autorización de la evaluación de impacto ambiental," Dominica Energía Limpia, August 11, 2010.

International Wild Fauna and Flora Species in Danger of Extinction (CITES). With the help of a team of specialists recruited for this purpose, the team identified 69 species and classified them by family, scientific name, common name, and whether they were listed under: a) NOM-059-SEMARNAT-2010 (as part of the national law obligating rescue programs), b) the CITES treaty (bird or mammal), or c) were under threat of extinction. The lists identified fauna needing to be nationally protected,[20] drawn away from the site, or rescued. An Emergency Contingency Plan was developed by EGP to avoid safety hazards to all employees in connection with the reptile, amphibian, birds, and mammal relocation program (which was carried out by experts in this work).[21] The animals that were rescued were placed in habitat similar to where they were originally found or naturally should belong.

The animals were relocated according to the plants and feeding habits they need for their survival.[22] Stress was even considered, as the animals were carefully transported in bags made from cloth or plastic containers so as to relieve the level of stress. The report states that three species of bird, three mammal, and one reptile were scared away during the process of rescuing the fauna, for a total of 54 individual animals that were lost. Besides the bird and mammal species required by the national law mentioned above,[23] 101 reptile and amphibian species were located, for a total of 170 reptile, amphibian, bird, and mammal species of biological interest to national institutions and CITES.

In terms of soil recuperation, the project should enhance their performance and attempt to restore the soil and subsoils to their original state, and should attempt to provide for restoring the natural landscape to its original form after the contract and the wind farm lifespan end. The project has allowed for herding to be sustainable in times of drought and should consider amending the soil with organic fertilizers as well, so that it can become more productive in the region.

In general, the project can expand its stakeholder engagement by identifying conservationists and environmental foundations, NGOs, and scientific communities. These environmentally driven stakeholders can be funded through the CSR of EGP to broaden their research on enhancing the soil in drought areas and reviving dried watersheds – both of which are issues with the site's natural landscape at the moment. By reaching out to these and including funding for more research in the Charcas region, the project would stand out even more for its sustainable practices. Once wind farms become widely used around the world, this next step

[20] Centro de Estudios, Servicios, y Consultorías Ambientales, "Resultados de ejecución del programa de rescate y reubicación de fauna silvestre para el proyecto "Dominica Energía Limpia", Mexico, n.d., 13–16.
[21] Ibid., 12.
[22] Ibid., 20.
[23] Ibid., 21.

will be crucial for achieving a balance between clean energy and the protection of bird species, landscape enhancements, and flora recuperation. Infrastructure tradeoffs in research and development in wind farm reuse and deconstruction, soil reuse and compacting, and cement sustainable practices could enable a better future in the industry. Finally, investing in understanding how bird species might avoid wind farms through innovative techniques known to bird specialists could make a wind farm a true innovator.

In order to achieve environmental sustainability, one could benefit from minor improvements in surrounding forests, agricultural industries, and overall natural habitat and use this project as an example in flora and fauna relocation and processes for recuperation.

7. CLIMATE AND RISK CATEGORY

Envision aims to promote infrastructure developments that are sensitive to long-term climate disturbances. Climate and Risk focuses on avoiding direct and indirect contributions to greenhouse gas emissions, as well as promotes mitigation and adaptation actions to ensure short and long term resilience to hazards. Climate and Risk is further divided into two subcategories: Emissions and Resilience.

Emissions

The Emissions subcategory looks at a project's life cycle to assess emissions of greenhouse gases as well as other pollutants during its construction and operational phases. Reducing emissions improves project performance and minimizes short- and long-term risk.

This project reduces air pollutant emissions in both operation and construction phases and displaces demand for fossil fuels by using renewable energy. Under current practice in Mexico, fossil-fuel-fired power plants account for 66.4% of the public sector's electricity. The wind farm connects a renewable energy source to the national grid, replacing 337,236 tonnes of CO_2 with clean energy produced through wind power. This project, therefore, contributes to diversifying the Mexico's national energy matrix and decreasing greenhouse gas emissions produced there.[24] The project is an example to follow for wind-powered sources.

An important recommendation would be to provide documentation with information on strategic choices made during the construction period that minimized emissions even further,

[24] AENOR, "CDM Validation Report."

to accompany the well-deserved high credit received for the production renewable energy.

Resilience

Resilience refers to a project's ability to survive short-term risks such as earthquakes, fires, floods, mudslides, etc., as well as long-term risks related to climate change. Resilience also includes the wind farm's ability to analyze and adapt to longer-term weather patterns such as urban heat island effects (if applicable) and/or weather patterns such as cooling or rising temperatures. The latter can have deleterious effects on infrastructure's long-term durability. The subcategory awards credit for a project team's ability to deliver an informed project design that minimizes risks through scenario-building analyses that can project potential weather predictions, decreasing the infrastructure's vulnerability to weather changes and ensuring its useful lifespan.

In wind farm infrastructure projects, climate change can have a strong negative effect on the durability and longevity of the turbines. In Dominica I and II, EGP identifies a list of potential environmental hazards and alternative design options to take account of them in the event of future changes in weather conditions. In terms of weather patterns that can affect the wind farm, the project is not located near significant paved roads or urbanized areas and therefore does not have the issue of the heat island effect. The project has prepared for short-term hazards but does not receive a score for long-term adaptability. In managing short-term risk, EGP has a specific plan of action related to its real-time monitoring system that allows for an easy fix if any issues occur such as spills, turbine malfunctions, or events dependent on unexpected natural hazards (such as earthquakes).

Each risk has a manual and training to effectively prepare to manage the potential risk scenarios. Regarding long-term scenarios, however, the project did not submit any design documentation that demonstrates the project is equipped to handle climate change scenarios identified in the area of Charcas municipality. Wind farms also have the potential to safeguard whole geographic regions against shortages of energy from imported fossil fuels. Plans and design documents that include how the design restores or rehabilitates environmental shifts due to climate change should be included in order to assess this credit better. The project team provides documentation on quality assurance for the supplier's equipment, so that it provides long-term durability and protects against traps and vulnerabilities associated with changes in temperature, whether hotter or colder. The project's documentation demonstrates that for this credit it reaches the industry standard. While the project team is very comprehensive in its preplanning phases, the project should commission and create more studies that show potential weather shifts predicted in San Luis Potosí.

Climate threats in general are treated rather lightly, as they are not analyzed and incorporated into the design of the wind farm. The risks identified are listed, and actions meant to lessen the risks identified meet best practice and industry norms for this credit. The project allows for this region in Mexico to rely less on fossil fuels and decrease its carbon emissions.

APPENDIX:
APPENDIX A: PROJECT PICTURES AND DRAWINGS

Figure 5: Location map
Sources Enel Green Power, "Dominica I Relacionamiento con las comunidades," (presentation Jan 23 2013), México, 2.

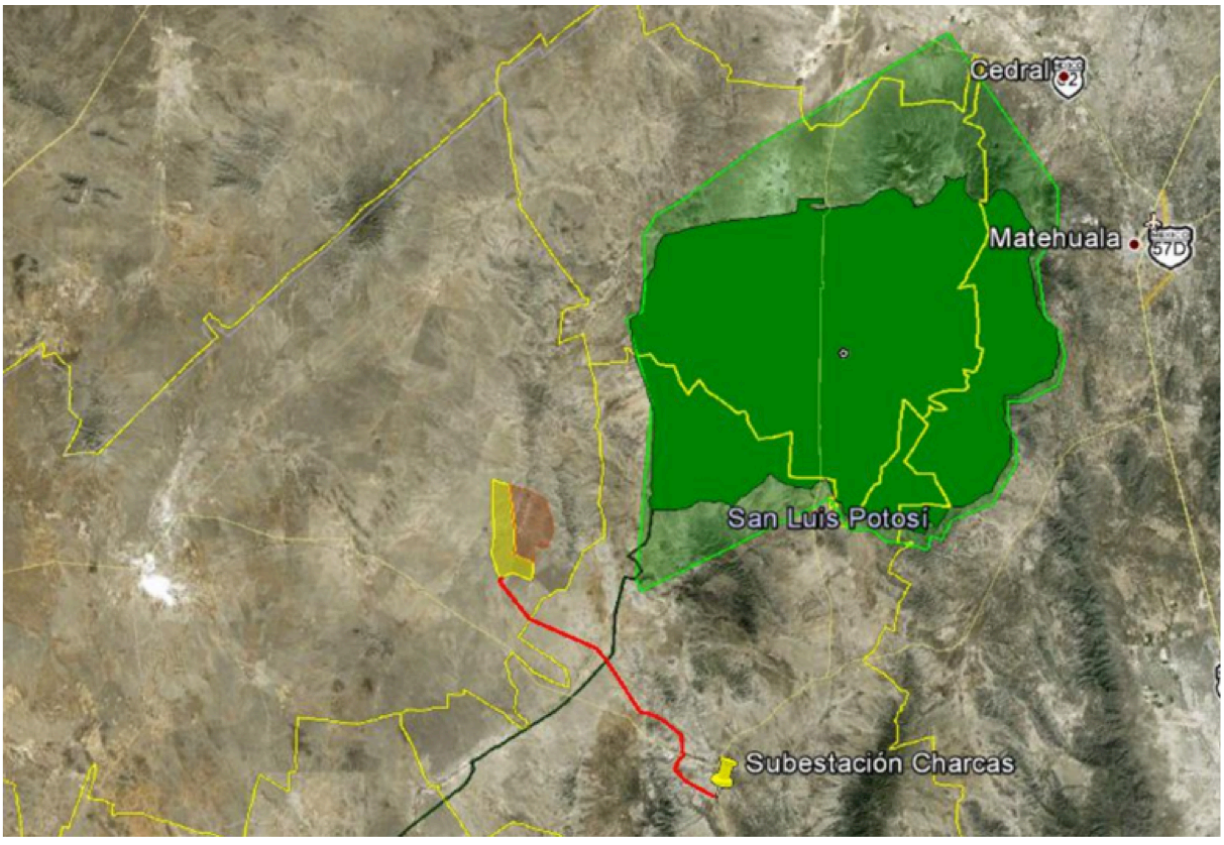

Figure 6: Charcas, Near San Luis Potosí.
Sources: "Dominica I Relacionamiento con las comunidades," (presentation Jan 23 2013), México, 3.

Figure 7: Wind Turbines, Gamesa and photographic identification of flora and fauna on the project site.
Sources: "Dominica I Relacionamiento con las comunidades" (presentation Jan 23 2013), México, 13.

Figure 8: Relating to communities through cacti growing programs.
Sources: Enel Green Power, "Dominica I Relacionamiento con las comunidades," (presentation Jan 23 2013), México, 43.

Figure 9: Relating to communities through escamoles and worm harvesting for alternative food practices.
Sources: Enel Green Power, "Dominica I Relacionamiento con las comunidades," (presentation Jan 23 2013), México, 42.

Figure 10: Cacti Relocation Program, men moving flora to its new location for safekeeping.
Sources: Enel Green Power, "Evidencia Fotográfica" [Photographic Evidence], Image Submitted for Envision Evaluation

Figure 11: Cacti Relocation Program, men in the greenhouse preparing the soil for the incoming cacti.
Sources: Enel Green Power, "Evidencia Fotográfica" [Photographic Evidence], Image Submitted for Envision Evaluation

Figure 12: Dominica I Turbines and Cattle passing by in the pasture fields. PE Stipa Nayaa in Oaxaca: The family retracted all cattle activities on their lands after receiving a good investment from Enel Green Power's to pay for the use of their land.
Sources: Enel Green Power,"Dominica I Relacionamiento con las comunidades," (presentation Jan 23 2013), México, 52

Figure 13: "Socialización. Jornadas de capacitación y degustación"
Sources: Enel Green Power,"Dominica I Relacionamiento con las comunidades," (presentation Jan 23 2013), México, 52

Figure 14: Solar Panels to energize work area
Sources: Enel Green Power, "Planta Fotovoltaica Evidencia Fotográfica" [Photographic Evidence], Image Submitted for Envision Evaluation

Figure 15: Solar Panels Given at a Municpal Act
Sources: Enel Green Power, "Planta Fotovoltaica Evidencia Fotográfica" [Photographic Evidence], Image Submitted for Envision Evaluation

Figure 16: Workers gather nearby to fly a kite.
Sources: Enel Green Power,"Dominica I Relacionamiento con las comunidades," (presentation Jan 23 2013), México, 41.

Figure 17: Presentation to community for participatory involvement
Sources: Enel Green Power,"Dominica I Relacionamiento con las comunidades," (presentation Jan 23 2013), México, 2. .

Figure 18: Depicts how infrastructure stops cattle passing from one property to another - Drainage and Passageways
Enel Green Power,"Dominica I Relacionamiento con las comunidades," (presentation Jan 23 2013), México, 41.

Figure 19: The process of identifying flora for its relocation.
Sources: Enel Green Power, Flora Relocated- "Fotográfica" [Photographic Evidence], Image Submitted for Envision Evaluation

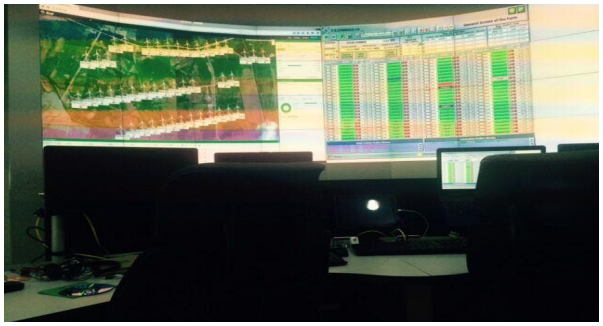

Figure 20: Control Room of The WInd Farm Turbines
Sources: Enel Green Power, "Evidencia Fotográfica"; EGP provided these images for teh Envision evaluation.

Figure 21: Children pose for a picture; the children are some of those who benefited from the new roof installations in the civic centers.
Sources: Enel Green Power,"Dominica I Relacionamiento con las comunidades," (presentation Jan 23 2013), México, 40.

Figure 22 : Central Hidroeléctrica El Gallo, en Guerrero México; Soil removal in a waterway.
Sources: Enel Green Power,"Dominica I Relacionamiento con las comunidades," (presentation Jan 23 2013), México, 11 and 38.

Figure 23: Initiative called Barefoot College, initiated by Enel Green Power in Mexico and Central América,; Women who are elderly were part of a program to learn how to build solar panels. This is one workshop where they are hard at work.
Sources: Enel Green Power,"Dominica I Relacionamiento con las comunidades," (presentation Jan 23 2013), México, 46.

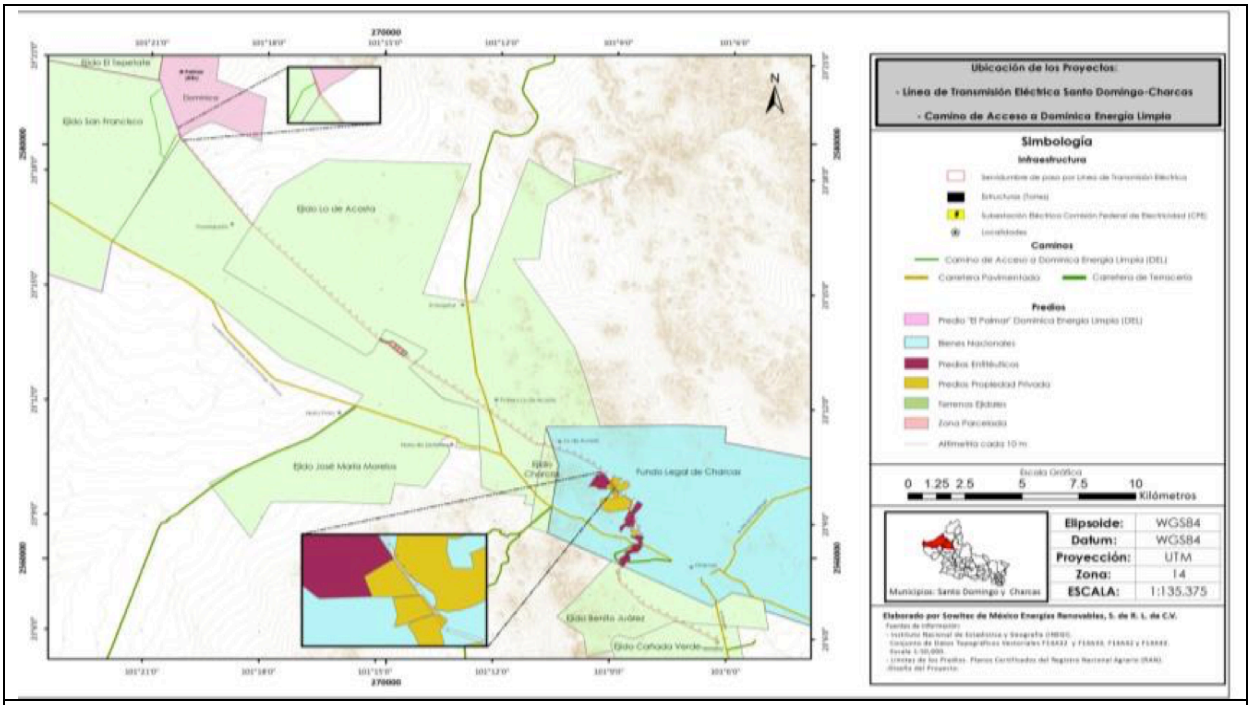

Figure 24: Map used to determine the adequate nearby roads
Sources: Enel Green Power,"Dominica I Relacionamiento con las comunidades," (presentation Jan 23 2013), México, 11 and 38.

APPENDIX B: ENVISION POINTS TABLE

ENVISION POINTS TABLE

			IMPROVED	ENHANCED	SUPERIOR	CONSERVING	RESTORATIVE
QUALITY OF LIFE	PURPOSE	QL1.1 Improve community quality of life	2	5	10	20	25
		QL1.2 Stimulate sustainable growth and development	1	2	5	13	16
		QL1.3 Develop local skills and capabilities	1	2	5	12	15
	WELLBEING	QL2.1 Enhance public health and safety	2	—	—	16	
		QL2.2 Minimize noise and vibration	1	—	—	8	11
		QL2.3 Minimize light pollution	1	2	4	8	11
		QL2.4 Improve community mobility and access	1	4	7	14	
		QL2.5 Encourage alternative modes of transportation	1	3	6	12	15
		QL2.6 Improve site accessibility, safety and wayfinding	—	3	6	12	15
	COMMUNITY	QL3.1 Preserve historic and cultural resources	1	—	7	13	16
		QL3.2 Preserve views and local character	1	3	6	11	14
		QL3.3 Enhance public space	1	3	6	11	13
	VULNERABLE GROUPS	QL4.1 Identify and address the needs of women and diverse communities *	1	2	3	4	
		QL4.2 Stimulate and promote women's economic empowerment	1	2	3	4	
		QL4.3 Improve access and mobility of women and diverse communities *	1	2	3	4	5
					Maximum QL Points:	194**	
LEADERSHIP	COLLABORATION	LD1.1 Provide effective leadership and commitment	2	4	9	17	
		LD1.2 Establish a sustainability management system	1	4	7	14	
		LD1.3 Foster collaboration and teamwork	1	4	8	15	
		LD1.4 Provide for stakeholder involvement	1	5	9	14	
	MANAGEMENT	LD2.1 Pursue by-product synergy opportunities	1	3	6	12	15
		LD2.2 Improve infrastructure integration	1	3	7	13	16
	PLANNING	LD3.1 Plan for long-term monitoring and maintenance	1	3	—	10	
		LD3.2 Address conflicting regulations and policies	1	2	4	8	
		LD3.3 Extend useful life	1	3	6	12	
					Maximum LD Points:	121*	
RESOURCE ALLOCATION	MATERIALS	RA1.1 Reduce net embodied energy	2	6	12	18	
		RA1.2 Support sustainable procurement practices	2	3	6	9	
		RA1.3 Use recycled materials	2	5	11	14	
		RA1.4 Use regional materials	3	6	9	10	
		RA1.5 Divert waste from landfills	3	6	8	11	
		RA1.6 Reduce excavated materials taken off site	2	4	5	6	
		RA1.7 Provide for deconstruction and recycling	1	4	8	12	
	ENERGY	RA2.1 Reduce energy consumption	3	7	12	18	
		RA2.2 Use renewable energy	4	6	13	16	20
		RA2.3 Commission and monitor energy systems	—	3	—	11	
	WATER	RA3.1 Protect fresh water availability	2	4	9	17	21
		RA3.2 Reduce potable water consumption	4	9	13	17	21
		RA3.3 Monitor water systems	1	3	6	11	
					Maximum RA Points:	182*	

ENVISION POINTS TABLE

			IMPROVED	ENHANCED	SUPERIOR	CONSERVING	RESTORATIVE
NATURAL WORLD	SITING	NW1.1 Preserve prime habitat	—	—	9	14	18
		NW1.2 Protect wetlands and surface water	1	4	9	14	18
		NW1.3 Preserve prime farmland	—	—	6	12	15
		NW1.4 Avoid adverse geology	1	2	3	5	
		NW1.5 Preserve floodplain functions	2	5	8	14	
		NW1.6 Avoid unsuitable development on steep slopes	1	—	4	6	
		NW1.7 Preserve greenfields	3	6	10	15	23
	LAND & WATER	NW2.1 Manage stormwater	—	4	9	17	21
		NW2.2 Reduce pesticide and fertilizer impacts	1	2	5	9	
		NW2.3 Prevent surface and groundwater contamination	1	4	9	14	18
	BIODIVERSITY	NW3.1 Preserve species biodiversity	2	—	—	13	16
		NW3.2 Control invasive species	—	—	5	9	11
		NW3.3 Restore disturbed soils	—	—	—	8	10
		NW3.4 Maintain wetland and surface water functions	3	6	9	15	19
					Maximum NW Points:	203*	
CLIMATE & RISK	EMISSIONS	CR1.1 Reduce greenhouse gas emissions	4	7	13	18	25
		CR1.2 Reduce air pollutant emissions	2	6	—	12	15
	RESILIENCE	CR2.1 Assess climate threat	—	—	—	15	
		CR2.2 Avoid traps and vulnerabilities	2	6	12	16	20
		CR2.3 Prepare for long-term adaptability	—	—	—	16	20
		CR2.4 Prepare for short-term hazards	3	—	10	17	21
		CR2.5 Manage heat islands effects	1	2	4	6	
					Maximum CR Points:	122*	
					Maximum TOTAL Points:	822*	

* Indigenous or afro-descendant peoples
** Not every credit has a restorative level. Therefore totals include the maximum possible points for each credit whether conserving or restorative.

Figure 25: Envision credits with scores by achievement level. This table includes experimental "Vulnerable Groups" credits developed in collaboration with the Inter-American Development Bank.
Sources: Envision™ and the Zofnass Program for Sustainable Infrastructure.

APPENDIX C: GRAPHS

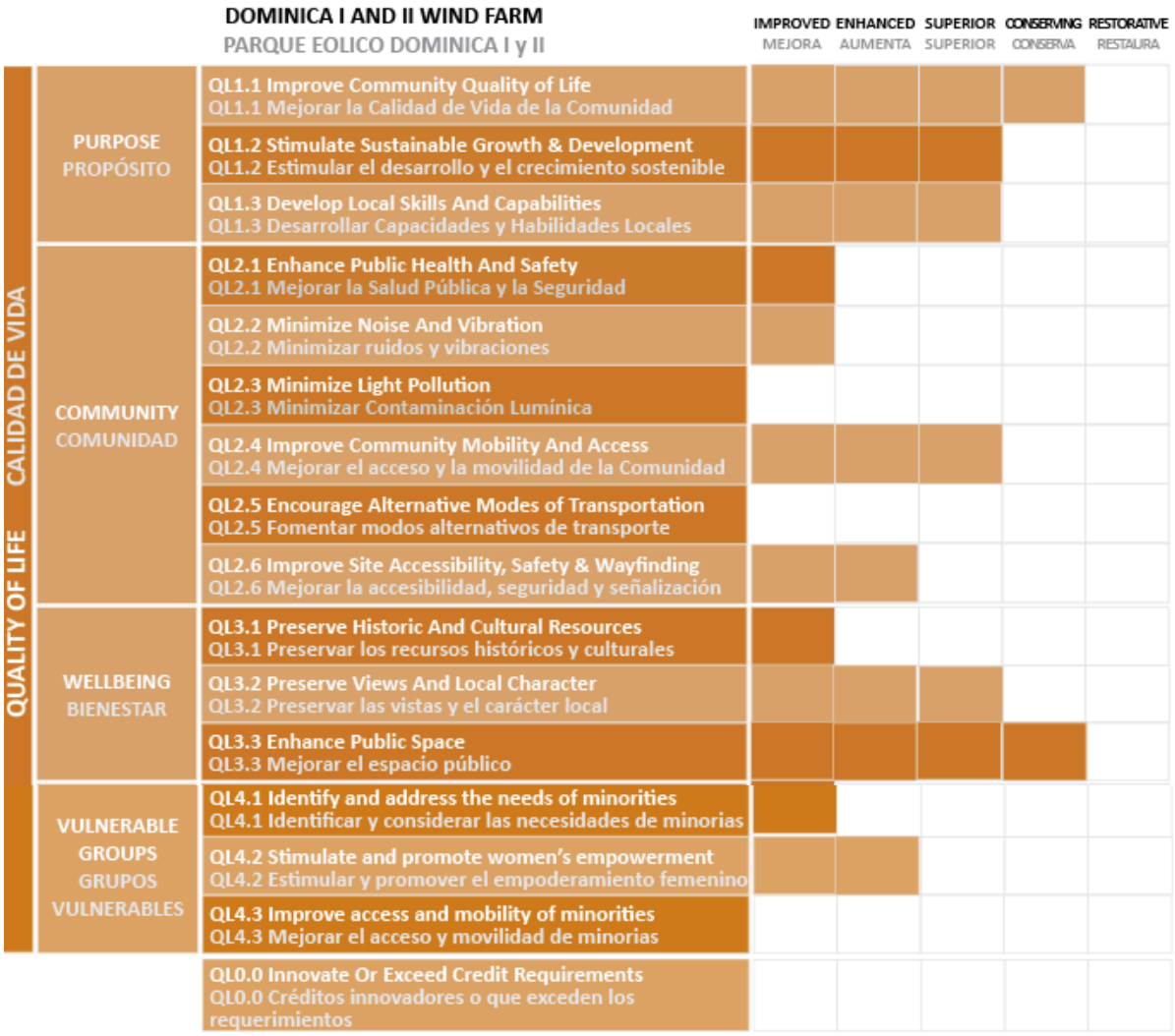

Figure 26: Quality of Life category_ Summary of results

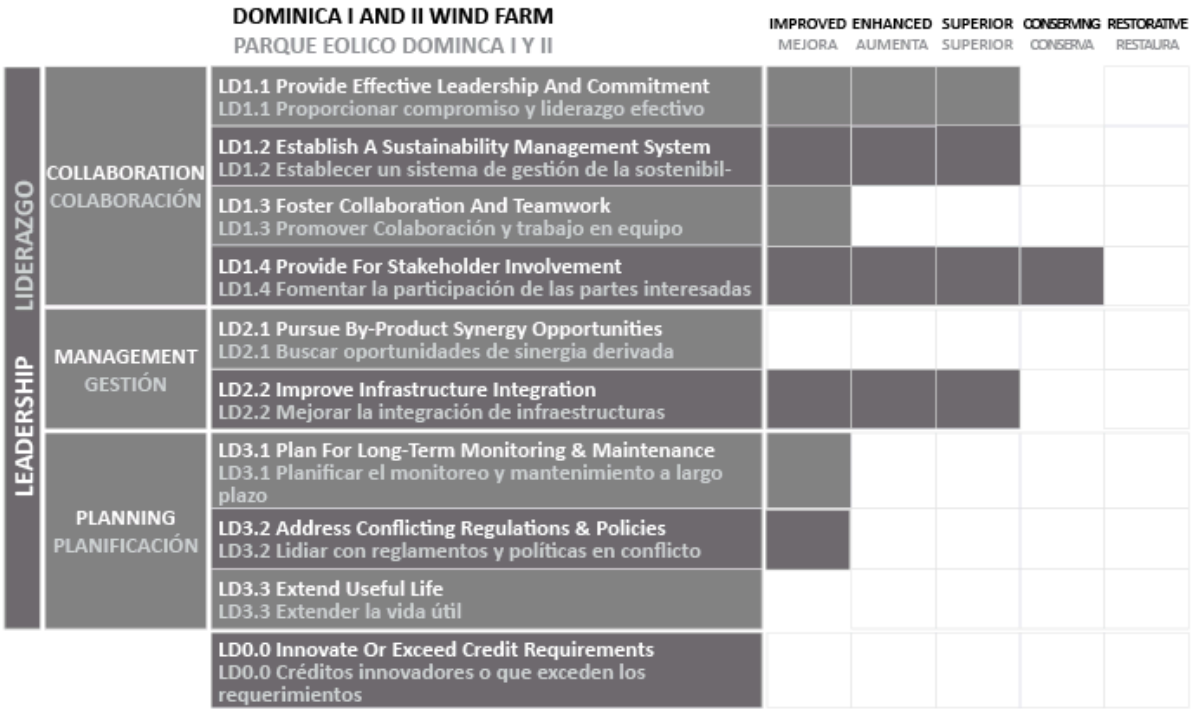

Figure 27: Leadership category_ Summary of results

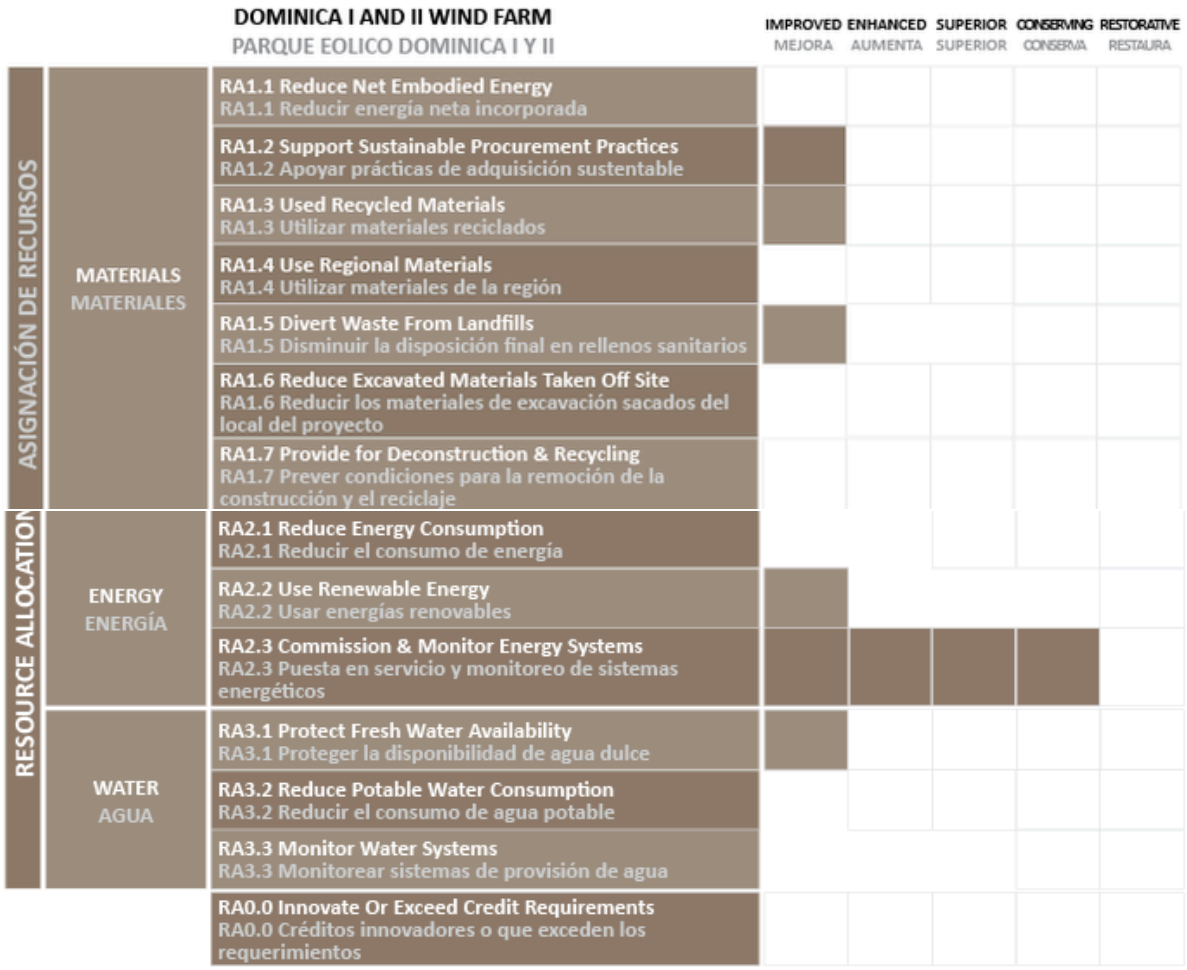

Figure 28:Resource Allocation category_ Summary of results

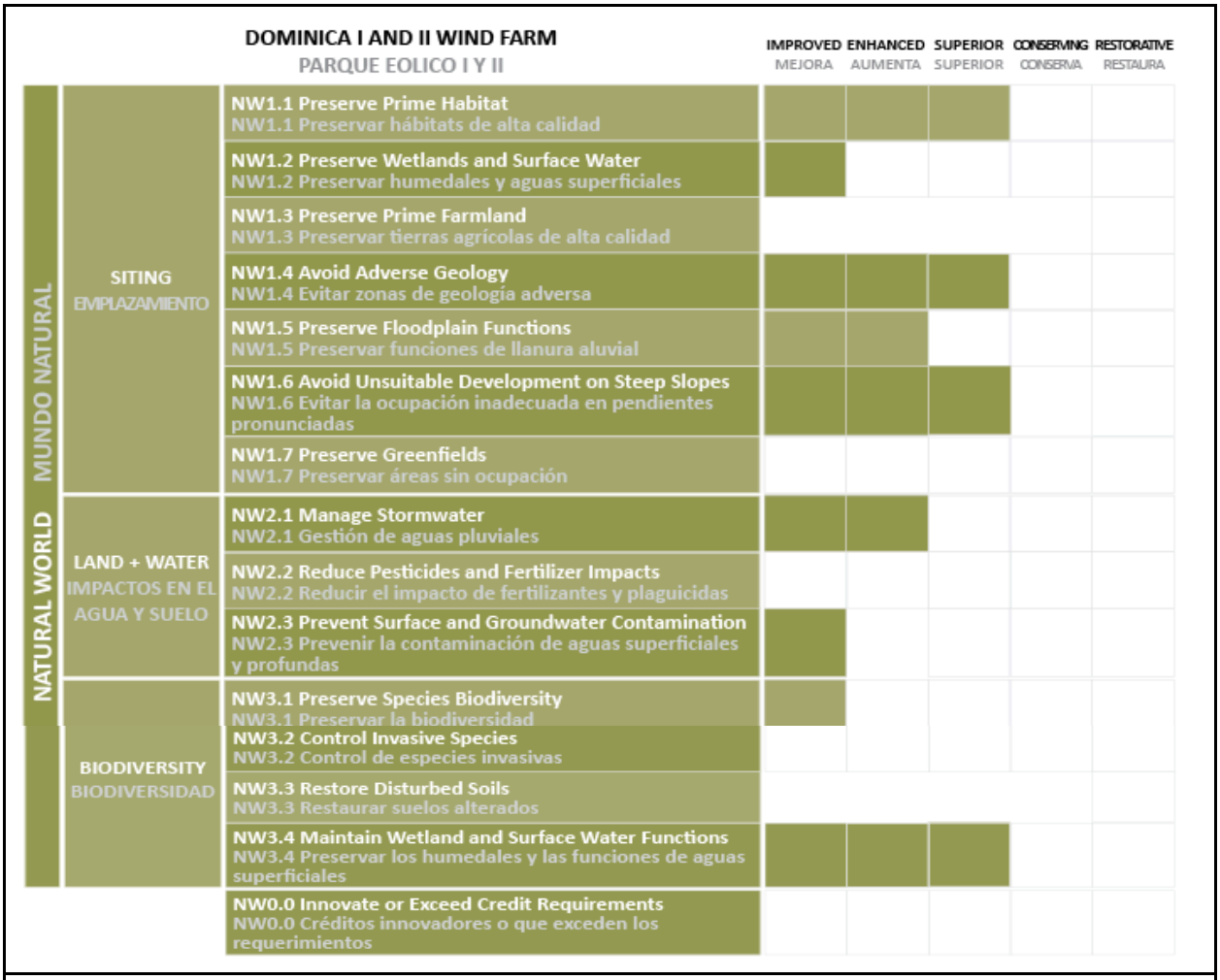

Figure 29: Natural World category_ Summary of results

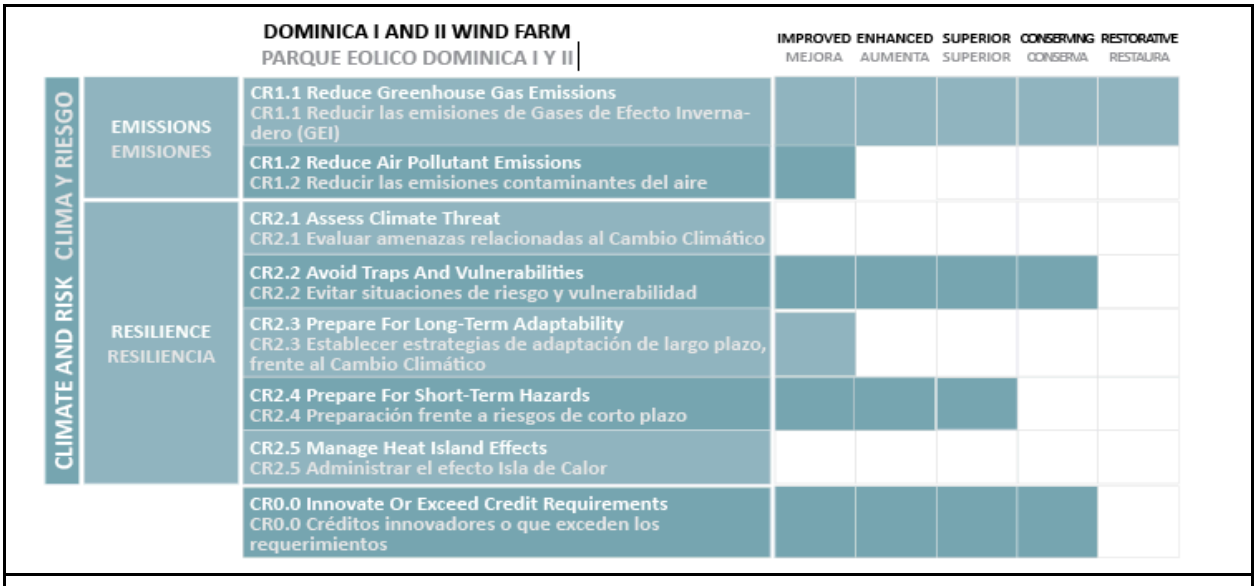

Figure 30: Climate & Risk category_ Summary of results

			DOMINICA I AND II, MEXICO	PT.	Performance
1	QUALITY OF LIFE	PURPOSE	QL1.1 Improve Community Quality of Life	20	Conserving
2			QL1.2 Stimulate Sustainable Growth & Development	13	Conserving
3			QL1.3 Develop Local Skills And Capabilities	5	Superior
4		COMMUNITY	QL2.1 Enhance Public Health And Safety	2	Improved
5			QL2.2 Minimize Noise And Vibration	1	Improved
6			QL2.3 Minimize Light Pollution	0	No score
7			QL2.4 Improve Community Mobility And Access	7	Superior
8			QL2.5 Encourage Alternative Modes of Transportation	0	No Score
9			QL2.6 Improve Site Accessibility, Safety & Wayfinding	3	Enhanced
10		WELLBEING	QL3.1 Preserve Historic And Cultural Resources	1	Improved
11			QL3.2 Preserve Views And Local Character	6	Superior
12			QL3.3 Enhance Public Space	11	Conserving
		VULNERABLE GROUPS	QL 4.1 Identify and address the needs of women and diverse communities (indigenous or afro-descendant peoples)	1	Improved
			QL4.2 Stimulate and promote women's economic empowerment	2	Enhanced
			QL4.3 Improve access and mobility of women and diverse communities (indigenous or afro-descendant peoples)	0	No Score
			QL0.0 Innovate Or Exceed Credit Requirements	0	0
			QL	72	

			DOMINICA I AND II, MEXICO	PT.	Performance
13	LEADERSHIP	COLLABORATION	LD1.1 Provide Effective Leadership And Commitment	9	Superior
14			LD1.2 Establish A Sustainability Management System	7	Superior
15			LD1.3 Foster Collaboration And Teamwork	1	Improved
16			LD1.4 Provide For Stakeholder Involvement	14	Conserving
17		MNGMT.	LD2.1 Pursue By-Product Synergy Opportunities	0	No score
18			LD2.2 Improve Infrastructure Integration	7	Superior
19		PLANNING	LD3.1 Plan For Long-Term Monitoring & Maintenance	1	Improved
20			LD3.2 Address Conflicting Regulations & Policies	1	Improved
21			LD3.3 Extend Useful Life	0	No Score
			LD0.0 Innovate Or Exceed Credit Requirements	0	N/A
			LD	40	

			DOMINICA I AND II, MEXICO	PT.	Performance
22	RESOURCE ALLOCATION	MATERIALS	RA1.1 Reduce Net Embodied Energy	0	No Score
23			RA1.2 Support Sustainable Procurement Practices	2	Improved
24			RA1.3 Used Recycled Materials	2	Improved
25			RA1.4 Use Regional Materials	0	No Score
26			RA1.5 Divert Waste From Landfills	3	Improved
27			RA1.6 Reduce Excavated Materials Taken Off Site	0	No Score
28			RA1.7 Provide for Deconstruction & Recycling	0	No Score
29		ENERGY	RA2.1 Reduce Energy Consumption	0	No Score
30			RA2.2 Reduce Pesticide and Fertilizer Impacts	4	Improved
31			RA2.3 Commission & Monitor Energy Systems	11	Conserving
32		WATER	RA3.1 Protect Fresh Water Availability	2	Improved
33			RA3.2 Reduce Potable Water Consumption	0	No Score
34			RA3.3 Monitor Water Systems	0	No Score
			RA0.0 Innovate Or Exceed Credit Requirements	0	N/A
			RA	24	

			DOMINICA I AND II, MEXICO	PT.	Performance
35	NATURAL WORLD	SITING	NW1.1 Preserve Prime Habitat	9	Superior
36			NW1.2 Preserve Wetlands and Surface Water	1	Improved
37			NW1.3 Preserve Prime Farmland	0	No Score
38			NW1.4 Avoid Adverse Geology	3	Superior
39			NW1.5 Preserve Floodplain Functions	5	Enhanced
40			NW1.6 Avoid Unsuitable Development on Steep Slopes	4	Superior
41			NW1.7 Preserve Greenfields	0	No Score
42		L & W	NW2.1 Manage Stormwater	4	Enhanced
43			NW2.2 Reduce Pesticides and Fertilizer Impacts	0	No Score
44			NW2.3 Prevent Surface and Groundwater Contamination	1	Improved
45		BIODIVERSITY	NW3.1 Preserve Species Biodiversity	2	Improved
46			NW3.2 Control Invasive Species	0	No Score
47			NW3.3 Restore Disturbed Soils	0	No Score
48			NW3.4 Maintain Wetland and Surface Water Functions	9	Superior
			NW0.0 Innovate or Exceed Credit Requirements	0	N/A
			NW	38	

			DOMINICA I AND II, MEXICO	PT.	Performance
49	CLIMATE	EMISSION	CR1.1 Reduce Greenhouse Gas Emissions	25	Restorative
50			CR1.2 Reduce Air Pollutant Emissions	2	Improved
51		RESILENCE	CR2.1 Assess Climate Threat	0	No Score
52			CR2.2 Avoid Traps And Vulnerabilities	2	Improved
53			CR2.3 Prepare For Long-Term Adaptability	0	No Score
54			CR2.4 Prepare For Short-Term Hazards	10	Superior
55			CR2.5 Manage Heat Island Effects	0	No Score
			CR0.0 Innovate Or Exceed Credit Requirements	0	N/A
			CR	39	

Total points	**213**	**0**

Figure 31: Envision credits with scores by achievement level. This table includes experimental "Vulnerable Groups" credits developed in collaboration with the Inter-American Development Bank.
Sources: Envision™ and the Zofnass Program for Sustainable Infrastructure.

APPENDIX D: CREDIT DETAIL

DOMINICA I AND II WIND FARM: CREDIT SPREADSHEET WITH DETAILS

CATEGORY I, PEOPLE AND LEADERSHIP		
SUB CATEGORY: QUALITY OF LIFE		
	Score	**WIND FARM DOMINICA I AND II**
QL1.1 Improve Community Quality of Life	**20**	**Conserving** The Dominica wind farm attempted to use stakeholder engagement and community outreach efforts throughout the preliminary phases of the project. This has helped to enhance the lives of the residents who were historically from a mining town near the present-day wind farm. The aforementioned town is situated about 15 minutes from t he center of the wind farm, where zinc extraction is the main economic activity. The nearby affected community has 12,000 inhabitants, and is located 191 km North from San Luis de Potosí (SLP). The quality of life of the population has been enhanced as a consequence of the windfarm construction, through specific programs such as "Una Mano para La Vida" that has implemented three programs: -Escamole Harvesting: Harvested escamoles (ant larvae from the Liometopum Apiculatum species, which are a pre-hispanic food with significant economic value) on a small-scale that helped with food security and allowed the community to re-imagine ways to increase food variety. -Molinos de Maguey: The project trained women and men to use nopal and maguey as a supplement for cattle during periods of drought. This allowed for an increase in cattle survival which assisted with food security, as well as an increase in employment opportunities. -Cactus: Production of ornamental cacti that were sold or planted for reforestation projects. The aforementioned programs allow the project to be holistic and assess community needs through a macro lens, thus enhancing community goals and meeting more of their needs. One particularly interesting project was the wind farm's registration of a charitable foundation, whereby a set of funds were allocated to the foundation, with new funding to be allocated vis-a-vis CSR in order to continuously develop stakeholder alignment and public-private partnerships that meet community needs. The project also provided documentation that incorporated meaningful stakeholder input. The foundation is set to meet the long-term requirements for sustainability and use agricultural recuperation of local food and plants as a way to develop local economy.

		Source: *La Unión Wixarika de Centros Ceremoniales de Jalisco, Nayarit y Durango, A.C., and EMpresa Dominica Energía Limpia S. de R.L de C.V. "Minuta de Trabajo Centros Ceremoniales." (San Luis de Potosí,: 2012), 1-2.* *Salcido, Oscar. "From CSR to CSV Dominica I Y II - Proyecto Piloto CSV." (PowerPoint Presentation. México:2014), 2-3.* *Cerda Cerda, Jesus Paulo, Jose Luis De la Rosa Muniz, Fundación Produce San Luis de Potosí A.C., and Enel Green Power. "Evaluación de Proyecto Escamoles 2015." Enel Green Power, Mexico: 2015, 1-3.* *N/A, "Proyecto una Mano para la Vida." Minutes, 1.* *Starace, Francesco, and Enel Green Power. "Política de Seguridad y Ambiente," México: 2012, 1.* *AENOR; Asociación Española de Normalizacion y Certificacion, CDM Validation Report - Dominica Energía Limpia, S. de R.L. de C.V, "Validation of the Project Activity: Dominica Wind Farm Project Reference 2012/096/CDM/22, p. 37*
		RECOMMENDATIONS *On the stakeholder engagement processes with the community the project performs very well. In the CDM Validation Report, one suggestion was to provide feedback through other communications channels, in addition to the UNFCCC website.*
QL1.2 Stimulate Sustainable Growth & Development	**13**	**Conserving** Credit detail The wind farm has established several streams for potential sustainable growth and development of San Luis de Potosí (SLP) within the municipality Charcas, in creating 600 new jobs. The project focused on ensuring a 20% increase in local employment, pertaining to the local surroundings of the municipal area, while ensuring that 95% of the employment is procured from Mexico. The foundation established bylaws, and was created as a way to ensure that Enel Green Power (EGP) had the right framework to provide any help that could benefit the target population). In the program called "Proyecto Una Mano para la Vida," the project builds capacity on the use of Lioetopum apiculatum, cacti, and "Molinos de Maguey" to supplement food production and ornamental plant sales for the community's profit, and the survival of cattle during times of drought. The project identified two primary schools that needed new rooftops for their auditoriums and sports facilities, and provided both with these upgrades. This is a sign of the project's awareness of improving the site's attractiveness and livability. Finally, the program looks to reuse sustainable energy infrastructure which was used during the production phase by providing donations to the local community, such as with solar energy plants of 25 KW capacity to upgrade the schools and other facilities.. Please see QL 1.1 for more details on each of the programs being implemented and that warrant a high score for this credit.

		Source: Salcido, Oscar. "From CSR to CSV Dominica I Y II - Proyecto Piloto CSV." PowerPoint Presentation. México: 2014. Full Report. *Starace, Francesco, and Enel Green Power. "Política de Seguridad y Ambiente," Mexico: 2012, 1.* *Sandoval, Guillermo Torres, José Luis Barrón Contreras, inscrito bajo el Visado Legal del Abogado Agustín Castillo Toro. Estatutos de La Fundación como Asociación Civil. 2284*1, 2013. 4 Enel Green Power. "Plan Tolerancia Cero Con La Corrupción," n.d.* *Enel Green Power. "Organization Procedure No. 124." Management and development of Greenfield Projects, Mexico: 2013.*
		RECOMMENDATIONS: In order to receive a higher score, the project should seek to revive the public spaces, for example by improving upon the lack of security and crime, through giving attention and care to the amenities and facilities close to the site to decrease the negative characteristics of crime that the pre-feasibility report pointed out.
QL1.3 Develop Local Skills and Capabilities	**5**	**Superior**
		One example of innovative thinking on assisting with the community's needs is the "Escamoles-Maguey" project, which is partnered with the foundation (Fundación Produce A.C. San Luis Potosi), and executed through a Mexican institution called (Instituto de Investigaciones de Zonas Desérticas de la UASLP). Through this project, six ejidos and 20 families were given capacity training to increase productivity and teach methods to best extract escamoles from their shell, thus increasing the sale price from about USD $250 per kilo to about USD $500 per kilo. This specific task is beyond the limits of the wind farm. The project identified a holistic manner in which to view the "Escamoles-Maguey Project" as a way in which the wind farm could use its financial resources to improve the quality of life for these 20 families and six ejidos. Furthermore, the project created 600 new jobs (95% of which are for Mexicans) which greatly improves the area's job prospects. The project is therefore responsible for an ecological, economic, and equitable approach that not only further enhances the sustainability of the community, but also is beneficial to the project's implementation by having developed important capacity building opportunities with the host community. To conclude, the program provides a significant amount of employment and capacity building. The capacity building allows for cows to be fed during the drought period, which is about half of the year, and therefore helps to improve the economy.
		Source: Salcido, Oscar. "From CSR to CSV Dominica I Y II - Proyecto Piloto CSV." PowerPoint Presentation. Mexico, March 28, 2014.
		RECOMMENDATIONS: The project should develop a set of long term job opportunities that match the skills needed in the communities around San Luis de Potosí. This can be done with a sociological report that can explain the socio-economic breakdown and skill set with a thorough analysis of the skills needed by industry breakdown. The project is also recommended to provide information or descriptions on how each program will allow for long-term growth and monitoring of these specific interventions, mentioned above.
QL2.1 Enhance Public Health And Safety	**2**	**Improved**
		Credit detail
		Source: Flores, Victor. "Procedimiento Para Recepción y Puesta en Servicio de Transformadores de Potencia. Anexo A Especificación Técnica Transformadores de Potencia." México: 2014.
		RECOMMENDATIONS: The project can include a performance evaluation based on the procedures set forth and well documented. With the appropriate performance-based third party verification, the project can achieve a higher score.
QL2.2 Minimize Noise And	**1**	**Improved**
		According to the documentation, monitoring results are shown which indicate that turbines 5, 8, and 14

Vibration		surpass the permissible noise limit standards during daytime hours. *Source: Rios Linan, Alejandro, Silverio Herrera Bonilla, and Intertek. "Ruido: Informe Técnico de Resultados Nivel de Ruido de Fuente Flja Diurno," June 30, 2015.* *RECOMMENDATIONS: The project should conduct more interviews on the noise levels affecting nearby residents, as well as fix the three turbines that surpassed the limits. The transparency in the documents which were sent, demonstrates a high dedication and commitment to corporate social responsibility standards.*
QL2.3 Minimize Light Pollution	**0**	**No score** This credit evaluates excessive glare or light at night that can create disturbance in the surrounding areas. No evidence was provided to be able to assess this credit, or the existence of safety illumination at night. *Source: N/A for this category* *RECOMMENDATIONS*
QL2.4 Improve Community Mobility And Access	**7**	**Superior** The project identifies ways in which to improve mobility and access in terms of transportation. The project scored superior in this category because it documents a binding agreement signed between institutions to enhance state roads. The team provided documentation as evidence that the project is improving community mobility vis-a-vis the infrastructure investment and conservation of the approximately 29 km stretch of the nearest state road located in the municipality of Charcas. The annex of the document explains that the national regulations for compliance of international and national laws, as well as the transportation policy to ensure that the project follows all rules for the aforementioned conservation. In addition, a road was developed just for the trucks transporting materials to and from the wind farm during the construction phase. The construction of this alternative road allows the project to ease mobility and decrease the demand for the state highway. *Source: Fermin, Ricardo. "Convenio Junta Estatal de Caminos: Conservación de la carretera estatal Charcas," February 24, 2015.* *RECOMMENDATIONS: In order to achieve Conserving score, the project must create livable communities through the manners in which it creates linkages among waterways and roadways, in that it can offer alternative pathways, and thus is include various modes of transportation (bicycles, cars, motorcycles, and more). Please see QL 1.1 and QL 1.2 for more detail of the team's efforts in areas that are not related to transport infrastructure. A potential suggestion would be to enable a bike program, however the high crime rate may make this idea not as feasible as it would seem to be in theory.*
QL2.5 Encourage Alternative Modes of Transportation	**0**	**No Score** This project evaluates the improvement of accessibility to non-motorized means of transportation and public transit in order to promote alternative transportation and reduce congestion. The project team didn't provide enough information regarding the improvement in accessibility, demonstrating considerations of how the use of non-motorized or public transit applied to the project. *Source:* *RECOMMENDATIONS: This category is meant to assess ways in which the project tried to enhance alternative modes of transportation by enhancing bicycle paths, bus routes, and electric buses, among others. This project conserves a national road, but can still improve by thinking of ways to allow its employees alternative forms of transportation.*
QL2.6 Improve Site Accessibility, Safety & Wayfinding	**3**	**Enhanced** The strategies for safety are well documented. The project team proceeded with closing all roadways or thorough ways in order to avoid the passage of vehicles in zones which were inaccessible due to construction. In addition, weekly minutes outline agreements on whom can access the park and whom cannot from Gamesa. The minutes detail the trucks that entered the site from each of its suppliers. The

		minutes included details such as the date of entry and exit of each truck load, with its appropriate equipment, material and personnel identification. The safeguards that are mentioned serve to outline the effective measures that help to ensure accessibility, safety and wayfinding. The minutes suggest that high security measures to enter and leave the park and the alternative roads seem to have improved road infrastructure that was financed through the project and detailed in the documentation to help conserve the 29 km stretch of the state road in Charcas. In addition, adequate contingency plans are specified for spills, and preventative measures are ensured for all materials.
		Source: "Minuta de Reunión 24 Abril 2014, Weekly Meeting Dominca I." Minutes. México: ENEL GREEN POWER, April 24, 2014, p2 - 5, ibid. *Flores, Victor. "Procedimiento Para Recepción y Puesta en Servicio de Transformadores de Potencia. Anexo A Especificación Técnica Transformadores de Potencia." Transformador de Potencia de 100/133 MVA Subestación Transformadora Parque Eólico Dominica. Code S.24.MX.W.58004.10.081.02. Mexico: Enel Green Power Engineering & Construction ENGINEERING, March 6, 2014.* *Fermin, Ricardo. "Convenio Junta Estatal de Caminos: Conservación de la Carretera Estatal Charcas," February 24, 2015.*
		RECOMMENDATIONS: The project is recommended to have delivered more documentation that demonstrates how the roads are separated for heavy machinery and from normal traffic to circulate. Closer attention will be required for heavy machinery, as it has consequences for the existent roads. With the exception of the state road that was being conserved, there was little mention of national and local regulations being adhered to deliver equipment. Specific descriptions regarding how automobiles use separate roadways, especially with regards to things like physical barriers between sidewalks and certain roadways and its respective use of lights, reflective materials, and adequate signage are recommended to be included within design documents. Further documentation should demonstrate the actions mentioned above to increase the number of points awarded for the category.
QL3.1 Preserve Historic and Cultural Resources	**1**	**Improved**
		Historic and cultural resources include both architectural and archeological resources, as well as tribal and cultural properties. This credit assesses how these items are preserved in order to enhance the cultural and heritage sites at the area where the project is being installed. The Dominica I and II wind farm fulfilled this requirement by acquiring an archaeological evaluation of the site through the National Institute of Anthropology and History (INAH). Therefore, the project team has worked with the community and required regulatory agencies to avoid, minimize, and mitigate impacts to cultural heritage. Likewise, the documentation from the INAH has given explicit permission to EGP to proceed with the construction phase of the wind farm. The project team followed local protocols, which include conducting a feasibility and practicality report regarding the fossils that were found on a 2,738 hectare plot in Palmar of Vinalesphinctes from the species Jurasico superior from 120 million years ago. Should any fossils be found, the company SOWITEC is obligated to contact INAH immediately for preservation. Additionally, a report [Evaluación de Manifestación de Impacto Ambiental (MIA)"] of the project was included to slowly, and through phases relocate the flora and fauna of the site to preserve the rich ecological resources to the area, thus protecting the local ecology so that the ecosystem is maintained over time. Between the project site and the power line, there were 16,891 individual identified species of flora relocated from an 18 hectare area. The relocation program checked the orientation of the plants, and henceforth relocated them into similar natural surroundings. This change and relocation of flora and fauna applies "Official Norm NOM-059-SEMARNAT-2010," and meets the requirements cited in the appendices of the treaty on International Commerce for Endangered Flora and Fauna (CITES).
		Source: Mendez, Salvador Pulido, Dirección de Salvamento Arqueológico, Instituto Nacional de Antropología e Historia, CONACULTA, and Estados Unidos Mexicanos. "Oficio Núm 401.F(4)50.D2013/378," March 27, 2013.

		Dominica Energía Limpia, S. de R.L. de C.V. "Condicionante 4: Actualización de Los Programas de Rescate de Flora Y Fauna Silvestre, Proyecto 'Dominica Energía Limpia' S.G.P.A./DGIRA.DG.7698.10," N/A, p. 3.
		RECOMMENDATIONS: Implementation of programs and protocols for historic and cultural preservation, above local regulations will provide for a higher score in this credit category.
QL3.2 Preserve Views and Local Character	**6**	**Superior**
		The wind farm reaches out to indigenous groups and examines their priorities in terms of natural landscape and community assets. Following from the initial set of meetings with the community, the project team created a project plan to enhance and preserve the local landscape with a relocation program for all flora and fauna found in the 18 hectares of land that contained 16,891 plant species. The program to restore these plants is detailed, analyzing their position in relation to shade and sunlight, and in terms of the ecosystem from which they originate. The Dominica I and II project restores the lost vegetation from the turbine installation to re-design the same landscape features. The design of the flora and fauna restoration site preserves the local character of the area, something which is important to the community as expressed in the meeting minutes from the May 22, 2012 meeting with the Wikariki Union.
		Source: La Unión Wixarika de Centros Ceremoniales de Jalisco, Nayarit y Durango, A.C., and Empresa Dominica Energía Limpia S. de R.L de C.V. "Minuta de Trabajo Centros Ceremoniales." San Luis de Potosí, June 22, 2012, p. 2. *Dominica Energía Limpia, S. de R.L. de C.V. "Condicionante 4: Actualización de Los Programas de Rescate de Flora Y Fauna Silvestre, Proyecto 'Dominica Energía Limpia' S.G.P.A./DGIRA.DG.7698.10," N/A.* *Subsecretaría de Gestión Para la Protección Ambiental, Dirección General de Impacto y Riesgo Ambiental, and Secretaria de Medio Ambiente y Recursos Naturales. "Autorización de la Evaluación de Impacto Ambiental." Dominica Energía Limpia S. de R.L. de C.V., August 11, 2010.*
		RECOMMENDATIONS:
QL3.3 Enhance Public Space	**11**	**Conserving**
		The project has improved the civic center of three public spaces in surrounding elementary schools. This improvement shows the project's commitment to enhancing the lives of those adjacent to the site through infrastructure improvements such as the rooftops of these auditoriums, civic cultural centers that allow for children to be shaded from the sun and protected from the rain during big holiday gatherings or other pertinent events such as graduations and school meetings.
		Source: Salcido, Oscar. "From CSR to CSV Dominica I Y II - Proyecto Piloto CSV." PowerPoint Presentation. (Mexico:2014), 15-17.
		RECOMMENDATIONS:
QL 4.1- Identify and address the needs of women and diverse communities (indigenous or afro-descendant peoples)	**1**	**Imropved**
		The project team identified a potential area of conflict in a natural protected area which needed to be addressed with the Wirikuta, an Indigenous council that oversees the protected area. The project team also has a detailed account of the landowners and affected communities with whom they have spoken with on certain occasions. The project team has worked with the community to follow best practices and international standards for community engagement, in order to increase satisfaction among the communities with respect to the wind farm. EGP shared a complaint from October 12, 2014, whereby the community warned the project not meet a specific family's expectations on an agreement made between the parties. Likewise, in the documents the community notifies of a concern related to one of the turbines. These complaints are transparently shared.

		Source: Salcido, Oscar. "From CSR to CSV Dominica I Y II - Proyecto Piloto CSV." PowerPoint Presentation. Mexico, March 28, 2014, p. 15-17. *La Unión Wixarika de Centros Ceremoniales de Jalisco, Nayarit y Durango, A.C., and Empresa Dominica Energía Limpia S. de R.L de C.V. "Minuta de Trabajo Centros Ceremoniales." San Luis de Potosí, June 22, 2012, p. 2.*
		RECOMMENDATIONS: The objective of this credit is to assess how the project team incorporates the needs of women and vulnerable communities into the design of the wind farm. A thorough process involves interviewing the parties that can be affected, and developing a plan of action to meet their needs. In some instances, if the community has too many issues with the location of the site, and/or other issues that affect things like their employment, mobility, or safety, among other factors, the team should consider these needs and make the necessary changes to incorporate them into the design of the project. There is documentation of a complaint form whereby stakeholders can notify Enel Green Power (EGP) of any issues that the community notices with the construction of the wind farm. *Specific documents that can demonstrate the effectiveness of the project team in integrating community safety, health, and overall needs into the design of the project include: assessments of how the design of the wind farm can be a risk to the health and safety of women, minorities, and/or vulnerable populations, and minutes of meetings or interviews where women's needs are addressed in relation to the creation of the wind farm; documentation that identifies the degree to which the project team adjusted the design of the project to better protect women´s health and safety; documentation of how the project team addressed the aforementioned complaint in the description of this credit's assessment, and integrated it into the design of the project.*
QL4.2 - Stimulate and promote women's economic empowerment	**2**	**Enhanced**
		The project team invited the women in the communities of Ejido San Francisco, Ejido Lo de Acosta, Ejido Jose Ma Morelos, Cabecera Municipal de Charcas, Ejido Benito Suarez, and Ejido Cañada Verde to be trained to be able to work in cactus planting greenhouses. Furthermore, the project includes "abuelas solares" (solar grandmothers) who are trained in the assembly and installation of solar panels. The documentation shows four women who travelled 115 km south (about three hours) to Cachimbo for training. EGP also travelled to Cachimbo to accompany the women on their journey and help them install the solar panels. The program is described briefly and accompanied by a diverse set of photographs. The solar program is a great example of programs that can be expanded to include a greater number of women.
		Source: Salcido, Oscar. "From CSR to CSV Dominica I Y II - Proyecto Piloto CSV." PowerPoint Presentation. Mexico, March 28, 2014, p. 38-55.
		RECOMMENDATIONS: One important aspect in developing women's skills is to implement a follow-up monitoring program to oversee how the skills obtained through training in March, 2014 persist and can be further utilized. The project team provided photographs of the women working in the diverse set of programs such as "Mano para un Vida," "Molinos de Maguey," "Greenhouse for the Cactus," as well as the "abuelas solares;" which are great ways to encapsulate the activities and provide proof women's advocacy, however, adding things like the percentage of women being hired in from the host community, number of women attending meetings, and a plan whereby women are being identified and trained on a larger scale would all be advised. The latter recommendation should be accompanied by the grassroots initiatives already undertaken, but in a more systematic manner.

QL4.3 - Improve access and mobility of women and diverse communities (indigenous or afro-descendant peoples)	**0**	**No Score** No documentation was provided that addresses how the project achieves a design that takes into account the access and mobility of women and vulnerable populations. *Source:* *RECOMMENDATIONS: It is recommended the project enhance women and diverse community's access through community development programs.*
QL0.0 Innovate Or Exceed Credit Requirements		
	72	

SUB CATEGORY:LEADERSHIP		
	Score	**DOMINICA I AND II WIND FARM**
LD1.1 Provide Effective Leadership And Commitment	**9**	**Superior** Sustainability is central to Enel Green Power's operations, organizational structure, projects, procedures and performance evaluations. The wind farm, Dominica I and II, fulfill this credit at its highest score primarily due to the use of surveys to gain suggestions from interest groups. Its inclusion of indigenous groups as part of its process of engagement and all applicable land-owners as well as potential conflicting interest groups enables this project to find the complaints and ensure a commitment from the wind farm with the multiple stakeholders. In addition, the sustainability flyers and disseminated marketing pamphlets showcase parallel processes, projects in their minutes, performances and documentations (photographs, and concise minutes). As an effort to address triple bottom, the economy aspect is met through 20% of the employment being local to the area where the wind farm is constructed, with a 95% within the country, as well as using food harvesting of escamoles, and a project to learn how to pick Molinos de Maguey and use cactus for additional profitable sales to activate dormant activities that can fulfill and help the low income populations increase their economic benefits. The social aspects are being addressed at the nearby schools with new infrastructure and the capacity building programs activates its community into new forms of social activities. The ecological portion is met with a holistic perspective whereby replanting the fauna and flora allows for the ecological cycle of life to pervade instead of being cut off. These programs are evaluated and monitored and all documentation that could support receiving credit was delivered which results in achieving "superior". Please refer to Quality Life credit explanation for a detailed understanding of the three programs aforementioned: a) harvesting escamoles, b) Molinos de Maguey, and c) Cactus greenhouses.

		Source: *La Unión Wixarika de Centros Ceremoniales de Jalisco, Nayarit y Durango, A.C., and Empresa Dominica Energía Limpia S. de R.L de C.V. "Minuta de Trabajo Centros Ceremoniales." San Luis de Potosí, June 22, 2012.* *Sandoval, Guillermo Torres, José Luis Barrón Contreras, and Agustin Castillo Toro. Estatutos de La Fundación como Asociación Civil. 2284*1, 2013.* *Enel Green Power and Starace, Francesco, and "Política de Seguridad y Ambiente," February 29, 2012.* *Subsecretaría de Gestión Para la Protección Ambiental, Dirección General de Impacto y Riesgo Ambiental, y Secretaria de Medio Ambiente y Recursos Naturales. "Autorización de la Evaluación de Impacto Ambiental." Dominica Energía Limpia S. de R.L. de C.V., August 11, 2010. Dominica Energía Limpia, S. de R.L. de C.V. "Condicionante 4: Actualización de Los Programas de Rescate de Flora Y Fauna Silvestre, Proyecto 'Dominica Energía Limpia' S.G.P.A./DGIRA.DG.7698.10," N/A.* *Cerda Cerda, Jesus Paulo, Jose Luis De la Rosa Muniz, Fundación Produce San Luis de Potosí A.C., and Enel Green Power. "Evaluación de Proyecto Escamoles 2015." Enel Green Power, March 2015.* *Centro de Estudios, Servicios y Consultorías Ambientales (CESCA). "Resultados de Ejecución del Programa de Rescate y Reubicación de Fauna Silvestre para el proyecto "Dominica Energía Limpia." Resultados del Programa y Reubicación de Fauna. México: CESCA, N/A.* *Enel Green Power. "O&M Personnel Recruiting and Training, Preliminary to New Power Plants Operation: Operational Instruction No. 167 Dated 04/05/2015." Enel Green Power, April 5, 2015.* *Enel Green Power. "Organization Procedure No. 124." Management and development of Greenfield Projects, December 6, 2013.* *Enel Green Power. "Plan Tolerancia Cero Con La Corrupción," n.d.* *Enel Green Power. "Procedimiento Organizacional No. 125." Ámbito organizativo GRUPO ENERGÍAS RENOVABLES, June 12, 2013.* *Enel Green Power. "Recuperación de Derrames de Sustancias Peligrosas, MXCA ENV PO 446." Environmental Organizational Document. Mexico, November 29, 2012.*
		RECOMMENDATIONS:
LD1.2 Establish A Sustainability Management System	**7**	**Superior** ORGANIZATIONAL PROCEDURE No. 47 rev. 02 dated 26/08/2013 (2) shows a robust system whereby a thorough sustainability management system is created via businesses processes that demonstrate ability to manage effectively project issues to achieve EGP's sustainability goals. One positive characteristic in allowing this project to score high is the scale and scope of the wind farm, which allows for procedures that are manageable. Dominica I and II create cross office coordination with sophisticated processes and procedures that enable a flow of actions. The ease of flow to address issues in a coordinated fashion is showcased in their Organizational program management program. These include sustainable goals that are set to deliver holistic program like those mentioned in credit QL 1.1. Finances for social programs are handled through a private foundation non-profit organization. The social programs are developed to last longer than the course of the construction and throughout its operational life cycle. The Project Developer organizes a handover meeting with the participation of

		7 offices that together complete and formalize the takeover of responsibility by underwriting the "Handover document" report." This is an example of the synergies and procedural organization that create their sustainability goals. Monitoring of their programs are in place and available in the documentation. The authority and responsibility for sustainability are across the organization and embedded in most of its various offices, all supported by the ten documents referenced below. The process is clearly assigned throughout the offices but with a specific plan and achievable goals. One area that seems to be missing is a specific identification of who is responsible for implementing sustainable practices.
		Source: AENOR, Asociación Española de Normalizacion y Certificacion. "CDM Validation Report." Validation Report. México: Dominica Energía Limpia S. de R.L. de C.V., November 4 2012. *Starace, Francesco, Organizational Area Group Renewable Energies, and Enel Green Power. "Organizational Procedure No. 47 rev.02." Project Management, August 26, 201, p 7.* *Enel Green Power, (ENG). "Operative Instruction No. 124 Management and Development of Greenfield Projects." Management and development of greenfield projects. Mexico, March 27, 2014.* *Enel Green Power, "Instrucción operativa sobre atención a grupo de Interés," March 19, 2014. .* *Subsecretaría de Gestión Para la Protección Ambiental, Dirección General de Impacto y Riesgo Ambiental, y Secretaria de Medio Ambiente y Recursos Naturales. "Autorización de la Evaluación de Impacto Ambiental." Published by Dominica Energía Limpia S. de R.L. de C.V.: 2010.* *Flores Ramirez, Alfonso, Subsecretaría de Gestión para la Protección Ambiental con La Subsecretaria General de Impacto y Riesgo Ambiental, bajo la Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT). "Resultado de Evaluación de Manifestación de Impacto Ambiental (MIA)." Clave 24SL2013E0010. Distrito Federal, México: 2014.* *Enel Green Power. "Dominica Relacionamiento Con Las Comunidades." PPT, San Luis de Potosí: 2013.* *Starace, Francesco, and Enel Green Power. "Política de Seguridad y Ambiente," México: 2012.* *Secretaría de Desarrollo Social y Regional, and San Luis Potosí Gobierno del Estado. "Información de Soporte para el Plan Municipal de Desarrollo 2012-2015 Municipio Charcas Microregión: Altiplano Centro," México: 2012.*
		Recommendation: identification of who is responsible for implementing sustainable practices and what is the specific method for doing that.
LD1.3 Foster Collaboration And Teamwork	**1**	**Improved**
		Credit The project works across the horizontal and vertical organizational structure. In the minutes of one of the project's meetings, they show how all related departments across the organization worked together to solve the issues during the constructions phase. Likewise, minutes at each phase of the project,, including operation of the wind farm showcase the same type of inter-departmental organization , showing how the project owner values and recognizes teamwork as an integral part of the way the wind farm is constructed and implemented. No specific reference has been done according to the project delivery process or the methods of collaboration not just within the project team, but also between the different parties involved in the process (project sponsor and contractor). No risk or reward sharing procedures were identified.
		Source: N/A, "Minuta de Reunión 24 Abril 2014, Weekly Meeting Dominica I." Minutes. México, April 24, 2014.

		Cerda Cerda, Jesus Paulo, Jose Luis De la Rosa Muniz, Fundación Produce San Luis de Potosí A.C., and Enel Green Power. "Evaluación de Proyecto Escamoles 2015." Enel Green Power, March 2015.
		RECOMMENDATIONS: The objective is to replace a conventional "systems view" to an overall holistic view of its internal procedures of the organization together with the project owner, designer and contractor who established a close collaboration from an early phase of the project.
LD1.4 Provide For Stakeholder Involvement	**14**	**Conserving**
		In the document "Operative Instruction 124", the project manager identified the key stakeholders in the installation of Dominica I and II Wind Farm: 7 ejidos, a cultural and natural protected area 10 km away, 20 private landowners, Wirikurta Historic community. The stakeholder engagement created a shared funding plan for 200,000 dollars, partnering with CONAFOR and SEMARNAT (National Level stakeholders) to identify the needs, at the national level, while consulting landowners as well as the Wirikurta Indigenous communities. Together stakeholders devised a set of programs that would help them achieve triple bottom line. These included: the production of escamoles and harvesting maguey for cattle feeding during drought season; a reforestation of endangered flora; a 10 KW photovoltaic plant, as well as infrastructure upgrades of a close by state highway and the construction of two rooftops of the civil centers in the public school nearby.
		Source: Enel Green Power, (ENG). "Operative Instruction No. 124 Management and Development of Greenfield Projects." Management and development of greenfield projects. Mexico, March 27, 2014. *Instrucción operativa sobre atención a grupo de Interés." Enel Green Power, March 19, 2014.* *Enel Green Power. "Dominica Relacionamiento Con Las Comunidades." PPT, San Luis de Potosí, January 23, 2013.* *Starace, Francesco, and Enel Green Power. "Política de Seguridad y Ambiente," February 29, 2012.* *Cerda Cerda, Jesus Paulo, Jose Luis De la Rosa Muniz, Fundación Produce San Luis de Potosí A.C., and Enel Green Power. "Evaluación de Proyecto Escamoles 2015." Enel Green Power, March 2015.* *La Unión Wixarika de Centros Ceremoniales de Jalisco, Nayarit y Durango, A.C., and Empresa Dominica Energía Limpia S. de R.L de C.V. "Minuta de Trabajo Centros Ceremoniales." San Luis de Potosí, Junio 22 2012* *Enel Green Power, "Minuta de Reunión 24 Abril 2014, Weekly Meeting Dominica I." Minutes. México:, April 24, 2014.* *Monroy Fernández, Marcos G. Centro de Estudios Servicios y Consultorías Ambientales. "Ayudantes Generales que Participan en la Ejecución del Rescate de Flora y Fauna en el Proyecto del Parque Eólico Dominica Para el Centro de Estudios Servicios y Consultorías Ambientales, S.A. de C.V. (CESCA)." Centro de Estudios Servicios y Consultorías Ambientales, N/A.* *Enel Green Power. "Reporte de Mecanismo de Atención a Grupos de Interés Formulario," N/A.*
		RECOMMENDATIONS:
LD2.1 Pursue By-Product Synergy	**0**	**No score**
		This credit measures the extent to which the project team has identified material needs for the project and has looked for nearby sources or facilities with unwanted resources that can meet their needs for

Opportunities		specific materials allowing opportunities for the capture of synergy and mutual benefit. This is an important concept used throughout the report and is extremely useful in trying to minimize waste in energy, water, and overall waste products. It pushes companies to develop a holistic mind-set where savings is used as a way to reuse and minimize the resources needed to create the end product, in this case a renewable energy source from wind.
		Source:
		RECOMMENDATIONS *This credit measures the extent to which the project team has identified material needs for the project and has looked for nearby sources or facilities with unwanted resources that can meet their needs for specific materials allowing opportunities for the capture of synergy and mutual benefit.* *This is an important concept used throughout the report and is extremely useful in trying to minimize waste in energy, water, and overall waste products. It pushes companies to develop a holistic mind-set where savings is used as a way to reuse and minimize the resources needed to create the end product, in this case a renewable energy source from wind.*
LD2.2 Improve Infrastructure Integration	**7**	**Superior** The project worked with national scale stakeholders to identify how the project could help in developing infrastructure in bundles. The project also aligned with two schools nearby and identifies the need to build two roofs for their respective civic centers and auditoriums. Therefore, the project identifies infrastructure deficits in the community through community meetings and local stakeholder engagement. It created a foundation and registered it to allocate 200,000 dollars in addition to serve the community and prepare for any unforeseen infrastructure developments that could benefit the community and the other four programs that hopes to deliver economic benefits through escamoles harvesting and development of Molinos de Maguey. The project showcases design documents that show the improvements made upon the school and how these help integrate the community with small interventions but useful to protect the children during times of rain or extreme hate with roofs. However, the project does not design the turbine's operation taking into account infrastructure external to the wind farm, such as repairing or developing infrastructure that opens the community eye's in new sustainable lifestyles.
		Source: Salcido, Oscar. "From CSR to CSV Dominica I Y II - Proyecto Piloto CSV." PowerPoint Presentation. Mexico, March 28, 2014. *Fermin, Ricardo. "Convenio Junta Estatal de Caminos: Conservación de la carretera estatal Charcas," February 24, 2015.*
		RECOMMENDATIONS: The project does seek to go above the scope of the wind farm implementation, and serves the surrounding community, but to score higher, the project is recommended to: *Show more documentation on community-wide infrastructure systems that helps the low density population, that however small, can use integrated systems.* *The project restores nearby highway and the school rooftops, but each as isolated infrastructure improvements. Documents and design of how these infrastructure asset connects to the surrounding municipalities through a systems integration perspective would improve the overall score.* *Expand the infrastructure to connect the stakeholders by not viewing each improvement in an isolated fashion but in an interconnected way with a comprehensive understanding of how the project can pursue synergies within the surrounding infrastructure and allow for further linkages. An example is*

		showcasing how the new state highway that is being upgraded and fixed has proper sewerage and stormwater management design. In addition design documents of the aforementioned road should demonstrate how it connects to more roads that connect the wind farm's internally made dirt roads to circulate the trucks during the construction phase.
LD3.1 Plan For Long-Term Monitoring & Maintenance	**1**	**Improved** The project manager created a set of long term monitoring plans in order for there to be properly maintained and maximize the lifespan of the windfarm . The documentation provided demonstrates annual performance and maintenance conducted as well as monitoring of the turbines through two technicians with best practice style check-in-the-box monitoring sheets filled-out and shown. However, this credit seeks to understand and view the overall plan used to maintain throughout the life of the project. To do this, the project owner is recommended to deliver further documentation available under "recommendations" of this credit below. *Source: N/A. "G8X 6 Months Preventative Maintenance with 2 Technicians Tev 1.3." IGR/DSG/JMR, July 28, 2010. SB8300901 ANNEX A0.* *Enel Green Power. "Programa de Mantenimiento Anual Linea de Transmision y S.E. 115 KV PE Dominica I 2016," 2016.* *Enel Green Power. "Programa de Mantenimiento 2016 Dominica I Enel Green Power Mexico Tecnologia Wind." ENG, 2016.* *RECOMMENDATIONS: The project identifies documentation that shows relevant maintenance has been conducted. The project is recommended to:* *Create a comprehensive long-term plan on monitoring and maintenance with the resources, funds and otherwise allocated funds to specific types of monitoring and maintenance, for example monitoring on turbines and its equipment would need the names and suppliers for each type of monitoring. The plan is a separate document from the receipts of the monitoring already conducted. While these receipts are great examples of the maintenance and monitoring already done, the credit seeks to understand the long term feasibility of maintaining a consistent record and maintenance of its all parts to ensure durability and flexibility of the materials.* *A chart of employees or evaluators for future maintenance checks would achieve a higher score.* *Include descriptions of the people hired or assigned to maintain the turbines and all equipment related to the operation of the wind farm.* *Explanation on how resources are allocated to monitor the turbines and equipment.* *One area that must be demonstrated is how funds and resources are managed to allocate for long term maintenance after the project is delivered and throughout the life cycle of the wind farm as well as it deconstruction, if this is included within the plans.*
LD3.2 Address Conflicting Regulations & Policies	**1**	**Improved** The project's "Organizational Procedure No.47" outlines over the 28 page document how it complies with national, state and local regulations, laws, and permits. These relate to an initial search to identify in each project area, the permits needed and all the regulations that the project just meet to implement and construct the wind farm. The project manager explains how the project checked that each local and state regulation comply with the sustainability goals as to not conflict in any way with the larger life-cycle of its sustainable objectives. *Source: Starace, Francesco, Organizational Area Group Renewable Energies, and Enel Green Power.*

		"Organizational Procedure No. 47 rev.02." Project Management, August 26, 2013, p. 3-10, p.15-22; p. 23-27. *Enel Green Power, (ENG). "Operative Instruction No. 124 Management and Development of Greenfield Projects." Management and development of greenfield projects. Mexico, March 27, 2014.*
		RECOMMENDATIONS: The project documentation shows compliance with local and national laws and regulations. However, the project has not yet to list or identify potential conflicts between Mexican laws and the implementation of the organization's sustainable practices due to potential outdated regulations. The key here is to create sustainability goals at all areas: material usage, energy, water (ex. water harvesting) and other key areas that allow the development of the wind farm's infrastructure to be a sustainable "whole system". In the documentation, the program can identify if and when their sustainability practices match the country's overall regulations and when there is a potential conflict with a record chart that shows this dynamic. If and when there is a conflict, the project could show the negotiated terms or potential meetings that were had to fix the conflict between potential outdated laws and the realization of truly sustainable goals.
LD3.3 Extend Useful Life	**0**	**No Score**
		The project management has conducted feasibility studies to identify long-term areas where there may be use for further maintenance and potential cost-savings. However, there is no additional information according to new strategies or equipment that will allow to extend the lifespan of the project in the future.
		Source: N/A. "G8X 6 Months Preventative Maintenance with 2 Technicians Tev 1.3." IGR/DSG/JMR, July 28, 2010. SB8300901 ANNEX A0. *Enel Green Power. "Programa de Mantenimiento Anual Linea de Transmision y S.E. 115 KV PE Dominica I 2016," 2016.* *Enel Green Power. "Programa de Mantenimiento 2016 Dominica I Enel Green Power Mexico Tecnologia Wind." ENG, 2016.*
		RECOMMENDATIONS: The project can score higher if the documentation showed: *How the materials used allow for a more durable wind farm. The documents show the materials and the maintenance that allow for better durability but a thorough explanation of how the materials are chosen specifically to withstand temperature change, weather change and other factors that although unpredictable can alter the project lifespan if not taken into consideration. Documentation showing how the elements intended to add durability, flexibility, and resilience throughout the useful life of the project were incorporated into the design.* *Include a longer-term plan by including designs that allow for flexibility that can expand the project's lifespan.* *Areas for investments considering the long term aspects and needs of the project.*
LD0.0 Innovate Or Exceed Credit Requirements		*N/A*
	40	

CATEGORY II: CLIMATE AND ENVIRONMENT		
RESOURCE ALLOCATION		
	Score	**DOMINICA I AND II WIND FARM**
RA1.1 Reduce Net Embodied Energy	**0**	**No Score** Net embodied energy is the sum of energy that was used in the production of a material or product, including the raw materials extraction, transport, manufacture, and all of the undertaken processes that contribute to the material or product being completed and ready for use. To assess the net embodied energy, the project would need to conduct a life-cycle assessment (LCA).The project lacks an LCA which is needed to achieve a score in this section. The project should consider the incorporation of an LCA in order to assess the net embodied energy. LCAs should be conducted by a recognized and accepted methodology and software. *Source: N/A* *RECOMMENDATIONS: The results of an LCA are needed in order to improve the score for this credit. The documentation should be as specific as possible, including mentioning methodologies which constitute best practices. In addition, the net embodied energy of the project should be reduced through a set of strategic approaches, and objectives meant to tackle any energy misuse identified in the results of the LCA. Therefore, it is recommended to include design documents that specify the types of materials used and how the material chosen reduces net energy, as well as photographs and visual documentation, such as design and engineering documents that highlight the reasons for the material choices; an example of a reason would include choosing one material over another to reduce transportation of the material, in order to procure locally and reduce associated carbon emissions.*
RA1.2 Support Sustainable Procurement Practices	**2**	**Improved** The project manager has identified a sustainable procurement plan with the best materials for the durability and enhanced performance, supplied through Gamesa. A thorough review of their materials and performance is identified and documented. For example, the documentation specifies that the Gamesa G9X-2.0 MW is cost and energy efficient due to the combination of its 2.0 MW unit power and the use of 5 rotors each with different diameters ranging from 80-114 m to achieve the best output, taking into account potential shifts in wind conditions as well as overall temperatures. However, the project did not submit documentation on sustainable procurement practices that were made vis-a-vis Gamesa's choice in materials and supplies. Besides the specification that the equipment bought from GAMESA follows sustainable practices, not additional information has been provided from other suppliers. *Source: Gamesa. "Gamesa G9X-2.0 MW Technological Evolution." presentation, Internal Use/Supporting Documentation, March 2012. www.gamesacorp.com, p 8.* *AENOR, Asociación Española de Normalizacion y Certificacion. "CDM Validation Report." Validation Report. México: Dominica Energía Limpia S. de R.L. de C.V., November 4, 2012.* *Flores, Victor. "Procedimiento Para Recepción y Puesta en Servicio de Transformadores de Potencia. Anexo A Especificación Técnica Transformadores de Potencia." Transformador de Potencia de 100/133 MVA Subestación Transformadora Parque Eólico Dominica. Code S.24.MX.W.58004.10.081.02. Mexico: Enel Green Power Engineering & Construction ENGINEERING, March 6, 2014.* *Interministerial Commission on Climate Change, and Dr. Fernando Tudela Abad. "Letter of Approval CDM in Article 12 of Kyoto Protocol." Letter of Approval of CDM document for Kyoto Protocol, October 5, 2012.*

		RECOMMENDATIONS: The project is recommended to include the percentage of materials it procures from its suppliers that effectively follow specific sustainability standards. With an exact percentage of the materials and the type of benefits it is creating, the project can increase its score. In addition, Gamesa works with other manufacturers of the gearboxes, generators and convertors, to assemble the wind turbine. It is recommended to proceed with documenting Gamesa's sustainability practices and their overall ethics and procurement procedures that pertain to sustainability.
RA1.3 Used Recycled Materials	**2**	**Improved** The project uses 5% recycled materials during the construction phase of the project to pave the roads. Using recycled materials can be achieved through various mechanisms such as ower the demand of new materials by using materials that already exist and are nearby. *Source: Martinez, Alvaro, Ramses Huicochea, and Andrea Candelora. "Memoria de Cálculo de Estructura de Pavimento Del Parque Eólico Fase II." Engineering & Construction/Ingeniería. Enel Green Power, July 28, 2014.* *RECOMMENDATIONS: To score higher in this credit, documentation providing the following would help identify and consider the work done related to "used recycled materials":* *Include an inventory of the volume of reused material or inventory of material with reuse potential. Provide design documents showing the location and weight or volume of reused structures or materials. In determining weight or volume the project teams may refer to standard equivalents.* *Please note that these recommendations come under the understanding that recycled materials must endure additional quality assurance requirements to support the wind farm proper functioning. Therefore, whenever reused materials are implemented as part of the sustainability objectives, and weight as well as volume is being documented, the project manager must also submit these to additional quality assurance performance tests, to make sure the materials can endure throughout the life of the contract at optimal efficiency.*
RA1.4 Use Regional Materials	**0**	**No Score** This credit category is central to helping the project in keeping greenhouse gas emissions to a minimum by procuring locally produced, manufactured, and sourced materials. In order to achieve a higher score in this credit category, the project should procure the soils, aggregates, concrete, or other materials from local sources; ranging from within 80 km to 800 km, according to the material typology. According to the documentation provided, the soil has been reused on-site, and through the relocation of flora and fauna, local plants were bought and reused. Further explanation of the materials' origin and their respective distance to the site where they will be used should be provided. *Source: Martinez, Alvaro, Ramses Huicochea, and Andrea Candelora. "Memoria de Cálculo de Estructura de Pavimento Del Parque Eólico Fase II." Engineering & Construction/Ingeniería. Enel Green Power, July 28, 2014.* *Gamesa. "Gamesa G9X-2.0 MW Technological Evolution." presentation, Internal Use/Supporting Documentation, March 2012. www.gamesacorp.com, p 6-8.* *RECOMMENDATIONS: Specifically, the project team should attempt to acquire soils, aggregates, concrete, mulches, sand, etc., at specified distances referenced in "The Sustainable Sites Initiative: Guidelines and Performance Benchmarks 2009" guidelines. However, the project also must maintain a cost/distance/benefit chart or inventory, whereby each material has the distance from which it was bought and transported indicated. If the material was either electrical and mechanical equipment,*

		these are not calculated (exempted) from the distance benchmark because benefits of equipment efficiency and performance in terms of durability and longer lifespan typically outweigh the benefits offered through carbon emissions' reductions, if and when the performance and durability is significant.
RA1.5 Divert Waste From Landfills	**3**	**Improved** The project has a waste management plan in place which explains in detail the process and organizational structure of waste management as well as waste streams. The department of Health, Occupational Health and Environment [El Departamento de Salud, Seguridad Ocupacional y Ambiente] (SSOA) are the responsible entity within the organization to write the set waste management plan. The department of Sales/Administration contract the services for the waste removal and clean-up in waste sites of the Wind Farm. The Responsible Site employees are called [Los Responsable de Sitio (RS)] and are charged with executing the waste management plan, following the specific guidelines set forth in the plan as well as placing the disposable trash recipients and separated the types of recyclables in the specified manner. All the trash must be annotated in a formulaire called "List of Generated Waste" [Listado de Residuos Generados], on Form "MXCA ENV MD 446". SSOA then revises and updates the formulaire, if it is needed, after the list of waste is given and analyzed, taking into account waste type and volume generated, the RS and SSOA create a set of measures that can reduce the waste produced. New objectives are set forth after the waste data is specifically analyzed. The Administrative Assistant coordinates with the SSOA to define the final place for disposal of used tires, batteries, paints, oil, in order to proceed with national legislation. All the furniture and equipment are offered to the Social Administrative Office [Gestion Social] and the department of Human Resources, organizes talks and capacity building meetings, to teach all the employees about the organizational culture of waste consciousness to reduce, reuse and recycle all disposal material (waste). Even though there is no specific information about the percentage, it is estimated that the amount of recycled and reused materials equals at least 25%. *Source: Enel Green Power, and RINA, "ISO 14001 BS OHSAS 18001.Manejo de Residuos, MXCA Environmental Procedimientos Organizacionales (PO) 446," Mexico: 2012.* *RECOMMENDATIONS: The project has a great system or Waste Management Plan, however, the results or data accrued during the waste management process is recommended to be delivered as part of the documentation. Percentage of materials that are diverted from landfills is an important percentage. A ratio is recommended as being part of the documented results to calculate waste diverted to total waste produced. Calculations delivered by weight or volume are recommended with the exception of hazardous waste which is not part of the overall calculations needed to determine a higher score.* *In the case of recycled material, solid waste is extremely important to identify the local and national regulations so as to comply with them. The project manager must demonstrate documentation that shows the applicable solid waste regulations and how these must be disposed. While this is a subtopic in the credit, it is important to include the waste part of the recycled material life cycle to support the credit's highest score.*
RA1.6 Reduce Excavated Materials Taken Off Site	**0**	**No Score** The project has developed a successful and efficient way to use the soil excavated for the foundation of the turbines in improving the roads needed to transport equipment during the construction phase. 5% of the material used for the roads improvement is coming from this source. In order to score in this credit it should be proven that al least 30% of the excavated material in suitable for reuse.

		Source: Martinez, Alvaro, Ramses Huicochea, and Andrea Candelora. "Memoria de Cálculo de Estructura de Pavimento Del Parque Eólico Fase II." Engineering & Construction/Ingeniería. Enel Green Power, July 28, 2014, p 24-25.
		RECOMMENDATIONS: Design documents should be provided in order to know what is the strategy to balance cut and fill to minimize the volume of excavated material taken out of the site.
RA1.7 Provide for Deconstruction & Recycling	**0**	**No Score** The documentation on deconstructing the Gamesa towers and equipment after the life of the contract is not included, therefore the use of the wind farm after the duration of the contract should be included in a future agreement. *Source:* *RECOMMENDATIONS: Wind parks can provide benefits through the deconstruction of a park itself after the life of its contract, and materials and equipments can be sold back to manufacturers and suppliers which can use the parts to create new wind farm equipment (turbines, engines, etc). If Dominica I and II included a deconstruction plan as part of their long term sustainability goals, the wind farm would have scored higher in this credit.* *The project team should show documentation of the process that occurs after the lifespan of the wind farm. In Dominica I and II, the project's life span is set for 25 years, however there should be more documents that demonstrate the process of deconstruction that will be used, or the plans for the equipment, materials, and other options that may be present. This is a perfect opportunity to resell the materials to another wind farm, or bring back the equipment to its initial manufacturer (example Gamesa) so that they can re-utilize parts and other materials for future components. Therefore, the project would score higher with a plan for disassembly, especially targeted with regards to the turbines, including an inventory of the volume and weight of the materials that remain and are set to be resold.* *The integration of a third-party consultant into the team, who can identify the amount of materials that can be reused, recycled, or resold at the end of its consequential cycle and post-contract extensions, will benefit the sustainable outcome of the project.* *Also, a parallel plan on how the deconstruction of the wind farm can bring the back the original ecological and environmental services of the country will provide for a Restorative score for this credit. This type of holistic systems thinking is at the forefront of this credit, with a unique perspective on showcasing that the project is thinking beyond the contract's life span; in addition to delivering unique additive factors back to the environment and the space that was altered upon the construction of the infrastructure project.*
RA2.1 Reduce Energy Consumption	**0**	**No Score** The project consumes very little energy in comparison to the amount of energy that it produces, which creates a net energy output, benefitting the environment overall. The project offers renewable energy to the grid, but there hasn't been an exact number offered regarding the amount of energy that is being saved as a consequence of planning, design, or analysis of different options during the operation and maintenance of the constructed works. AENOR confirms that the host party's will contribute to the sustainable development of Mexico by reducing GHG emissions in the country, compared with the "business-as-usual scenario."

		Source: AENOR, Asociación Española de Normalizacion y Certificacion. "CDM Validation Report." Validation Report. México: Dominica Energía Limpia S. de R.L. de C.V., November 4 2012., p 36-37. *Starace, Francesco, Organizational Area Group Renewable Energies, and Enel Green Power. "Organizational Procedure No. 47 rev.02." Project Management, August 26. .* *Enel Green Power, (ENG). "Operative Instruction No. 124 Management and Development of Greenfield Projects." Management and development of greenfield projects. Mexico, March 27, 2014.*
		RECOMMENDATIONS: The main idea from this credit would be for the project owners and managers to anticipate the overall operational and maintenance energy consumption of the wind farm overall, on an annual basis, and incorporate a strategy to minimize energy consumption. The goal is to go beyond industry norms by giving special attention to calculating energy consumption in order identify potential energy reductions measures. An energy evaluation during the project life-cycle will create a clear estimate, highlighting the importance of implementing some of these energy reduction strategies.
RA2.2 Use Renewable Energy	**4**	**Improved**
		10% of the project's energy consumption is obtained through on-site photovoltaic plants, in order to meet the energy needs of Enel Green Power's employees during the construction and operation of the project.
		Source: Photovoltaic photographs of the plant and measurement.(Unknown)
		RECOMMENDATIONS: The project team is recommended to document meetings and minutes where energy reduction is discussed. The project should also deliver a set of design documents that showcase how each decision related to equipment, materials, and the turbines lead to energy reductions. *It is recommended to conduct feasibility and cost-analysis evaluations and studies that identify energy reductions that are above benchmarks and industry norms, as well as promoting a decrease in overall energy needs.*
RA 2.3	**11**	**Conserving**

Commission & Monitor Energy Systems		The project has set-up monitoring equipment in order to identify if and when efficiency is lost due to malfunctions or simple maintenance needed. In terms of energy, monitoring of the system's energy input and output enables consistent data to identify malfunctions and target any energy efficiency systems to provide for long-term durability. In addition, the "O&M Personnel Recruiting and Training, Preliminary to New Power Plants Operation", specifically states that the Operation and Maintenance (O&M) in Mexico needs to do the following tasks on a consistent basis: "Monitor on a daily basis the activities performed by the personnel operating the plants; Ensure compliance with the parameters defined by the Operation and Maintenance function related to operation, maintenance, availability, etc; Supervise the execution of maintenance activities performed by different actors involved in the plant maintenance; Ensure compliance with legal, safety and environment requirements Report regularly and promptly any issues that may arise" O&M, p 7 These tasks are some of the detailed instructions that allow for a long lifespan of the equipment to be properly maintained and thoroughly revised. In addition, Gamesa has a long-term monitoring program that follows strict recording of the energy usage through meters that are consistently measured to check and change if any energy leakage or shifts occur.
		Source: Enel Green Power. "O&M Personnel Recruiting and Training, Preliminary to New Power Plants Operation: Operational Instruction No. 167 Dated 04/05/2015." Enel Green Power, April 5, 2015, p.7.
		RECOMMENDATIONS: The project team can offer specific mechanisms that explain the contracting of the company that will perform the monitoring events for all systems. Gamesa is detailed in the explanation of the documentation to be the sub-contractor to perform the monitoring of its equipment, however, other systems are to be monitored in the wind farm and these are not explicitly stated . It is recommended that the project team document the meter records on energy consumption outputs versus input. Then, the project team can enhance the documentation provided of this data through a specified method (annotating the operations and organization of the process) of monitoring, supervision and revision. In addition, documenting the emissions reductions archived and the process for technological control as well as specifying the verification process and the allocated budget for this whole process through budget sheets and contracting information is recommended.
RA3.1 Protect	**2**	**Improved**

Fresh Water Availability		The project team applied for a change in the project site's land use in an area that was zoned as Forest Land. In order to obtain such authorization from the Natural Resources and Environmental Secretariat [Secretaria de Medio Ambiente y Recursos Naturales], the project hired a water specialist to analyze the location's respective watershed where it specifically assessed water resource availability in the corresponding basin. The assessment found that the region where the wind farm was being constructed and operated has less than (<) 500 m3/pp water availability, which is considered to be scarce or extreme water scarcity. The project team also studied and assessed the water demand required for the project operation equals 5% or less of the total water available. Used potable water piped in for the project, will be used in toilet and cleaning of the turbines. Operation and Maintenance Water Usage: In total, the estimated water demand for the operation and maintenance of the project was estimated to be 146 m3/year. The demand of this water usage is delivered to the staff in pipes and stored in a cistern. The water supply will be through an authorized supplier for that purpose, however, the authorize supplier is not indicated in the report. Construction Phase: water consumption was approximately 750,000 m3 and this includes services such as washing equipment, concrete preparation, irrigation of all equipment and turbine surfaces to reduce dust generation. The project design includes drainage in its design whereby there were levees that contoured the equipment to retain runoff and capture as much water. The water captured forms trenches to channel surface runoff, and the design included stone barriers along the contours to prevent soil erosion or the deleterious effect of inadvertently altering the natural flow of surface water that could affect groundwater. The drainage designed on the turbines avoid modifying the quality and quantity of the quality of its water. The water used does not involve creating a demand on the bodies of surface or underground water. In addition, there is no significant consumption of water for the construction process, because the water is primarily used for sanitation purposes and toilets.
		Source: Navarro Martinez, Carolina. "ACUSTF: Cambio de Uso de Suelos en Terrenos Forestales en Superficie de 914848 Ha." Secretaria de Medio Ambiente y Recursos Naturales, (México : 2014).
		RECOMMENDATIONS: In order to accomplish a net positive impact on quality and quantity of water resources the project would need to develop stronger links with the municipal government in order to strengthen the water in the area. The same type of thinking that was used in community engagement processes must be used in water systems. The project isn't limited to its site, but can work with the nearby actors and stakeholders to create a positive effect on already scarce resource in the region as was identified in the land use authorization report. *The project is recommended to seek to deliver a net positive water by identifying programs or plans that help the area clean their contaminated watershed and deliver water improvements to its residents. This is recommended as part of a Corporate Social Responsibility (CSR) alternative. While the project already has a high record on Quality of Life. This area can be improved through programs that allow the project to have a positive impact on a source that is scarce in the area. In addition, toilets can be supplied through minimal water usages and toilet services can be procured through companies that show sustainable practices applied to their toilets during the constructions and operational phases.*
RA3.2 Reduce Potable Water Consumption	**0**	**No Score**
		The project team did not address the specific information regarding the potable water component. The credit tries to evaluate the amount of potable water used and identify if the project team has enables a mechanism to reduce the drinking water consumption.
		Source: Navarro Martinez, Carolina. "ACUSTF: Cambio de Uso de Suelos en Terrenos Forestales en

		Superficie de 914.848 Ha." Secretaria de Medio Ambiente y Recursos Naturales, (México:2014
		RECOMMENDATIONS: The project records low water consumption which are used for washing equipment, concrete preparation, irrigation of all equipment and turbine surfaces to reduce dust generation. The fact that the project uses the minimal amount of water is positive in creating a minimal demand in an area where water is scarce. Other alternative explored is trying to bring bathrooms that use minimal water onsite to dispose organic waste in a more sustainable manner.
RA3.3 Monitor Water Systems	**0**	**No Score**
		The water usage is provided for 8 people/employees without consistent monitoring. Therefore this project does not have the necessary documentation to properly assess this credit. However, this was a one-time assessment and is not done consistently on an annual basis.
		Source: Navarro Martinez, Carolina. "ACUSTF: Cambio de Uso de Suelos en Terrenos Forestales en Superficie de 914.848 Ha." Secretaria de Medio Ambiente y Recursos Naturales (México: 2014), 1-10. *Enel Green Power, and RINA ISO 14001 BS OHSAS 18001. "Manejo de Residuos, MXCA Environmental Procedimientos Organizacionales (PO) 446." (Mexico: 2012), 8.*
		RECOMMENDATIONS: Design documents and specifications identifying the installation of leak detection systems, when appropriate, and water quality collection points, as well as systems used for monitoring of the water used. *Waste, water and energy are best dealt with in this evaluation through a Life Cycle Analysis that accounts for the whole system of these natural resource usages, in terms of the input into the site and the outputs, often located far from the site (but not necessarily).*
RA 0.0 Innovate Or Exceed Credit Requirements		*N/A*
	24	

NATURAL WORLD		
	Score	**DOMINICA I AND II WIND FARM**
NW1.1 Preserve Prime Habitat	**9**	**Superior** The project choose a location not cataloged as "prime habitat" but greenfield. The project team was obligated to seek a change in land use to accommodate the new infrastructure. Regarding this request called, "Change of Land Use for Forest Terrain with a surface of 914,848 Ha." The change in land use showcases that the project is located in an area that is not usually used for infrastructure of this scale. The CDM Report also qualifies the area as a greenfield, and the fauna on the site as species of extreme ecological importance, such as cacti, required to be conserved by law. The protection of areas with high ecological value is achieved through a very rigorous plan of flora and fauna relocation. While the relocation of these plants provided high points in other categories, it also shows that the site is located on habitat of special importance therefore requires conservation in certain areas. On the other side and according to the EIA authorization the project is not considered prime habitat. In documentation pertaining to the conservation of the area and land use changes, it indicates that the site it is borderline with natural habitat land. *Source: Navarro Martinez, Carolina. "ACUSTF: Cambio de Uso de Suelos en Terrenos Forestales en Superficie de 914.848 Ha." Secretaria de Medio Ambiente y Recursos Naturales, September 7, 2014.* *Enel Green Power, and RINA ISO 14001 BS OHSAS 18001. 'Manejo de Residuos', MXCA Environmental Procedimientos Organizacionales (PO) 446." Environmental Organizational Document. (Mexico:2012) , p. 8.* *Subsecretaría de Gestión Para la Protección Ambiental, Dirección General de Impacto y Riesgo Ambiental, y Secretaria de Medio Ambiente y Recursos Naturales. "Autorización de la Evaluación de Impacto Ambiental," (Mexico: 2010).* *CESCA, Centro de Estudios, Servicios y Consultorías Ambientales. "Resultados de Ejecución del Programa de Rescate y Reubicación de Fauna Silvestre para el proyecto "Dominica Energía Limpia." Resultados del Programa y Reubicación de Fauna. México: cesca, N/A.*

		RECOMMENDATIONS: The project is recommended to: *-Verify if the land is considered prime habitat through a third party (including SFI, FSC, or CSA Z809).* *-Include a sitemap with a buffer drawn around undeveloped land, and determining how it is preserving all areas of prime habitat. While the project shows in detail the relocation of fauna and flora that follow the aforementioned Mexican law (NOM-059-SEMARNAT-2010), no areas considered prime habitat or areas with high ecological value have been avoided for the location of the project.*
NW1.2 Preserve Wetlands and Surface Water	**1**	**Improved** The State Council on Forestry emitted a favorable mention towards the project Dominica Energía Limpia II on June 6th 2014. In relation to not impacting the quality of water or diminishing its effects on the surface water or wetlands.The documentation shows that the wetlands are preserved and that there are no rivers, creeks, or water bodies that can be affected by the project. The project doesn't disturb the water flows that could inadvertently alter the lower sections of the watersheds around the project site or water underground. The document also signifies that the water used is minimal, and just enough to cover basic need (toilets for 8 people) therefore the quality and quantity of the water used will not compromise potable water availability. However, the project does not create buffers around dried out creeks nor does it find a way to develop parallel actions that could enhance the water in this identified dried ecological environment. *Source: Enel Green Power, Parque Eólico Dominica II Drenaje Pluvial Estudio Hidrologico e Hidraulico (Mexico: 2014), 4-9, 20-22* *RECOMMENDATIONS: The project is recommended to seek to:* *-Providing connected habitat corridors and maintaining biodiversity through corporate social responsibility (CSR) projects that can improve the dried wetlands do that aquatic-dependent animals and plants can live off upland habitats to nest, breed, feed or hibernate. Identifying that the region has a degraded ecological environment serves as an opportunity to develop programs organized through CSR to enhance these degraded environments so that a full-cycle of restoration can begin to happen.* *-Create a buffer zone around the dried creeks, rivers and wetlands so as to filter nitrogen and phosphorus that can land in these creeks and rivers in the instances when it rains.*
NW1.3 Preserve Prime Farmland	**0**	**No Score** The project conducted a series of studies where it showed evidence of an over farmed and degraded soil where farming could not continue. This means that the land was so degraded that it was no longer fertile. Therefore In choosing the project site, the project chose degraded land that could not allow for farming to occur and applied to change its land use. As a consequence it implemented mitigation processes consistent on relocation and reforestation obligated through Mexican law. The project scores 0 because it does not protect farmland, but it rather used degraded farmland that can no longer yield its primary purpose to develop the wind farm.

		Source: Enel Green Power, Xochitl Tlatempa, Joseph Idowu, and Ramses Huicochea. "Parque Eólico Dominica II Drenaje Pluvial Estudio Hidrologico e Hidraulico," Mexico: July 28, 2014. *Navarro Martinez, Carolina. "ACUSTF: Cambio de Uso de Suelos en Terrenos Forestales en Superficie de 914.848 Ha." Secretaria de Medio Ambiente y Recursos Naturales, México: 2014, 14.*
		RECOMMENDATIONS: The project's analyses, conducted previous to implementing the wind farm, found that the farmland was over-farmed which signifies the land is degraded and does not provide the use it may have had when it was once fertile. The recommendation is to surpass Mexican laws that obligate the relocation of the specific species of plants but to invest in the enhancement of the soil. It is important to link the projects noted under Corporate Social Responsibility, whereby new capacity training would allow the proper feed of cattle in the region, to also parallel project like soil enhancements.
NW1.4 Avoid Adverse Geology	**3**	**Superior** The project team had a set of rules, definitions and guidelines that are documented in "Investigacion Geologica Geotecnica de Sitio Especificación Técnica" [Investigation of the Site's Geotechnical Geological Conditions Technical Specifications] to ensure a proper evaluation of the site's geology for the wind farm followed Enel Green Energy's protocols and methodologies. The guidelines show rigorous studies for a the geological examination for Dominica I and II Wind Farm. In addition, the Project Manager included a WTG-23 evaluation document, whereby the evaluator assessed the equipment through an x-ray examination that found "preliminary resistivity" [resistividad preliminar] in different areas which could have resulted in undesirable behavior for the foundations of the turbines due to the geological conditions. The aforementioned description shows some adverse conditions that are all properly mitigated vis-a-vis the management of rainwater and its proper drainage, the development of managing spills and risks of improper disposal of materials during the construction phase. For example, in the report "Procedimiento Organizacional No. 125," the document delineates a plan of action in case of natural disasters (earthquakes, floods) and annotates an emergency plan that identifies the risks related to the project and how to reduce the risks asking into account a management system and procedures for the observed risks.
		Source: Enel Green Power, SPA. "Investigacion Geologica Geotecnica de Sitio (Biomasa, Geometrica, Hídrica, Fotovoltaica, Solar Termodinámica, Eólica) Especificación Técnica," (México: 2014), 15-16. *Ayesa. "Informe Geológico y Geotécnico de Sitio", (Mexico: 2014).* *GAMESA, "OP ASS ACCESS ROADS SG9X" rev. 3, N/A.* *Enel Green Power, "S.25.MX.W.41.622.38.010.00 Bases de Diseño. Vialidades Sureste I Fase II", N/A.* *Martinez, Alvaro, Ramses Huicochea, and Andrea Candelora. "Memoria de Cálculo de Estructura de Pavimento Del Parque Eólico Fase II," (México: 2014), 5-10.* *Huicochea, Ramses, Energía Nueva Energía Limpia México, S. de R. L. de C. V., "Comentarios sobre resultados tomografía eléctrica WTG." 23, (N/A) , 1.* *Enel Green Power. "Procedimiento Organizacional No. 125." Ámbito organizativo Grupo Energía Renovables, (Mexico: 2013), 10.*
		RECOMMENDATIONS: The project team manages the adverse affects of the geological terrain with several examples shown in a set of information they included describing the geology. The majority of the documentation manages the risks involved and mitigates them with ease and pre-planned mechanisms. The project should altogether find sites that are not prone to earthquakes or other type

		of risks.
NW1.5 Preserve Floodplain Functions	**5**	**Enhanced**
		The weather is characterized by a mild and temperate climate with a predominantly dry vegetation. Rainfall is generally scarce and the runoff is transient, but with spontaneous changes in this general description. The climate gives into little rain that is dry most of the time. Given these climatic characteristics and the type of roads needed for the Wind Farm, storm drains were designed based on ditches, fords and culverts used in combination as a strategy to drain and often times evacuate rainwater naturally, keeping buffer areas and the natural directions of runoff area. The aforementioned design is meant to avoid damages to the watershed downstream. In addition, the project identified endangered species upon the construction of the wind farm, mitigating the effects through the relocation of flora and fauna.
		Source: Enel Green Power, Xochitl Tlatempa, Joseph Idowu, and Ramses Huicochea. "Parque Eólico Dominica II Drenaje Pluvial Estudio Hidrologico e Hidraulico." Engineering & Construction INGENIERÍA, July 28, 2014, 22.
		RECOMMENDATIONS: The recommendation can be synthesized to one aspect: Provide Documentation of strategies that can enhance the aquatic habitat of fish, and sediment transport, including removal of barriers and traps. While the project is in an area that is dry, one potential is enabling the renovation of the watershed in their corporate social responsibility (CSR) programs.
NW1.6 Avoid Unsuitable Development on Steep Slopes	**4**	**Superior**
		The project reports on the general topography for the turbines and its installation. The project has given the necessary supporting materials to show the decision for the specific site, including reasoning on installing some turbines on steep slopes, and they way how they minimize the risks associated to it. The project also works with landowners, municipal and other significant actors to locate the site on semi-flat slopes where there is also sufficient wind force to create optimal position for the highest amount of output in energy. The Report on Drainage and Hydrology specifies the reasons and locations of turbines, which indicate a mix selection between semi-flat slopes and steep hillsides. The topography of the area is semi-flat with slopes between 2% and 7%, with a few areas where there is runoff. There are very few streams, which only have water during the rainy season when pebbles and sand are dragged with great force and high speeds downhill. Particularly the wind turbines are located mainly near and between the flows of water in the watershed that belongs to Hydrolic Region, called El Salado where the runoff falls on two sub-basins, on the South side in a basin located on "Mesa Chiquihuitillo" where the slopes are low. Nevertheless, there are a few distant wind turbines, which are located in a zone with steep slopes. In the report, the general topography of the study area has a runoff with a geometric mean slope of 5.15 and 3.08 m/m.
		Source: Enel Green Power , Xochitl Tlatempa , Idowu Joseph , and Ramses Huicochea . " Dominica II Wind Farm Drainage hydrologic and hydraulic study . " ENGINEERING Engineering & Construction , July 28 , 2014 , p. 4
		RECOMMENDATIONS: The project specifies some of the turbines are on semi-flat slopes while others are on steep slopes. A recommendation is to report how many turbines are located on each and the strategies implemented to avoid erosion control, landslides or other type of natural hazards .

NW1.7 Preserve Greenfields	**0**	**No Score** Greenfields are described as undeveloped land that may be considered for urban development. These type of areas tend to have natural landscape, natural amenities or agricultural land. Due to this project it is considered to be located on a greenfield, it is considered not preserving it and scores 0. While the land is considered to be overused farmland in the assessments of the land previous to finding the site, this project cannot receive credit in this category. *Source:* *RECOMMENDATIONS: The project is recommended to try to find greyfields or brownfields and that way reduce greenfield usage.*
NW2.1 Manage Stormwater	**4**	**Enhanced** Most of the land is impervious and is estimated that the drainage system will not have a big impact on the runoffs. The project has documented the design of storm drains based on ditches, fords and culverts to drain rainwater naturally, allowing the rain runoff area to flow in its natural direction and avoid damages downstream which in addition to impervious soil, allows for the project to have little effect on the runoff as well. Thus the wind farm project, built on land ditches with 13 culverts and 7 fords to aid the rainwater so that the runoff naturally flows at the same direction of water and avoid damages on the soil, watershed and the wind farm infrastructure. *Source: Enel Green Power , Xochitl Tlatempa , Joseph Idowu , and Ramses Huicochea . " Dominica Wind Farm II stormwater drainage hydrologic and hydraulic study. " ENGINEERING Engineering & Construction , July 28, 2014 , p 22.* *RECOMMENDATIONS: The project doesn't define the amount of water it stores from rainwater harvesting practices, nevertheless a very small percentage of the total area is developed by the project. Adding this specific amount of information in the documentation provided, including the volume of water and the amount of cisterns for water storage would improve this score, as well as defining how the rainfall water stored is used in other of the wind farm activities: toilet use, grey water to wash off the dust on the turbines, or to irrigate the ground to minimize dust dispersal among other potential water uses.*
NW2.2 Reduce Pesticides and Fertilizer Impacts	**0**	**No Score** Fertilizer and pesticide treatments affect the overall ecology and create unsustainable effects downstream, as they can affects human health and animal health which in turn affect human health. Therefore, the credit attempts to see how the project conducts the use of fertilizers and pesticides, as in if it avoids them and develops alternatives. Projects that avoid these are considered ahead of the curve and other industries and prove to be looking out for all aspects of ecology, even in those not directly within the bond of the infrastructure site but within the boundaries of their relative attitude to all aspects that can affect a project's surrounding and its ecology. No documentation according the use of fertilizers and pesticides has been created. *Source:* *RECOMMENDATIONS: It is recommended to implement operational policies in order to define the use of fertilizers and pesticides during the construction and operation of the project.*
NW2.3 Prevent Surface and Groundwater Contamination	**1**	**Improved** Both the Environmental Impact Authorization Statement and Technical Justification (GYTS) for Land Use Change showed an abiotic environmental component of water, which was evaluated, including its quantity and quality. However a baseline sampling of the water conditions was not performed. The cause was the inability to verify the quality of surface water and underground water. The general logic behind not acquiring baseline data was related to the hydrologic study's conclusions on

		how the project does not affect surface or underground water bodies. However, the project could score if it identified baseline data from the water during the rainy season that flows quickly down hill in its natural floodplains.
		Source: Enel Green Power, Xochitl Tlatempa, Joseph Idowu, and Ramses Huicochea. "Parque Eólico Dominica II Drenaje Pluvial Estudio Hidrologico e Hidraulico." Engineering & Construction INGENIERÍA, July 28, 2014. *Navarro Martinez, Carolina, Secretaría de Medio Ambiente y Recursos Naturales, "ACUSTF: Cambio de Uso de Suelos en Terrenos Forestales en Superficie de 914.848 Ha," (México: 2014), 14.*
		RECOMMENDATIONS: Based on the fact that the available water is scarce enough, detailed assessments about water availability should be acquired to determine whether the turbines runoff water has contaminants that could affect downflow river sources and information available throughout an analysis of the life cycle of the project.
NW3.1 Preserve Species Biodiversity	**2**	**Improved** The project worked on a Fauna and Flora restoration program complied with Mexican regulation, NOM-059-SEMARNAT-2010, which obligates the project team to relocate all plants listed by species to a location where it provides the same characteristics for the same habitat as the one existent before the wind farm's implementation. While the project was instigated to recover flora and fauna from the list of potentially endangered plants that are declared in areas of conservation, the project team provided above and beyond performance regarding the work of reaching the aforementioned objective. The documentation includes a photographic registry of all steps, minutes of meetings and capacity building workshops, as well as specific inventories with the characteristic of each species found in the area of implementation (project site). This combination of documentation is impressive. The project, however, offers little development in providing designed linkages for wildlife that are assessed to consider the turbines as a barrier. The project relocates the flora and fauna, however, did very little research on all bird wildlife, bats and other animals that can be affected by the turbines vibrations and oscillations. In the Wind Farm industry, these types of analyses are often conducted.
		Source: Centro de Estudios, Servicios, y Consultorías Ambientales, (CESCA), "Anexo A: Registro fotográfico de los resultados de la ejecución del Programa de Rescate y Reubicación de Flora para el proyecto 'Línea de Transmisión Eléctrica Dominica – Charcas' ", N/A.
		RECOMMENDATIONS: The project should choose a range of mammals, birds, amphibians and reptiles to accompany their plant, flora and fauna analyses. In order to effectively support biodiversity, one must begin to understand the species in the site location and try to recreate the habitat needed to preserve the natural survival needs these mammals, birds, amphibians and reptiles need without relocating them. The new relocation sites are very close to the installation of the project and so animals can travel back to its original position over time. Therefore the project is recommended to: *-Expand wildlife corridors that correspond to the types of wildlife analyzed as part of the habitat where the turbines will be installed.* *-Wind Farms are able to provide continuity between habitat outside the site and inside the site because the turbines area is smaller and less invasive in spatial dimension on the ground in comparison to other infrastructure. Therefore, providing a well-thought out plan of how the wildlife will and can continue its natural habits after installation is important.* *-Vibrations and noise of the turbines should also be a consideration in relation to the effects these have on birds' sense of direction, or amphibians' trails (as examples).* *-Also, providing forward-thinking would include analyzing the issue areas available in the habitat upon arriving to the pre-analysis stage. If a thorough understanding of the site's habitat finds barrier, removing these to facilitate wildlife's survival is another recommended possibility.* *-Finally, enabling more connectivity for amphibians, birds and reptiles is a design potential for the project and would allow it to score higher in this category.*

NW 3.2 Control Invasive Species	**0**	**No Score** The invasive species affect a site ecological habitat by invading the bioregions which has the potential of out-competing native species with nutrients they may need. The project protects native plants through the flora and fauna protection program. The project does not have any programs considering or identifying invasive species and attempts to make use the flora are well defined. The project conserves the region's native species and do not introduce any non-native species based on the flora and fauna report. *Source:* *RECOMMENDATIONS*
NW3.3 Restore Disturbed Soils	**0**	**No Score** The project restored soil for the flora and fauna relocation program, however, specific information according to the restoration of the ecologic functions is needed to further assess if the restoration activities practices have been accomplished in 100% of the land. Therefore, no documentation received on this specific credit. *Source:* *RECOMMENDATIONS: In this case the project must surpass following local regulations regarding soils and should show calculations on soil's level of permeability and nutrient intake to demonstrate these were restored to its full soil capacity.*
NW3.4 Maintain wetland and surface water functions.	**9**	**Superior** The project includes constructing and designing drainage (formation of boards on the contour to retain runoff and capture water), this will guarantee sediment transport. This prevent soil erosion with designs that replicate the natural flow of surface water. The designs on site allow proper drainage flows to continue hydrological connections and maintain the quality of the water. The studies evaluated that the design of the channels and drainage systems constructed does not affect surface and groundwater. The project is in a Priority Zone on the Hydrological Region called "Camacho-Grunidora" that characterizes different anthropogenic activities such as over herding and soil use to feed cattle, overexploitation of groundwater, and mining. However, the Authorization explains how the project mitigates any potential deleterious effects it could have on the Priority Hydrological Zone through the aforementioned designs. No evidence of habitat enhancement has been provided. *Source: Subsecretaría de Gestión Para la Protección Ambiental, Dirección General de Impacto y Riesgo Ambiental, and Secretaria de Medio Ambiente y Recursos Naturales. "Autorización de la Evaluación de Impacto Ambiental." Dominica Energía Limpia S. de R.L. de C.V., August 11, 2010.* *RECOMMENDATIONS: It is recommended that each type of ecosystem is identified also include details about the mitigation for the amphibians, reptiles, and the Camacho-Grunidora Hydraulic Priority area is given a more detailed analysis on its restoration much like is done with the fauna and flora section. Also a priority could be to analyze connectivity that could block species dependent on the aforementioned Hydrological zone.*
NW 0.0 Innovate Or Exceed Credit Requirements		*N/A*
	38	

CLIMATE AND RISK		
	Score	**DOMINICA I AND II WIND FARM**
CR1.1 Reduce Greenhouse Gas Emissions	**25**	**Restorative**
		Greenhouse emissions are reduced by displacing the type of energy source that would otherwise supply the Mexican National Interconnected Grid. Currently, 66.4% of the public sector's electricity comes from hydrocarbons, however with the current project activity feed the National Grid with the alternative renewable source of wind power, 337,236 tones of CO2 are being replaced with clean energy produced through the wind farm's wind power. This project, therefore, contributes to diversifying the national energy matrix in Mexico. This alternative energy source, displaces emissions from a 'business-as-usual" scenario in Mexico characterized with fossil fuel fired power plants. The project's 100 Gamesa turbines, with a total capacity of 2MW (in each turbine), is generating renewable energy to the National Interconnected Grid through a substation that is located in Charcas, the municipality where the project is being installed. The annual average output is approximately of 624,230 MWh of its full capacity. The project is assumed to not produce any net carbon emissions, however, documenting the first monitored results with a calculation of an annual approximation based on the monitored result, would allow the project to confirm the approximations from the CDM report.
		Source: AENOR, Asociación Española de Normalizacion y Certificacion. "CDM Validation Report." Validation Report. México: Dominica Energía Limpia S. de R.L. de C.V., November 4, 2012.
		RECOMMENDATIONS
CR1.2 Reduce Air Pollutant Emissions	**2**	**Improved**
		The project enhances the region's sustainability. The CDM verifies the project as reducing CO2, NOX, and SO2 through the displacement of power plants that would otherwise emit these pollutants. The project itself has a negligible effect on the air quality. In summary, the project's overall pollutant will be very low during the operation phase, having its main impact during construction, when heavy machinery will be working on the area.
		Source:
		RECOMMENDATIONS
CR2.1 Assess	**0**	**No Score**

Climate Threat		The project reaches the benchmark and industry norms for this credit, nevertheless not assessment of climate threat has been provided. The project allows for this region in Mexico to rely less on fossil fuels and the potential carbon emissions that it avoids is an asset to the wind farm infrastructure installation. However, the project has yet to provide an analysis of potential climate threats this region may undergo. The Hydraulics report demonstrate extreme drought and also dry. arid spaces. The Land Use Change documentation explains how the soil is degraded, and the geological studies show the topography and wind strengths. Together these assessments provide a clear outlook to the current conditions, similar assessments with future weather scenarios based on current data can provide the project team with insights on how to properly maintain the wind farm in the future. One challenge is to create alternative design options in the event that the weather conditions change in the San Luis de Potosí area and Charcas municipality. These considerations, once taken in the design of the project, can result in achieving a higher score in this section. Climate change can have a strong negative or positive effect on the durability and longevity of the turbines and having the correct information to predict potential hazards will allow the project to score higher.
		Source: Enel Green Power, Xochitl Tlatempa, Joseph Idowu, and Ramses Huicochea. "Parque Eólico Dominica II Drenaje Pluvial Estudio Hidrologico e Hidraulico." Engineering & Construction INGENIERÍA, July 28, 2014. *Navarro Martinez, Carolina. "ACUSTF: Cambio de Uso de Suelos en Terrenos Forestales en Superficie de 914.848 Ha." Secretaria de Medio Ambiente y Recursos Naturales, September 7, 2014. Oficio Núm 144.1.-SDGPARN.-UARRN.-001438/14, p 14)*
		RECOMMENDATIONS: - The project's development of a life-cycle assessment could result in calculating net carbon emissions. *- The project can conduct a Climate Impact Assessment and an Adaptation Plan for climate related impacts in the region where the project is located.*
CR2.2 Avoid Traps And Vulnerabilities	**2**	**Improved**
		Dominica I and II is successful at diversifying the country's energy matrix so as to allow the region of Charcas and San Luis de Potosí to rely less on fossil fuels and on importing them from neighboring countries. This characteristic of the wind farm is to achieve the aforementioned, and it does this through a thorough planning process and effective choice in supplier for the turbines-- GAMESA. Gamesa provides documentation on how the equipment's material choice and mechanics helps to provide long-term durability to protect against traps and vulnerabilities of changes in temperature (whether these be hotter or colder). The project's documentation demonstrates that for this credit it reaches the benchmark and industry standard. While the project team is very comprehensive in its pre-planning phases and identifies the environmental hazards, it lacks creating alternative design options in identified studies that show potential weather shifts that can be predicted in San Luis de Potosí. These considerations, once taken in the design of the project, can result in achieving a higher score in this section. Climate change can have a strong negative or positive effect on the durability and longevity of the turbines and Gamesa documentation provide some evidence that in terms of temperature change or increase in rainfall, the turbines can withstand these changes.
		Source:Gamesa. "Gamesa G9X-2.0 MW Technological Evolution." presented at the Internal Use/Supporting Documentation, Spain, March 2012. www.gamesacorp.com p 6-8.
		RECOMMENDATIONS: Taking into the account the potential for wind transformations due to climate change, the project would benefit from wind assessments that take into account wind power shifts
CR2.3 Prepare For Long-Term Adaptability	**0**	**No Score**
		No information has been provided according to long term adaptability.
		Source: N/A
		RECOMMENDATIONS: The project is recommended to include a long-term plan to address the potential weather changes that can take place in the site location. These include droughts, heat waves, earthquakes etc. The project can also include explanations on how the wind farm can aid the

		country if there are other climate change related effects like energy shortages due to a decrease in other forms of energy sources. Plans and design documents that include how the design restores or rehabilitates environmental changes/shifts due to climate change should be included.
CR2.4 Prepare For Short-Term Hazards	**10**	**Superior** The project has identified potential natural hazards that could occur in the construction phase through their ample geological and topographic studies. In addition, Enel Green Power's contingency plans for each phase --operational and construction-- allows for a good preparation against short-term hazards. In addition, the project's choice in supplier Gamesa and their excellence in building equipment, materials and turbines that can be monitored and fixed with ease, makes this project score high in this credit. In addition, Enel Green Power has a specific plan of action with their real-time monitoring system that allows for an easy fix if any issues were to occur with ample consideration given for spills, potential turbine malfunction or events dependent on unexpected natural hazards (such as earthquakes) with specific plans that effectively manage the different risk scenarios. *Source: Enel Green Power (ENP). "Procedimiento Organizacional No. 125." Ámbito Organizativo Grupo Energías Renovables, June 12, 2013.* *RECOMMENDATIONS*
CR2.5 Manage Heat Island Effects	**0**	**No Score** The project is to be located in a greenfield (CDM). In Wind Farms, the general lack of the paved zones makes heat island effect not significant. *Source:* *RECOMMENDATIONS: The project can showcase the surface area and the respective materials used in the project zone.*
CR0.0 Innovate Or Exceed Credit Requirements		*N/A*
	39	

OVERALL:	**213**	**DOMINICA WINDARM, MEXICO**

APPENDIX E: SOURCES

DOCUMENTATION PROVIDED
General Information.
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