

Environmental Impact Assessment

Screening

(According to Schedule III of S.L. 549.46)

PA Reference no.:	PA/10665/17
ERA Reference no.:	EA/00003/18
Project Title:	Proposed Solar Farm
Location:	Site at, Triq il-Fortizza, Bengħajsa, Birzebbuġa, Malta
Screening date:	March 2018

1. Description of Proposal

1.1 Outline of project/development

PA/10665/17 is a development application which proposes the construction and installation of a solar farm for the generation of alternative energy (see Figures 1 and 2). The project will commit a total site area of approximately 29,000 m² and will involve following interventions:

- Site clearance; which includes the uprooting and eradication of invasive trees (as identified in Schedule III of S.L. 549.64), removal of trapping hides and illegal structures within the site, and collection and disposal of waste from fly tipping in authorised landfills;
- Topographic re-engineering works and trenching; which includes the flattening of the terrain to be consistent with the existing topography (slightly terraced slope), and trenching of channels to connect all power cables with the proposed sub-station;
- Construction of two reservoirs for the collection and storage of rainwater run-off on site;
- Installation of solar panels; involving the placement of 8,500 photovoltaic panels throughout the site, with an expected energy output of approximately 2.4 MW; and
- Landscaping, which includes the planting of low-lying shrubs and indigenous trees of olive trees and carob trees, and the reconstruction of rubble walls around the entire periphery of the site, covering 1083m.

The site chosen for the proposed development has been actively used in the past for quarrying activities, however it has been in disuse from these activities for over 40 years. Following the cessation of operations and until 1992, the site has been used as a landfill for the disposal of various waste types, particularly pulverised fuel ash (PFA) from the Marsa Power Station. The PFA present on site is intermediate calcium class CI fly ash consisting mainly of calcium, alumina and silica.

1.2 Site description and related considerations

The site is located Outside Development Zone (ODZ) in Triq Il-Fortizza, Bengħajsa, within the administrative territory of the Birzebbuġa Local Council in the southern part of Malta (see Photos 1 and 2). The area is commonly known as 'L-Inħawi tal-Inwadar'. Currently the site is a disused landfill within which fly-ash was deposited during the infilling process and is covered by a layer of soil and small-sized stones. The site is used for bird trapping activities and has been subject to illegal dumping of vehicle scraps and other objects along the years. The wider area is also characterised by several trapping hides, a couple of rural structures such as farmhouses and a chapel, and numerous agricultural fields.

The site is located within an area designated as a 'Reserve Industrial Site', by the Marsaxlokk Bay Local Plan (see Figure 3). In this regard, Policy ME04 relating to the expansion of quarrying for the rural area between Hal Far and Freeport applies.

The site is adjacent to the following Natura 2000 areas (see Figure 4):

- MT0000024 (Rdumijiet ta' Malta: Ir-Ramla tac-Ċirkewwa sal-Ponta ta' Bengħisa): Special Area of Conservation (SAC) and Special Protection Area (SPA), designated under the Flora, Fauna and Natural Habitats Protection Regulations (S.L. 549.44).
- MT0000033 (Rdumijiet ta' Malta: Wied Moqbol sal-Ponta ta' Bengħisa): SPA, designated under the Flora, Fauna and Natural Habitats Protection Regulations (S.L. 549.44).
- MT0000111 (Il-Bahar tal-Lbic): SPA, designated under the Flora, Fauna and Natural Habitats Protection Regulations (S.L. 549.44).

Furthermore, the site is adjacent to a scheduled level 3 Area of Ecological Importance (AEI) and an Area of High Landscape Value (AHLV), via Govt. Notice 400 of 1996.



Photo 1: Location of proposed development. Site outlined (*Source: PA GeoServer*)



Photo 2: Location of proposed development (detailed zoom) (Source: PA GeoServer)

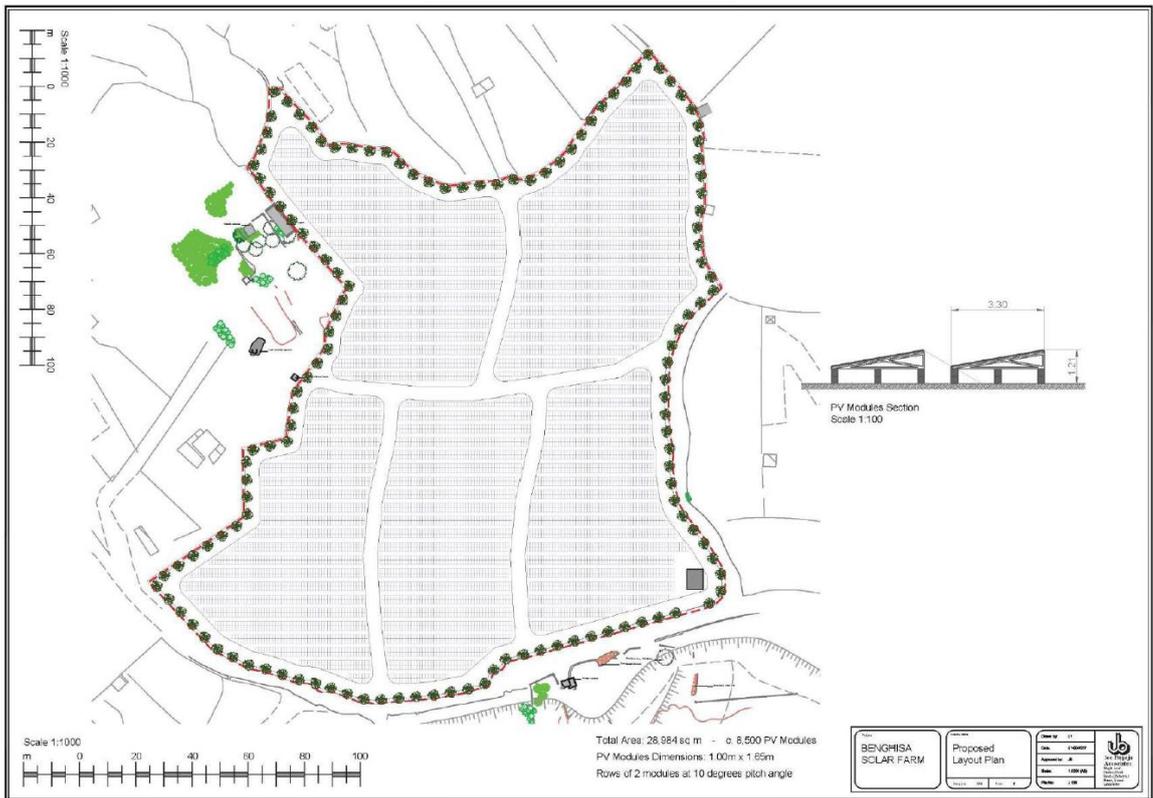


Figure 1: Proposed block plan (Source: PDS)



Figure 2: Visual of the proposed development (Source: PDS)

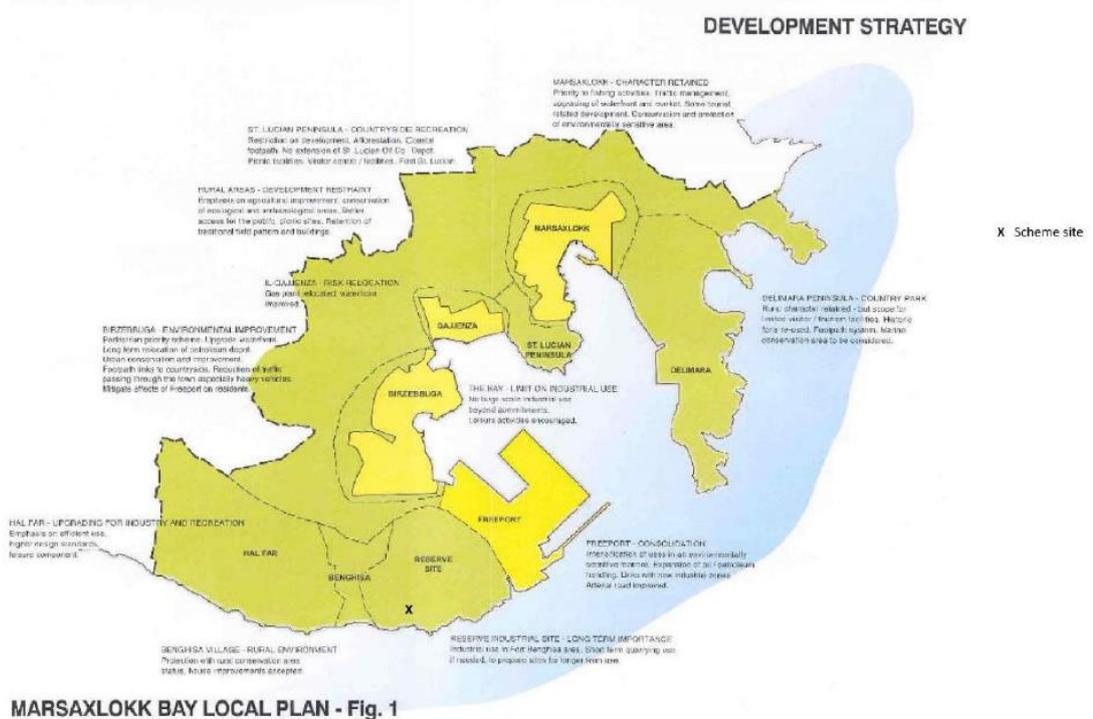


Figure 3: Development Strategy of Marsaxlokk Bay Local Plan (Source: PDS)



Figure 4: Outline (green marked) of protected Natura 2000 areas and site of proposal
(Source: PA GeoServer)

1.3 **Site History**

The site has been subject to planning application PA/03560/16 - Demolition of rooms and proposed construction of warehouses, car park & office facilities. However, this application has been withdrawn.

2. EIA-relevant history

2.1 **Relevant EIA/screening criteria** (citations refer to S.L. 549.46, except where otherwise specified):

The proposed development falls under Schedule I: Category II Projects: Sections 1.0.2.1 (*Development with a site area of 2ha or more*) and 9.0.2.3 (*Restoration and after-use of existing or disused quarries or mines, other than for the restoration of the site back to its pristine state*) of the Environmental Impact Assessment Regulations (S.L. 549.46).

2.2 **Version of documents used for screening**

1. PDS, referred to ERA on 15th January 2018 (PA/10665/17/9a);
2. ERA Consultation, dated 15th January 2018 (PA/10665/17/27a); and
3. Clarifications on the PDS, as referred to ERA on 15th February 2018.

3. Screening Matrix

The following screening checklist is based on information in the Project Description Statement provided by the developer in accordance with Schedule II of the EIA Regulations (S.L. 549.46) and the European Commission Guidance on Screening (2017).

Question Number:	Questions to be Considered	Types and characteristics of identified potential impacts Briefly describe	Is this likely to result in a significant effect? Briefly justify	Document Reference
1	Will construction, operation, decommissioning or demolition works of the Project involve actions which will cause physical changes in the locality (topography, landuse, changes in water bodies, etc)?	The site, which is a disused landfill, infilled with fly-ash residue, is covered with soil and small-sized stones. The existing terrain will be re-levelled and the mounds of infill material will be flattened to restore the original slightly terraced slope. This process will be undertaken to accommodate a photovoltaic farm. In this respect, there will be a change in land use from an existing disused quarry to a photovoltaic farm.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No. The site has been backfilled with different waste types changing its land use from agricultural land to a makeshift landfill. However, in view of the proposed clean-up and land engineering works that will take place to prepare the site for the installation of the photovoltaic panels, no significant impact is envisaged. In addition, in view of the site's proximity to an Area of High landscape value, the PDS mentions a number of measures to minimise visual impact namely: - Installation of solar panels at an angle of 10 degrees instead of the standard 30 degrees, to reduce visibility from neighbouring streets; - Screening of the solar farm by proposed landscaping along the perimeter of the site; and - Use of solar panels with such reflective property to mitigate glare emissions.	PDS, p 3-4, 14 and 21
2	Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	Yes. The proposal will make use of raw resources, such as: - Concrete, for ballast blocks; - Metal, for solar panel constructions; - Electrical Power Cables, for energy transmission; and - Geotextile sheeting, for soil retention. No energy will be required, except for machinery during the construction phase. The proposal will harvest solar energy, convert it to	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged, given the nature of the proposal. All solar panels will be pre-cast models brought in containers and assembled on-site. The proposal will contribute towards Malta's commitments to increase its renewable energy capacity.	PDS, p14, 35, 37 and 41

Question Number:	Questions to be Considered	Types and characteristics of identified potential impacts Briefly describe	Is this likely to result in a significant effect? Briefly justify	Document Reference
		electricity and fed into the mains national electricity grid.		
3	Will the Project involve the use, storage, transport, handling or production of substances or materials which could be harmful to human health to the environment or raise concerns about actual or perceived risks to human health?	No such substances, materials or energy are envisaged to be used, stored, transported, handles or produced, by the proposed development.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged.	PDS
4	Will the Project produce solid wastes during construction, operation or decommissioning?	During site clearance, garden waste, construction waste and other debris will be collected and removed. No infill material will be removed, as all excess material will be retained on site and shifted to shallower areas. The proposal will generate WEEE (Waste of Electric and Electronic Equipment) when the infrastructure is decommissioned within 30 years of issued permit.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant environmental impacts are envisaged from the proposed development provided that S.L. 549.89 – Waste Management (Electrical and Electronic Equipment) Regulations and S.L. 549.63 - Waste Regulations are duly followed.	PDS p38 and 42
5	Will the project release pollutants or any hazardous, toxic or noxious substances to air or lead to exceeding Ambient Air Quality standards in Directives 2008/50/EC and 2004/107/EC?	Yes. During site clearance and construction phase, dust generation is envisaged due to the shifting of fly-ash residue. All pile stacks will be covered by appropriate plastic sheeting, and water sprinklers will control dust emissions. The proposed development will not generate any air emissions into the surrounding environment during operation and will	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged, given that any potential impact will be sufficiently mitigated through the proper implementation of the Environmental Management Construction Site Regulations (S.L. 552.09).	PDS p14 and 41

Question Number:	Questions to be Considered	Types and characteristics of identified potential impacts Briefly describe	Is this likely to result in a significant effect? Briefly justify	Document Reference
		contribute in improving the atmospheric quality of the Maltese Islands by reducing the atmospheric emissions from the power station.		
6	Will the Project cause noise and vibration or the releasing of light, heat, energy or electromagnetic radiation?	Yes. Noise is expected during the site clearance and construction phase, due to construction vehicle and other machinery. During the operational phase, no noise is envisaged.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged, given that the noise generation will be temporary and not extensive.	PDS p33, 41 and 42
7	Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal waters or the sea?	No pollutants are envisaged to be used or stored on site. Only during the site clearance and construction phase, accidental spillages from construction vehicles and other machinery may occur.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> Given that no hazardous materials, including fuels, oils or grease will be produced or stored on-site, no significant impacts are envisaged.	PDS
8	Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?	No increase in accidental risk is envisaged, other than occupational risks typically associated with construction activities and day-to-day operations.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged.	PDS
9	Will the Project result in environmentally related social changes for example, in demography, traditional lifestyles, employment?	The proposed development is not expected to lead to demographic and social changes. The introduction of a solar farm in the rural area might bring minor changes to the present rural lifestyle, which is dominated by agricultural activities.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged, given that the proposal will contribute towards Malta's commitments to increase its renewable energy capacity. Furthermore, the rural landscape surrounding the site has already been marred by the establishment of the Hal Far Industrial Estate and the Malta Freeport on opposite ends of the site in question.	PDS p 42

Question Number:	Questions to be Considered	Types and characteristics of identified potential impacts Briefly describe	Is this likely to result in a significant effect? Briefly justify	Document Reference
10	Are there any such factors which should be considered such as the consequential development which could lead to environmental impacts or the potential for cumulative impacts with other existing or planned activities in the locality?	No other consequential developments are envisaged from the proposal. The site will be entirely covered with solar panels and will leave no space for future ancillary development on site.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged.	PDS
11	Is the project located within or close to any areas which are protected under international, EU or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the Project?	<p>The site is located Outside Development Zone (ODZ), and the southern part of the site is directly adjacent to following Natura 2000 sites:</p> <ul style="list-style-type: none"> - MT0000024 (Rdumijiet ta' Malta: Ir-Ramla ta- Ċirkewwa sal-Ponta ta' Bengħisa): a Special Area of Conservation (SAC) and Special Protection Area (SPA); - MT0000033 (Rdumijiet ta' Malta: Wied Moqbol sal-Ponta ta' Bengħisa): an SPA; and - MT0000111 (Il-Bahar tal-Lbic): an SPA; <p>,as designated under the Flora, Fauna and Natural Habitats Protection Regulations (S.L. 549.44). Furthermore, the southern part of the site is adjacent to a level 3 Area of Ecological Importance (AEI) and an Area of High Landscape Value (AHLV), as designated under Govt. Notice 400 of 1996.</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts from the proposed development on the protected areas (SAC and SPA) are envisaged given that several safeguards will be taken as per below:</p> <ul style="list-style-type: none"> - The proposed development includes the use of solar panels with anti-reflective coating (with a lower refractive index than normal glass and water), and therefore no 'lake effects' are being envisaged which could potentially endanger protected birds; - Mitigation measures are implemented to reduce lighting levels as much as possible and therefore prevent light pollution, i.e. by the use of motion sensor control systems, dimmable capacities and zonation of the lighting on site; and - Rainwater run-off will be stored in the proposed reservoirs and re-used. 	PDS p11, 13 and 40. PA GeoServer

Question Number:	Questions to be Considered	Types and characteristics of identified potential impacts Briefly describe	Is this likely to result in a significant effect? Briefly justify	Document Reference
12	Are there any areas on or around the location which are important or sensitive for reasons of their ecology e.g. marshlands, wetlands, watercourses or other water bodies, the coastal zone, mountains, forests or woodlands, which could be affected by the Project?	Reply to Question 11 refers.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> Reply to Question 11 refers.	PDS p11, 13 and 40. PA GeoServer
13	Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, over wintering, migration, which could be affected by the Project?	Reply to Question 11 refers.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> Reply to Question 11 refers.	PDS p11, 13 and 40. PA GeoServer
14	Are there any inland, coastal, marine or underground waters (or features of the marine environment on or around the location which could be affected by the Project?	The site of the proposed development is located approximately 90 meters from the coastal water body MTC108 (L-Irdumijiet Ta' Malta).	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts on the said coastal water body are envisaged.	PDS. PA GeoServer

Question Number:	Questions to be Considered	Types and characteristics of identified potential impacts Briefly describe	Is this likely to result in a significant effect? Briefly justify	Document Reference
15	Are there any areas or features of high landscape or scenic value on or around the location which could be effected by the Project?	The site is adjacent to an Area of High Landscape Value (AHLV), designated under Govt. Notice 400 of 1996, for the natural coastal landscape including cliffs.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts on the said Area of High Landscape Value (AHLV) are expected, given that no landscape features within the AHLV are envisaged to be altered.	PDS p13 and p41
16	Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the Project?	The site is accessible through Triq Il-Fortizza, which is a rarely frequented one-car country road between Fort Bengħisa and Għar Hasan. During all phases, the site will be accessed through this road.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts on the said route are being envisaged, given that it is a rarely frequented country road and all parking will be provided on site.	PDS p39
17	Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the Project?	No such routes are known of, on or around the location of the proposed development.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged.	PDS
18	Is the Project in a location where it is likely to be highly visible to many people?	The site is located in a rural area, with scattered residences, bird hides and the Hal-Far Industrial Area nearby. The proposed solar panels would reach a limited height of 1.21 meter, and will be screened by the proposed landscaping around the perimeter of the site.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged, given that the proposed landscaping would sufficiently screen the solar panels, which would reach merely 1.21 meter in height above the ground. Therefore it is unlikely to be visible to many people.	PDS p10, 13, 14 and 41
19	Are there any areas or features of historic or cultural importance on or around the location that	No site and/or features of historical or cultural importance fall within a 100m buffer zone around the site of the proposed development.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged.	PDS p32

Question Number:	Questions to be Considered	Types and characteristics of identified potential impacts Briefly describe	Is this likely to result in a significant effect? Briefly justify	Document Reference
	could be affected by the Project?			
20	Is the Project located in a previously undeveloped area where there will be loss of greenfield/ODZ land?	The site is a disused quarry turned into a makeshift landfill and on which a number of trapping sites have sprouted. The whole site is heavily disturbed, and does not contain any pristine natural features.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged, given that the site is already disturbed as a result of previous quarrying operations, ensuing infilling activities using extraneous material and present bird trapping activities.	PDS p3 and 4
21	Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?	The site of the proposed development is located in a rural area, with scattered residences and agricultural fields, and the Hal Far Industrial Area at a distance of approximately 500 meters.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged, given that no land-uses around the location of the proposal will be affected by the proposed development.	PDS p6 and 25
22	Are there any plans for future land uses within or around the location which could be affected by the Project?	No such plans for future land uses are known of in the surroundings of the site of the proposal.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged.	PDS
23	Are there any areas on or around the location which are densely populated or built-up, that could be affected by the project?	No. The site of the proposal is located on approximately 1000m from the nearest residential area of Birżebbuġa	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged due to the nature of the project.	PDS p42. PA GeoServer

Question Number:	Questions to be Considered	Types and characteristics of identified potential impacts Briefly describe	Is this likely to result in a significant effect? Briefly justify	Document Reference
24	Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities which could be affected by the project?	No such sensitive land uses are known of on or around the site of the proposal.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged.	PDS
25	Are there any areas within or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?	The surroundings of the site of the proposal, with the exception of the coastal area, is occupied by agricultural land.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged.	PDS p6 and 25
26	Are there any areas within or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded that could be affected by the project?	The site of the proposed development has been subject to environmental degradation as a result of the quarrying activities and subsequent infilling activities with contaminated fly-ash residue. Furthermore, illegal dumping of vehicle scraps and other objects has taken place over the past years.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged, given that geotextile sheeting will be installed together with a non-porous sheet underneath to avoid fly-ash dispersion and to ensure that surface water will not percolate through the ground and end up within the water table. Furthermore the complete site clearance will remove all illegally dumped material from site.	PDS p14, 35, 37, 40 and 41.
27	Is the project location susceptible to	No, the likelihood of such extreme events in the area	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unclear <input type="checkbox"/> No significant impacts are envisaged.	PDS

Question Number:	Questions to be Considered	Types and characteristics of identified potential impacts Briefly describe	Is this likely to result in a significant effect? Briefly justify	Document Reference
	earthquakes, or subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	can be considered to be minimal.		

4. Conclusion

4.1. EIA Screening conclusion

The above detailed EIA screening concludes that impacts of the development are unlikely to be significant to the point of warranting an EIA report, as long as various mitigation measures are duly incorporated into the mainstream development consent mechanism and mitigated by means of conditions and specifications (e.g. approved documents) in the development permit.

In this regard, the proposal does not require the submission of an EIA Report in accordance with Regulation 15(3b) of the EIA Regulations 2017 (S.L. 549.46).

4.2. Screening in terms of the Flora, Fauna and Natural Habitats Protection Regulations, (S.L. 549.44)

In view of the location of the proposal adjacent to a Natura 2000 site, this proposal has been screened in terms of Regulation 19 of S.L. 549.44. From the information submitted through the planning application, PA/10665/17, the proposal is not expected to have any significant impacts on the integrity of the habitats, species, and the Natura 2000 site as a whole, as long as the following mitigation measures are properly implemented:

- All photovoltaic panels will have such reflective properties to mitigate any potential impact on protected birds, notably seabirds, i.e. disorientation and chance of fatal collision due to lake effects caused by moonlight glare at night times;
- All artificial lighting will include dimmable downlighters and be controlled via motion sensors to avoid continuous lighting of the site at night times; and
- All rainwater run-off on site will be collected and stored in reservoirs for re-use, in order to prevent run-off into the adjacent protected area (SAC).

In this regards, no further assessment as per Regulation 19 of S.L. 549.44 is considered necessary.

4.4 Screening Disclaimer

The above screening results, the ensuing conclusions and recommendations are without prejudice to any required changes or updates should the development proposal be eventually modified or should the information/assumptions provided turn out to be incorrect. Any deviations of the proposal from this submission would need to be re-assessed and the merits of this screening would need to be re-opened.