Segment's Policy
Power Generation
Wind

ESG
July 2021

ol-esg@btgpactual.com

btgpactual.com

Table of Contents

1. Policy's Purpose

This Policy includes several policies prepared by BTG Pactual to identify the social, environmental and climate risks of its many operating segments, complying with the principles and fundamentals outlined in its Social and Environmental Risk Policy.

To prepare each Segment's Policy, a detailed analysis of the social and environmental issues involving BTG Pactual's many operating segments was carried out during all stages of its production processes, i.e., from opening new areas and obtaining raw materials, throughout the production, distribution and closing of all business activities. To this end, reports and documents from the segment's main players, such as IFC guidelines, international references for social and environmental risk analysis and technical knowledge of BTG Pactual's internal team were consulted.

The Wind Energy Generation Policy ("Policy") establishes the nine social and environmental aspects relevant to wind energy and classifies them according to their relevance regarding risks and opportunities for this economic segment.

2. Application Scope

This Policy must be applied by the ESG team, considering the principles of relevance and proportionality, in all segments of BTG Pactualworldwidethat have entered or intend to enter into a relationship with legal and/or physical entities in the wind energy segment, including, but not limited to, those carrying out construction, maintenance and generation activities.

3. Notes on the Segment

Wind energy is generated from the movements of air masses. A wind turbine is a piece of equipment that captures part of the energy from the wind, transforming it initially into mechanical energy and later into electrical energy.

The Brazilian Association of Wind Energy ("ABEEólica") highlights the main socio-economic and environmental benefits of this energy source as follows: (i) no CO_2[1] emission (it is estimated that in 2017 the wind source compensated for the emission of gases corresponding to more than twice the fleet of passenger vehicles in São Paulo[2]); (ii) income generation and improvement of life for landowners with leases for the placement of the towers (it is estimated that 4,000 families receive 10 million reais a month from the land lease[3]); (iii) water security, enabling access to water for human production and consumption. Furthermore, the environmental benefit of not generating CO2 contributes to Brazil's commitment under the Paris Agreement[4].

[1] CO_2 is known to be responsible for about 60% of the greenhouse effect. CO_2 comes from burning fossil fuels (coal, oil) and deforestation. For more information, access: <https://cetesb.sp.gov.br/proclima/gases-do-efeito-estufa/ >.
[2] Data from the ABEEólica page available at:< http://abeeolica.org.br/energia-eolica-o-setor/>.
[3] Same as above.
[4] Nationally Determined Contributions (NDC) are targets set by each country and submitted to the United Nations Framework Convention to reduce their greenhouse gas emissions. These contributions were the foundations for the Paris Agreement. The NDCs presented by the Brazilian government are available at:< https://www4.unfccc.int/sites/NDCStaging/Pages/Party.aspx?party=BRA>.

Wind power is currently responsible for 9% of the Brazilian energy matrix, representing 103 GW[5]. A study prepared by the German consultancy *Deutsches Windenergie Institut* (known as one of the largest in the world) estimates that the Brazilian onshore wind potential is five times greater:[6] : 500GW. In addition, a study by Bloomberg New Energy Finance published in 2018 estimates that by 2040 the production of solar and wind energy will surpass the production of hydroelectric energy in Brazil[7].

4. Social and Environmental Aspects

Below, we list the nine most relevant topics in this segment that BTG Pactual will analyze.

4.1. Productive Chain and Suppliers

The wind blades weigh around 17 tons each and reach over 60 meters in length (equivalent to a 20-story building). Due to their size and weight, in addition to the fact that wind farms are generally located in places that are difficult to access, transporting the blades to the wind farms presents a major logistical challenge. For this, prior planning and study are necessary to verify the need to adapt the highways, access roads and electrical installations, in addition to a transit authorization from the Brazilian Department of Transportation Infrastructure or the Department of Roads and Highways, depending on if the highway if federal or state.

During the route, front and rear scouts can be used (with police escorts if necessary) to free up lane traffic for the passage of trucks and prevent other vehicles from crossing single lanes. Another way to prevent accidents and cause less impact on road users is to carry out transportation during off-peak hours. It is recommended to carry out adequate communication with the affected communities.

The ESG team will verify if measures such as these have been taken to mitigate the risk of accidents and other problems related to the transportation of equipment, which, if they occur, could delay the construction of the wind farm (operational risk).

4.2. Project Location

If wind farms are installed close to airports (borderline areas or flight paths), they can directly affect aircraft safety and cause a collision or necessitate a change of flight routes, considering the size of their structures. These accidents can represent operational and even reputational risks related to the project.

The ESG team will verify that the counterparty, during the construction of the farm, has consulted with the authorities responsible for air traffic and safety regulations (for example, Air Force Command) before installation and if it complies with the recommendations of these authorities, if applicable.[8]

[5] Information from Infovento on March 26, 2020 prepared by ABEEólica available at:< http://abeeolica.org.br/wp-content/uploads/2020/04/Infovento-15_PT.pdf>.
[6] Information from:<http://investimentosenoticias.com.br/noticias/negocios/potencial-eolico-do-brasil-e-de-500-gw-segundo-dewi>.
[7] Information from:<https://www.bloomberg.com.br/blog/o-brasil-deve-dobrar-sua-capacidade-atual-de-energia-renovavel-instalada-para-316-gw-em-2040/>.
[8] Decree 957 of the Air Force Command establishes criteria for lighting wind farms. More information can be accessed at:<http://servicos2.sjc.sp.gov.br/media/621406/decea_comando_aeronautica_portaria_957-15.pdf>.

4.3. Fauna

The construction of wind farms may require removing vegetation for the implementation of internal accesses, places for the foundation of wind towers, substations and installation of a construction site. The removal of vegetation causes impacts on fauna, such as reducing their habitats (through the reduction of vegetation cover) and/or their removal (through the increase in the flow of people and noise caused by the use of equipment such as chainsaws).

Another stage that impacts the local fauna is the construction of foundations and the base of wind turbines. Animals that live close to the ground are liable to fall or become trapped in the foundation pits and possibly not surviving if they are not rescued in time.

For both cases, the development and execution of programs to drive away, rescue and manage fauna (with the presence of biologists to direct fauna to safe areas), generally required by environmental agencies, can mitigate these risks.

The operation of wind farms can bring the risk of colliding birds and bats, among other damages and impacts related to the local avifauna, such as the displacement of wildlife. When planning the location of a wind farm, sites with high biodiversity or sites with bird migration zones [9]or feeding and breeding areas should be avoided[10]. One of the ways to mitigate these impacts is to carry out a prior strategic environmental assessment to verify the local biodiversity and characteristics of each species (flight height, eating habits, activities).

After the planning phase, other measures can be taken to reduce the identified risks. Providing space between wind turbines to give birds and bats more room to fly betweenthe turbines, as well as using equipment with long blades and low rotational speed, and facilitating the visualization of equipment are all possible solutions.

The measures mentioned above mitigate the risk of possible inquiries regarding the impact on the fauna, translated into fines or lawsuits that may represent an operational risk to the project.

The social and environmental risk analysis will verify if the company has adopted the above mitigation measures to install and operate its project.

4.4. Flora

The removal of vegetation results in damage to vegetation cover,local biodiversity, and landscape value. During the execution of the project, it is recommended: (i) that authorization is obtained for the removal of vegetation from the competent environmental agency and that compensation measures,if any, are implemented; (ii) that areas that have authorization for suppression are physically delimitated

[9]Brazilian Center for Research and Conservation of Wild Birds and the Chico Mendes Institute for Biodiversity Conservation periodically update the Report on Migratory Bird Routes in Brazil. Report available at:< https://www.icmbio.gov.br/portal/images/stories/DCOM_Miolo_Rotas_Migrat%C3%B3rias_2016_final.pdf >.
[10]According to a survey carried out by Matheus Hobold Sovernig in 2009, the Environmental Foundation of Santa Catarina rejected the environmental licensing of a wind farm due to the great potential impact on bird life. *"Another factor that makes the project even more impossible is the existence of expressive migratory corridors on the south coast of SC. Many species remain along large stretches of beaches, lakes and marshes, when winter arrives in their region of origin, returning to their place of origin next summer." (page 34).* For more information, access the study "Impacts of Wind Turbines on Avifauna and Chiropterofauna in Brazil":< https://repositorio.ufsc.br/xmlui/bitstream/handle/123456789/132383/20092-MatheusHoboldSovernigo.pdf?sequence=1&isAllowed= y >.

and (iii) that practices to avoid accidents that could compromise vegetation cover (examples: fires, oil spills) are adopted. After completing the works, it is recommended to restore the areas by removing clearings and auxiliary accesses to facilitate the process of rehabilitating the non-operational areas to their natural conditions.

The social and environmental risk analysis will verify if the company has adopted the above mitigation measures to install and operate its project.

4.5. Noise

Noise sources during the solar park installation include: (i) the use of tractors and electric saws to remove vegetation; (ii) construction of the foundations and the base of the wind turbines; (iii) construction of roads and/or access roads; and (iv) assembly of towers and wind turbines. As mitigators, it is recommended that vehicle maintenance, noise control equipment, and work planningbe carried out to optimize working hours, avoiding night activities and equipment that works simultaneously.

During operation, the use of the turbines and blades generates two types of noise: (i) mechanical noise from the gears and aerodynamic noise produced by the rotation of the blades. In the planning phase, it is recommended that a survey be carried out to verify which are the receptors for these noises (e.g., communities, livestock, wild animals) and what the effects of operating the wind farm in conjunction with the facilities already existing in its surroundings will be.

The ESG team will verify that the counterparty has adopted these measures to mitigate the risks mentioned herein, as well as other forms of mitigation, such as (i) construction of walls/noise barriers; (ii) reduction of turbine speed when its noise becomes unbearable; and (iii) noise monitoring.

4.6. Wastewater Generation, Waste Management and Soil/Water Contamination

The implementation and operation of the construction site (e.g., workshop, kitchen, bathroom), added to the improper storage of oil and other potentially contaminating waste from the park installation process, can generate a risk of an environmental accident related to soil contamination/water by these substances.

It is recommended that waste of this nature be stored and disposed of in strict compliance with the Brazilian Solid Waste Policy and other applicable laws and regulations to avoid the risk of contamination of soil and water at the site. Furthermore, it is recommended that the storage of oil and grease residues and contaminated PPE (personal protection equipment) be done on impermeable floors and their respective areas identified with restricted access.

During the due diligence, the ESG team will verify that the project has an adequate waste management system within the standards of applicable regulations.

4.7. Occupational Health and Safety

Due to work being done at extreme heights, the main risk is related to collaborators and employees falling. As mitigators, it is recommended that the assembly of structures and auxiliary work be carried out on the ground, followed by lifting the entire structure in the correct position.

When working at heights, some preventive measures can be taken: (i) before beginning work, check if the weather conditions are favorable on the day the load is to be lifted; (ii) use edge protection, guardrails, safety nets or airbags; and (iii) prepare for a rescue and use an emergency plan and adequate training to rescue agents in danger and/or injured.

Regarding other risks to health and safety at work during the installation of the project, it is suggested to monitor the companies contracted for the works and assembly of the equipment constantly, auditing the workplaces to assess the effectiveness of risk management, consultation with feedback from workers through questionnaires or periodic safety meetings. In addition, this monitoring must be designed and implemented by accredited professionals, and facilities must keep records of accidents (with a classification of hazardousness) and occupational diseases.

There is the possibility of fire in the operational phase of wind turbines, which can bring operational risk to the project. Fire can becaused by the high concentration of fuels, lubricants, large gears operating at high speed, and electrical systems confined in the same environment.[11] The maintenance of wind turbines is recommended, and the installation of adequate devices to prevent possible initial fires. It is recommended that these devices have automatic activation, in addition to not requiring power sources for their activation, and can provide protection 24 hours a day, 7 days a week.

4.8. Human Rights

During the installation phase, wind farms generate formal and informal jobs. According to ABEEólica, 80% of Brazilian wind farms are in the Northeast, which has the lowest average monthly income in Brazil.[12][13] Creating formal jobs in local communities gains special relevance and promotes regional development, reducing the migratory flows of workers and associated problems.

Migratory labor flows can generate negative impacts related to human rights, considering that the massive presence of male professionals without a link to that territory can increase the risk of sexual exploitation of children and/or adolescents and violence in the region.[14]

During the social and environmental diligence, it should be verified that the counterparty: (i) has programs that address the risks and impacts to human rights in its business; (ii) monitors new risks and the effectiveness of measures adopted through its programs; (iii) promotes transparency and

[11]The article "Wind Turbine Fire Prevention: causes and impacts, experts' perceptions, regulatory gaps and preventive systems": evaluates the theme, highlights internal (human failures, negligence in the use of materials) and external (lightning strikes, floods) factors as causes of fires. Article available on the ABEólica website:< http://abeeolica.org.br/formato_docs/trabalhos-academicos/>.
[12] Information from Infovento on March 26, 2020 prepared by ABEEólica available at:< http://abeeolica.org.br/wp-content/uploads/2020/04/Infovento-15_PT.pdf>.
[13] Data from the Labor and Income indicators of the Brazilian Institute of Geography and Statistics: <https://www.ibge.gov.br/estatisticas/sociais/educacao/17374-indicadores-sociais-minimos.html?=&t=resultados>.
[14] Data taken from the Human Rights Impact Assessment Guide prepared by FGV with the NGO Childhood. Guide available at: <https://www.childhood.org.br/publicacao/Guia_de_avaliacao_de_impacto_em_direitos_humanos.pdf>.

accountability about the company's commitments to respect for human rights in the workplace, along supply chains, and around the construction site.[15]

4.9. Community

The installation of wind farms generates an intense movement of trucks at the construction sites and constant handling of cement, which can cause inconvenience to the communities surrounding the project, including an increase in the incidence of respiratory diseases. To mitigate these risks, it is recommended that transportation trucks have bucket guards and speed limits for transit within the project areas and surrounding areas.

In addition, in the project's operational phase, communities adjacent to the project may be impacted by the devaluation of their properties due to the impact of the wind farm structures on the local landscape, blocking of certain passages and accesses, and/or noise from the operation of the wind turbines[16]. Depending on the project's location, some nearby homes may be relocated due to excessive noise.

To mitigate these risks, transparency and dialogue with the community are recommended at all stages of the project so that the population understands the activities that will be developed, the social and environmental impacts of these activities, the respective prevention and compensation measures, as well as the economic impact that the project causes to the region. These measures prevent operational risks related to protests and stoppages, in addition to reputational risk.

5. Relevance of Social and Environmental Aspects to the Segment

[15] Human Rights Impact Assessment Guide prepared by FGV with the NGO Childhood details how DD in human rights can be done. Guide available at: <https://www.childhood.org.br/publicacao/Guia_de_avaliacao_de_impacto_em_direitos_humanos.pdf>.
[16] According to a study carried out in 2015 which analyzed more than one million property transactions, it found that in wind farms with more than 20 turbines it reduced the value of properties by up to 12% for farms 2 km away, and between 3% and 8% for parks 14 km away. Study was done by Stephen Gibbons of the London School of Economics in 2015 and cited in the study "social license in wind farms: a methodological proposal" available on the website of ABEólica:< http://abeeolica.org.br/formato_docs/trabalhos-academicos/>.

	Aspect	Main Risks	Importance for the Segment
1	Productive Chain and Suppliers	No planning in transporting equipment to the project site.	Medium/Low
2	Project Location	No prior assessment of the project site by the competent authorities, considering that the size of the wind towers can pose a risk to flight safety.	Average
3	Fauna	No prior assessment of impacts on avifauna and of programs to mitigate these impacts.	High
4	Flora	Vegetation suppression causes damage to vegetation cover	Low
5	Noise	Construction of parks generate noise and, during operation, noise can disrupt communities close to the site	Average
6	Wastewater and Solid Waste Generation	If the wastewater and residues are not properly treated and disposed of, there may be contamination of the soil and groundwater	Low
7	Occupational Health and Safety	Risk from working at heights (during the installation of the park) and from fires in wind turbines	High
8	Human Rights	No policies and/or programs regarding the project's impacts on human rights.	Average
9	Community	Movement of trucks that can generate dust, noise in homes near wind towers, devaluation of properties close to the site, impact on the local landscape.	Average