Australian Government
Department of the Environment and Energy

Title of Proposal - Cleangen Burdekin Solar Farm

Section 1 - Summary of your proposed action

Provide a summary of your proposed action, including any consultations undertaken.

1.1 Project Industry Type

Energy Generation and Supply (renewable)

1.2 Provide a detailed description of the proposed action, including all proposed activities.

The proposed action involves the development of a large scale, grid connected, solar power (photovoltaic) farm. The proposed action will be a 75-90 MW solar farm using solar photovoltaic (PV) tracking technology. The project will be connected into one of two local 132/66 kV terminal stations within 7km of the proposed site. The proposed action will be located within the Burdekin Shire Local Government Area, on Lot 22 on GS1042, Woodhouse Road, Mulgrave.

The proposed action will consist of the construction of the solar panels, mounted on frames and areas for amenities and infrastructure including site office, car park, construction lay down site, battery storage facility, entry road, internal access tracks, site fencing and associated infrastructure.

Specifically, the solar farm will utilise solar PV modules and single axis trackers to maximise energy capture. Solar PV panels with single axis trackers and Powerlines will not exceed 6m in height. Solar modules are made of silicon and other associated equipment is predominately made of metal and/or steel.

The proposed action includes the following activities:
- Stage one
o Preliminary site works including clearing of native and non-native vegetation;
o Site preparation and earth works;
o Service connection, fencing and site office;
- Stage two
o Construction of the solar farm PV modules, frames, electrical connections and footings;
- Stage three
o Grid connection and commissioning of the plant.

The solar farm is predicted to operate for a minimum of 30 years in which regular minimal maintenance is required.

1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.

Area	Point	Latitude	Longitude
Project site	1	-19.874575222318	147.14478635865
Project site	2	-19.874575222318	147.144829274
Project site	3	-19.877803930767	147.17834615785
Project site	4	-19.884220793507	147.17624330598
Project site	5	-19.880628996699	147.15894842225
Project site	6	-19.881718651526	147.14916372377
Project site	7	-19.883292584157	147.144829274
Project site	8	-19.883211870043	147.14397096711
Project site	9	-19.874575222318	147.14478635865

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).

The proposed action is located in the northern section of Lot 22 on GS1042, Woodhouse Road, Mulgrave, Burdekin Shire Council Local Government Area, QLD. Mulgrave is a small agricultural community within the dry tropics, approximately 100km south-east of Townsville.

The property is part of the Burdekin-Haughton Water Supply Scheme (BHWSS) and a large Sunwater irrigation supply channel dissects the property and runs adjacent to the project site. It is likely that this irrigation channel (25m width with an earthen wall) that was implemented in the 1980's has significantly altered the project sites natural hydrology[1].

Current land use for the proposed action is light to moderate cattle grazing of native vegetation. Existing infrastructure on the proposed action site includes fencing, unsealed roads and internal access tracks, farm dams and a significant artificial watercourse.

[1] Great Barrier Reef Marine Park Authority 2013, Haughton basin assessment: Burdekin dry tropics natural resource management region, GBRMPA, Townsville.

1.6 What is the size of the development footprint or work area?

223.6

1.7 Is the proposed action a street address or lot?

Lot

1.7.2 Describe the lot number and title.22GS1042

1.8 Primary Jurisdiction.

Queensland

1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?

No

1.10 Is the proposed action subject to local government planning approval?

Yes

1.10.1 Is there a local government area and council contact for the proposal?

Yes

1.10.1.0 Council contact officer details

1.10.1.1 Name of relevant council contact officer.

Shane Great

1.10.1.2 E-mail

shane.great@burdekin.qld.gov.au

1.10.1.3 Telephone Number

07 4783 9961

1.11 Provide an estimated start and estimated end date for the proposed action.

Start date 01/2018

End date 01/2048

1.12 Provide details of the context, planning framework and State and/or Local government requirements.

The Proponent has prepared and lodged a development application to the Burdekin Shire Council for Material Change of Use – Utility Installation (Solar Farm).

The application falls under the jurisdiction of Burdekin Shire Council under the provisions of the Burdekin Shire IPA 2011, Sustainable Planning Act 2009 and Sustainable Planning Regulations 2009. The Local Government (Burdekin Shire Council) reference number is CONS15/0028.The development application is currently be assessed.

The project has also been referred to relevant Queensland State Government agencies. The State Assessment and Referral Agency (SARA) of the Department of Infrastructure, Local Government and Planning are currently assessing the proposed action.

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.

Public consultation has been undertaken in accordance with the requirements of the *Sustainable Planning Act 2009*. The Proponent has not conducted any consultation with Indigenous stakeholders. The Proponent intends to continue to engage with the local community by keeping them up to date with the progress of the proposed development.

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.

A preliminary environmental impact assessment was undertaken to support the development application. A vegetation assessment was prepared to support the QLD State Development Assessment Provisions (SDAP) for clearing of native vegetation (Module 9).

1.15 Is this action part of a staged development (or a component of a larger project)?

No

1.16 Is the proposed action related to other actions or proposals in the region?

No

Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

• Profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;

• Significant Impact Guidelines 1.1 – Matters of National Environmental Significance;

• Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies.

2.1 Is the proposed action likely to impact on the values of any World Heritage properties?

Yes

2.1.1 Impact table

Properties	Impact
Great Barrier Reef World Heritage Area	The proposed action is located approximately 46 km upstream from the Great Barrier Reef, a listed World Heritage Property. No direct impacts on the Great Barrier Reef are expected. The site contains some ephemeral drainage features and watercourses (streamwater 1), which ultimately drain into Barratta Creek. The nature of the site hydrology has been substantially altered in the past with the construction of a large irrigation channel (25m width with large earthen walls), which acts a barrier to overland flow. Construction phase activities including native vegetation clearing and bulk earthworks have the potential to impact on the downstream environment if unmitigated.

2.1.2 Do you consider this impact to be significant?

No

2.2 Is the proposed action likely to impact on the values of any National Heritage places?

Yes

2.2.1 Impact table

Place	Impact
Great Barrier Reef National Heritage Place	The proposed action is located approximately 46 km upstream from the Great Barrier Reef, a listed National Heritage Place. Refer to 2.1

2.2.2 Do you consider this impact to be significant?

No

2.3 Is the proposed action likely to impact on the ecological character of a Ramsar wetland?

Yes

2.3.1 Impact table

Wetlands	Impact
Bowling Green Bay Ramsar Internationally important wetland	The proposed action is located approximately 50 km upstream of Bowling Green Bay Ramsar internationally important wetland. It is unlikely that the proposed Burdekin Solar Farm will impact the ecological character of this Ramsar Wetland. The topography and the altered hydrological state of the project site limits the extent to which terrestrial runoff can occur. Firstly, no significant watercourses exist on the project site, which reduces the capability of onsite soils and nutrients entering the Bowling Green Bay Ramsar Wetland. Secondly, a large irrigation channel (25m width with large earthen walls) acts a significant barrier to overland flow, which would otherwise be significant as a

Wetlands	Impact
	mountain is located at the southern end of the property.

2.3.2 Do you consider this impact to be significant?

No

2.4 Is the proposed action likely to impact on the members of any listed threatened species (except a conservation dependent species) or any threatened ecological community, or their habitat?

Yes

2.4.1 Impact table

Species	Impact
Black-throated Finch A Wildlife Online Extract Report (Queensland Government) found 0 records of rare or threatened species within a 10km radius of the center of the project site. A Vegetation Management Report (Queensland Government) found that the property did not contain essential habitat for any species. Also no endangered, vulnerable, or near threatened wildlife species were identified within the property either. A search of the Australian Government Department of the Environment EPBC Act Protected Matters database identified the following Matters of National Environmental Significance (MNES) located in or within 1 km of the project site: • 0 listed threatened ecological communities; and • 16 listed threatened species (7 birds, 4 mammals, 1 plant, 3 reptiles). Of these 16 species that were listed as potentially occurring or having suitable habitat within a 1km radius of the project site, 13 were considered as being unlikely to occur within or surrounding the area of the proposed action. This is due to the absence of suitable habitat or the site location being situated outside the species distributional range. The following three species were considered to have a moderate likelihood of	RPS Consultants conducted a Preliminary Environmental Assessment and a site visit in 2015. The Assessment purports to have a confirmed sighting of Black-throated Finch onsite during the site visit (in non-remnant areas). The RPS report does not provide any detail about the sighting, including no information on the location of the sighting with regards to the proposed action. It is unknown whether the species was identified or confirmed by proxies (suitable habitat), what type of identification occurred (visual/call), where onsite it was confirmed or how many individuals were confirmed. The National recovery plan for the black-throated finch southern subspecies (the Recovery Plan), notes that within the Brigalow Belt (North), BTF are known to associated with a small number of regional ecosystems being: RE11.3.12, RE11.3.25b, RE11.3.27, RE11.3.30, RE11.3.35, and RE11.3.9. The property contains a mosaic of regional ecosystem communities. Two of which are mapped as RE011.3.30 and RE11.3.35. On 20 April 2017 Wild Environmental Consultants conducted vegetation assessments of the proposed action area. The regional ecosystems on the project site were surveyed to ground

Species	Impact
occurrence at the project site based on previous reports and survey efforts. • Black-throated finch (Poephila cincta cincta) – Endangered (EPBC Act), Endangered (NC Act). • Squatter pigeon (Geophaps scripta scripta) - Vulnerable (EPBC Act), Vulnerable (NC Act).	truth the mapped RE's. The surveys found that significant areas of the mapped Category B remnant vegetation were subject to historical clearing of heavy thinning, meaning they are no longer remnant. This is consistent with observations made from satellite imagery. The vegetation surveys found that the on ground regional ecosystems were generally consistent with the mapped regional ecosystems, although not representative of the whole mosaic within the proposed development footprint. Only RE11.3.35 and 11.3.7 were considered present on site. Habitat connectivity The proposed action area is connected with habitat to the north and south. Wild Environmental Consultants have reviewed the Qld Governments modelled potential habitat for the species which defines the modelled pre-clear potential habitat based on records of fauna and based on several environmental layers. The proposed action is situated in a mapped area of modelled pre-clear potential habitat. Habitat integrity Although the regional ecosystems present on site are considered preferred habitat for BTF's, the condition of the ground layer is an important consideration for assessing the impacts of the project on BTF. The grass cover is considered very dense and is most areas (especially those considered remnant vegetation), the ground cover may be too thick for BTF to forage successfully. It is likely that the high density of herbaceous and shrubby weeds has negatively impacted the habitat to the point where it is no longer suitable habitat. During the site visits, Wild Environmental Consultants identified a variety of introduced weeds plant species including chine apple (Ziziphus mauritiana), parkinsonia (Parkinsonia aculeate), snakeweed (Stachytarpheta jamaicensis), rubber vine (Cryptostegia grandiflora), stylo (Stylosanthes scarbra), flannel weed (Sida cordifolia), and red Natal grass (Melinis repens). In many areas within the proposed action area, the flannel weed was very thick and would be considered impenetrable for BTF. Such dense infestations

Species	Impact
	are likely to reduce the suitability of the habitat for BTF. During three site visits, Wild Environmental did not detect BTF, although three other finch species were observed. There have been no targeted surveys of BTF within the proposed action area. Further, no comparison can be made of the context of the habitat quality to that of the broader habitats in the region were BTF are present. However, Wild Environmental Consultants have recorded BTF to the north and south of the site at three separate locations. A qualitative comparison finds that the habitat of the sightings is more heavily grazed, contains a higher diversity of native grass species, and has a more open and sparse ground cover than that of the proposed action area. Water sources are abundant on the property with two bunded dams which appear to have persistent water even through the dry season and the irrigation channel. Although no surveys have been undertake targeting the BTF, there is no substantial evidence that the habitat is utilized by the species for either nesting or foraging. It could be expected that the species use the site irregularly, when good ground cover conditions exist, such as periods of extended heavy grazing. From the field surveys and site visits undertaken to date, it is considered that the proposed action area is unlikely to be suitable habitat for BTF.
Squatter Pigeon (Geophaps scripta scripta)	Known to inhabit grassy woodlands in close proximity to water, the habitat may be considered partially suitable for Squatter Pigeon. They inhabit a range of remnant and cleared habitats. Habitat loss may impact on the Squatter Pigeon on the property. Habitat Fragmentation Squatter Pigeons are highly mobile and are found in both remnant and non-remnant habitats which are close to water sources. For this reason, habitat fragmentation is not expected to be an important impact to this species. Direct Mortality During Clearing Squatter Pigeons are at low risk of direct injury or death during clearing.
Koala	This is highlighted due to a confirmed sighting in 1987 by the Queensland Government

Species	Impact
	approximately 1000m east of the proposed action. Koalas are uncommon throughout the Burdekin region and at no time, during any survey performed, were Koalas or evidence of Koala activity noted within the proposed development footprint. Per the Koala habitat assessment tool, the coastal habitat impacted by the proposed development is not habitat critical to the survival of the Koala.

2.4.2 Do you consider this impact to be significant?

No

2.5 Is the proposed action likely to impact on the members of any listed migratory species, or their habitat?

No

2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

No

2.7 Is the proposed action likely to impact on any part of the environment in the Commonwealth land?

No

2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?

Yes

2.8.1 Describe the nature and extent of the likely impact on the whole of the environment.

The proposed action is located 46 km upstream from the Great Barrier Reef Marine Park.

No direct impacts on the Great Barrier Reef Marine Park are expected. The site contains some ephemeral drainage features and watercourses (streamwater 1), which ultimately drain into Barratta Creek. The nature of the site hydrology has been substantially altered in the past with the construction of a large irrigation channel (25m width with large earthen walls), which acts a barrier to overland flow.

Construction phase activities including native vegetation clearing and bulk earthworks have the potential to impact on the downstream environment if unmitigated.

2.8.2 Do you consider this impact to be significant?

No

2.9 Will there be any impact on a water resource related to coal / gas / mining?

No

2.10 Is the proposed action a nuclear action?

No

2.11 Is the proposed action to be taken by the Commonwealth agency?

No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?

No

2.13 Is the proposed action likely to impact on any part of the environment in the Commonwealth marine area?

No

Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

3.1 Describe the flora and fauna relevant to the project area.

The subject lot contains the following features/ vegetation types:
- Category B (containing least concern regional ecosystems);
- Category X area (exempt vegetation)

There are numerous mapped regional ecosystems on the within the development footprint, including mixed polygons. Category B remnant vegetation is mapped over the majority of the proposed development footprint. The predominant mapped polygon on the lot is a mosaic of regional ecosystems 11.3.35, 11.3.30, 11.3.7, all of which are classified as least concern. Small areas of regional ecosystems 11.3.7 and 11.3.9 are mapped on the western and eastern borders of the proposed development footprint respectively (also least concern).

Significant areas of Category B vegetation show evidence of historical clearing and not consistent with any likely regional ecosystem descriptions. This is consistent with observations made from satellite imagery. Cleared areas have been shown as such on the proposed amended vegetation map.

The vegetation surveys found that the on ground regional ecosystems were generally consistent with the mapped regional ecosystems, although not representative of the whole mosaic within the proposed development footprint. Ground truth results agree with the mapped regional ecosystems that all vegetation communities within the proposed development footprint are least concern.

Generally, the site is characterised by *Eucalyptus platyphylla, Corymbia spp*. woodland on alluvial plains.

Discription of relevant fauna is included in Section 2 of this referral.

3.2 Describe the hydrology relevant to the project area (including water flows).

Following the completion of the Burdekin Falls Dam in 1987, the creation of the Burdekin-Haughton Water Supply Scheme (BHWSS) was implemented. Water released from the Burdekin Falls Dam is pumped from the Clare Weir (Burdekin River) into the channel network during the dry season. From there water is served to farms via a system of distribution channels for irrigation. Over 700,000 ML of water is now distributed via the BHWSS annually. The property is bisected by a large irrigation channel approximately 25m in width with significant earthen walls

According to the Vegetation Management Watercourse and Drainage Feature map, four watercourse or drainage features are mapped within the proposed development footprint. The first watercourse/drainage feature is shown to transect the southwest corner and is classified as stream order two. The second watercourse/drainage feature is mapped approximately 800m off the Western boundary of the lot and is identified as a stream order 3 watercourse. The third watercourse/drainage feature is mapped through the centre of the proposed development footprint, and the fourth watercourse/drainage feature is mapped on the eastern side of the proposed development footprint.

Site investigations focused on providing ground truth evidence of these watercourse. Wild Environmental walked each watercourse (where it existed) and mapped the start and end (on the property) using a handheld GPS. Photographs of the upstream and downstream locations of each watercourse (where it occurred) were taken to support the conclusions.

Upon investigation, the construction of the Sunwater irrigation channel has significantly impacted on the hydrological connectivity of the mapped watercourses and drainage features to the extent that only one of the watercourses remains in an artificial form.

Further details are provided in the attachments.

3.3 Describe the soil and vegetation characteristics relevant to the project area.

Previous investigations have conducted basic soil sampling in 5 locations on the project site. Listed below are the results:

Site

Project Code and Number

Map Code Meaning

Dominant Entity

Generic Soil Group

Concept

1

BSA 789

Grey and yellow solodics-solodized solonetz with 40-80cm A horizon, B horizon alkaline by 120cm

4Dyj

Sand or loam over sodic clay - Sodosols, Kurosols

Grey and yellow solodics - solodized solonetz with 40 to 80 cm sandy loam A horizon, profile alkaline by 120 cm.

2

BSA 792

Grey and yellow podzolics with 35 to 100cm coarse sandy A horizon and bleached A2 horizon

4Dyk

Sand or loam over sodic clay - Sodosols, Kurosols

Grey and yellow podozolic soils with 35 to 100 cm coarse sand to coarse sandy loam A horizon. Overlies decomposed granite.

3

BSA 782

Grey and yellow podzolics with 35 to 100cm coarse sandy A horizon and bleached A2 horizon

4Dyk

Sand or loam over sodic clay - Sodosols, Kurosols

Grey and yellow podozolic soils with 35 to 100 cm coarse sand to coarse sandy loam A horizon. Overlies decomposed granite.

4

BSA 781

Grey to yellow solodics-solodized solonetz with 15-30cm A horizon, B horizon alkaline by 60cm

4Dyg

Sand or loam over sodic clay - Sodosols, Kurosols

Grey to yellow solodics - solodized solonetz with 15 to 30 cm A horizon, profile alkaline by 60 cm.

5

BSA 780

Brown solodics-solodized solonetz with 20-25cm A horizon, B horizon alkaline by 60cm

4Dba

Sand or loam over sodic clay - Sodosols, Kurosols

Brown solodics - solodized solonetz with 20 to 25 cm A horizon, profile alkaline by 90 cm

Further information regarding the vegetation communities is provided in Section 3.1.

3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.

The project site has been manipulated by several anthropogenic impacts, ultimately, modifying the ecological and hydrological status of the area. Firstly, large segments of the project site have undergone significant land clearing in the past. These areas now exhibit grasslands dominated by invasive species with sporadic lone and felled trees. It is likely that the ecological integrity of these segments is significantly diminished.

Perhaps the most influential factor to the project site is the open irrigation channel which has

significantly influenced the project site's hydrology. Historically, four ephemeral watercourses have flowed from the southern extent of the property through the project site. The ecosystem processes and biodiversity values of the site have been altered by the changed hydrology

3.5 Describe the status of native vegetation relevant to the project area.

Least Concern

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

Site investigations by Wild Environmental Consultants found that the majority of the proposed action area (except for micro reliefs, drainage features and the artificially modified water channel) is characterised by very low relief and a 0° gradient, at an altitude of 40-42m.

3.7 Describe the current condition of the environment relevant to the project area.

No specific site investigations have been conducted with the aim of investigating the condition of the environment. Observations during site visits conducted by Wild Environmental Consultants provides some evidence of degradation and impacts from invasive weeds which have already been mentioned in this referral.

The changes to the hydrology have impacted on the current condition of the land to an unknown degree.

Evidence of erosion in the walls of the artificial water course is obvious, with clear indications of dispersive sodic soils, exhibiting minor tunnel, gully, and rill erosion.

There is some evidence of pugging from Cattle and digging and rooting caused by feral pigs.

3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.

Not Applicable

3.9 Describe any Indigenous heritage values relevant to the project area.

A search of the Aboriginal and Torres Strait Islander Cultural Heritage Database found:

There are no Aboriginal cultural heritage site points recorded in your specific search area; andThere are no Aboriginal cultural heritage site polygons recorded in your specific search area.

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.

Freehold

3.11 Describe any existing or any proposed uses relevant to the project area.

The existing use of the proposed action area is light to moderate cattle grazing of native vegetation.

Section 4 - Measures to avoid or reduce impacts

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.

Avoidance of impacts

The development layout is a result of the careful design selected to avoid and/or minimise impacts on/or from habitat for species of conservation significance, habitat connectivity, and firebreaks. Avoidance measures to address these issues include:

- Maintaining a riparian buffer of minimum of 10m along the small watercourses.

- Maintain areas of vegetation considered a Matter of State Environmental Significance -wildlife habitat for Koala.

These measures will avoid impacts, in part, to habitat thought to be important for species of conservation significance, and minimise impacts on the onsite and downstream aquatic environments, including the Great Barrier Reef Marine Park.

Mitigation measures

Management of potential impacts caused during the construction phases of the proposed action include:

- Erosion and Sediment Control Plan (ESCP) prepared in accordance with the International Erosion Control Association Best Practice Erosion and Sediment Control (BPESC) document. The plan will include mitigation and monitoring measures to minimise the risk of erosion and sediment loss to the receiving environment, including:
    - Proposed limits of disturbance during construction activities;
    - Locations of areas of high erosion risk and critical environmental values;
    - Site preparation and initial land clearing strategies;

- General soil description either from suitable published soil maps or soil samples;
- Evidence of potential problematic soils and consideration of soils in design of the erosion control strategies;
- Drainage, erosion, and sediment control measures including the installation of erosion and sediment control devices;
- Clean water diverted around the site and identification of temporary and permanent drainage and erosion controls – i.e. integration with stormwater design; - Construction and drainage plans for each stage of works;
- Full design and construction details (e.g. minimum channel grades, water velocities, channel linings, basin sizes etc);
- An implementation schedule specifying the timeframe and sequence of works; and
- Site revegetation, rehabilitation, maintenance, and monitoring requirements. - Environmental Management PlanPreparation of a detailed environmental management plan which deals with: - Weed management; - Maintenance of riparian buffers; - Clearing activities to be staged, and monitored by a certified fauna spotter catcher who will remain on site during the clearing. Staged clearing will occur starting from the point furthest from the remaining habitat and progress towards remaining habitat to encourage fauna to flee into suitable remaining habitat. - Monitoring program

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.

No.

Environmental Outcome

Performance indicator

Monitoring and reporting

Likelihood of achieving outcome

1

No net-loss to the extent and distribution of listed threatened species.

Clearing of native vegetation only occurs within the approved development footprint.

Clearing is monitored by a certified fauna spotter catcher.

Construction activities conducted in accordance with the Environmental Management Plan.

Implementation of the Environmental Management Plan.

Monitoring will be undertaken by suitably qualified and experienced ecologists to ensure that the milestone performance indicators have been met.

High

4

Avoid impacts of erosion and sediment loss to the downstream environment including the Great Barrier Reef Marine Park, World Heritage Area, and National Heritage Area.

Management of erosion and sediment inputs through the implementation of a Sediment and Erosion Control Plan (SECP), designed in accordance with ICEA Best Practice Erosion and Sediment Control document.

Reporting to the Department about any notable failures of erosion and sediment control, or stormwater infrastructure or assets.

High

Section 5 – Conclusion on the likelihood of significant impacts

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact.

Review the matters you have identified below. If a matter ticked below has been incorrectly identified you will need to return to Section 2 to edit.

5.1.1 World Heritage Properties

No

5.1.2 National Heritage Places

No

5.1.3 Wetlands of International Importance (declared Ramsar Wetlands)

No

5.1.4 Listed threatened species or any threatened ecological community

No

5.1.5 Listed migratory species

No

5.1.6 Commonwealth marine environment

No

5.1.7 Protection of the environment from actions involving Commonwealth land

No

5.1.8 Great Barrier Reef Marine Park

No

5.1.9 A water resource, in relation to coal/gas/mining

No

5.1.10 Protection of the environment from nuclear actions

No

5.1.11 Protection of the environment from Commonwealth actions

No

5.1.12 Commonwealth Heritage places overseas

No

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.

Black-throated Finch

Significant impact criteria

Potential to occur

Lead to a long-term decrease in the size of a population

Unlikely

There is no conclusive evidence that the proposed action area is suitable habitat for BTF. The condition of the habitat is not consistent with the known requirements of BTF foraging and breeding habitat.

Reduce the area of occupancy of the species

Unlikely
There is no conclusive evidence that the proposed action area is suitable habitat for BTF. The condition of the habitat is not consistent with the known requirements of BTF foraging and breeding habitat.

Fragment an existing population into two or more populations

Unlikely

There is no evidence that the proposed action area contributes to the connectivity of the species between important areas.

Adversely affect habitat critical to the survival of a species

Unlikely
There is no conclusive evidence that the proposed action area is suitable habitat for BTF. The condition of the habitat is not consistent with the known requirements of BTF foraging and breeding habitat. As such, the project is not expected to significantly impact habitat critical to the survival of the species.

Disrupt the breeding cycle of a population

Unlikely
There is no evidence of BTF utilizing the habitat for breeding or nesting.

Modify, destroy, remove, isolate, or decrease the availability or quality of habitat to the extent that the species is likely to decline

The character and quality of the habitat may be significantly diminished if an action results in:

• net loss or degradation of water sources (either permanent or seasonal) in the locality

• widespread or indiscriminate loss of trees, including known nest trees within one km of a water source

• a decrease in tree recruitment capacity which limits the area's ability to be self-sustaining

• the degradation of foraging habitat (grassland) where known black throated finch (southern) records exist, including the intensification of biomass reduction or stocking rates.

Unlikely

The proposed action will result in a loss of regional ecosystems which are known to be suitable for BTF. However it is considered that the quality of the ground layer is not consistent with providing quality habitat for the BTF.

Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat

Unlikely

The current infestation of invasive herbaceous species within the project site is one of the key issues affecting the condition of the habitat for suitability for BTF.

Management of weeds and invasive species is proposed as part of the overarching

Environmental Management Plan.

Introduce disease that may cause the species to decline

Unlikely

Interfere with the recovery of the species

Unlikely

At present, there is an approved national recovery plan for the Black-throated Finch, which highlights threats, recovery objectives, performance criteria and actions, cost of recovery, management practices and an evaluation of recovery plan. The recovery objectives and management practices include:

Identify and quantify threats;Quantify distribution and abundance;Protect and enhance habitat;Investigate the potential for captive birds contributing to a re-introduction project;Increase public awareness;Management of overgrazing of the riparian grassland that is the main habitat of the species;Management of clearing and fragmentation of woodland, riverside habitats, and wattle shrubland;Management practices aimed at minimising impacts on habitat by domestic stock and rabbits, including alterations to fuel load, vegetation structure and wet season food availability;Fire management; andWeed management strategies to minimise invasion of habitat by exotic weed species, including exotic grasses.

The proposed action will not interfere with any of these recovery actions.

Squatter pigeon

Significant Impact criteria

Potential to occur

Lead to a long-term decrease in the size of an important population of a species

Unlikely

No important popultations occur in or near the proposed action.

Reduce the area of occupancy of an important population

Unlikely

No important populations occur in or near the proposed action.

Fragment an existing important population into two or more populations

Unlikely

No important populations occur in or near the proposed action.

Adversely affect habitat critical to the survival of a species

Unlikely

Disrupt the breeding cycle of an important population

Unlikely

The following Squatter Pigeon populations are considered as important populations by the Department of Environment and Energy:

Populations occurring in the Condamine River catchment and Darling Downs of southern Queensland;The populations known to occur in the Warwick-Inglewood-Texas region of southern Queensland; andAny populations potentially occurring in northern NSW.

The proposed action area is not known to contain any important populations.

Modify, destroy, remove, or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

Unlikely

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

Unlikely

Introduce disease that may cause the species to decline

Unlikely

Interfere substantially with the recovery of the species

Unlikely

There is no approved recovery plan.

Section 6 – Environmental record of the person proposing to take the action

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.

Cleangen Projects Pty Ltd (the Proponent) was established in 2015. To date, the Proponent has not been involved in, or had knowledge of environmental management issues with regard to any projects which they are involved in.

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application.

Not applicable

6.3 Will the action be taken in accordance with the corporation's environmental policy and planning framework?

No

6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

No

Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).

Reference Source	Reliability	Uncertainties
Wild Environmental Consultants, 2017, Burdekin Solar Farm - Response to Information Request – Module 8 Native Vegetation Clearing, Lot 22 on GS1042, prepared by Wild Environmental Consultants for Cleangen Projects Pty Ltd, WILD, Townsville.	High	N/A
RPS. (2015). Burdekin Solar Farm. Preliminary Environmental Assessment. Lot 22 on GS1042 (Prepared for CLEANGEN POWER PTY LTD), RPS Townsville.	Moderate	There are significant assumptions made in this report and uncertainties surrounding the findings.
Garnett, S.T. & G.M. Crowley (2000). The Action Plan for Australian Birds 2000. Canberra, ACT: Environment Australia and Birds Australia. Available from: http://www.environment.gov.au/biodiversity/threatened/publications/action/birds2000/index.html.	High	N/A
CleanGen Project Pty Ltd. (2015). Burdekin Solar Farm. Planning Application (.), North Sydney 2059	Low	N/A
Threatened Species Scientific Committee (TSSC) (2015). Approved Conservation Advice for Geophaps scripta scripta (Squatter Pigeon (southern)). Department of the Environment.	High	N/A
Black-throated Finch Recovery	High	N/A

Reference Source	Reliability	Uncertainties
Team, Department of Environment and Climate Change (NSW) and Queensland Parks and Wildlife Service. 2007. National recovery plan for the black-throated finch southern subspecies Poephila cincta cincta . Report to the Department of the Environment and Water Resources, Canberra. Department of Environment and Climate Change (NSW), Hurstville and Queensland Parks and Wildlife Service, Brisbane.		

Section 8 – Proposed alternatives

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

8.0 Provide a description of the feasible alternative?

There is no onus on a proponent to give a comprehensive analysis of alternatives. Further, analysis of alternatives is limited by the capacity to undertake alternatives including the fact that the site is not owned by the proponent, and that the site was selected to provide connectivity to the electricity grid.

No alternatives are genuinely proposed or considered. The only clear alternatives for the proposed action is to not take the action, or to move the action to another site. It is considered that there are no feasible alternatives for this project.

8.1 Select the relevant alternatives related to your proposed action.

8.27 Do you have another alternative?

No

Section 9 – Contacts, signatures and declarations

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

9.0 Is the person proposing to take the action an Organisation or an Individual?

Organisation

9.2 Organisation

9.2.1 Job Title

Director

9.2.2 First Name

Koovashni

9.2.3 Last Name

Reddy

9.2.4 E-mail

kreddy@cleangen.com.au

9.2.5 Postal Address

PO Box 237
North Sydney NSW 2059
Australia

9.2.6 ABN/ACN

ABN

44605403683 - CLEANGEN PROJECTS PTY. LTD.

9.2.7 Organisation Telephone

0417105257

9.2.8 Organisation E-mail

kreddy@cleangen.com.au

9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

Small business

9.2.9.1 You must provide the Date/Income Year that you became a small business entity:

Tue, 04/21/2015

Small Business Declaration

I have read the Department of the Environment and Energy's guidance in the online form concerning the definition of a small a business entity and confirm that I qualify for a small business exemption.

Signature: ..... Date: 28/7/2017

9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations

No

9.2.9.3 Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made

Person proposing the action - Declaration

I, Koovashni Reddy, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature: ..... Date: 28/7/2017

I, Koovashni Reddy, the person proposing the action, consent to the designation of Nicholas Baker, Wilde Environment as the proponent of the purposes of the action describe in this EPBC Act Referral.

Australian Government
Department of the Environment and Energy

Signature:..... Date: 28/7/2017

9.3 Is the Proposed Designated Proponent an Organisation or Individual?

Organisation

9.5 Organisation

9.5.1 Job Title

Director

9.5.2 First Name

Koovashni

9.5.3 Last Name

Reddy

9.5.4 E-mail

kreddy@cleangen.com.au

9.5.5 Postal Address

PO Box 237
North Sydney NSW 2059
Australia

9.5.6 ABN/ACN

ABN

44605403683 - CLEANGEN PROJECTS PTY. LTD.

9.5.7 Organisation Telephone

0417105257

9.5.8 Organisation E-mail

kreddy@cleangen.com.au

Proposed designated proponent - Declaration

Australian Government
Department of the Environment and Energy

I, KOOVASHNI REDDY, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature:..... Date: 27/7/2017.

9.6 Is the Referring Party an Organisation or Individual?

Organisation

9.8 Organisation

9.8.1 Job Title

Director

9.8.2 First Name

Nicholas

9.8.3 Last Name

Baker

9.8.4 E-mail

nicholas.baker@wildenvironmental.com

9.8.5 Postal Address

PO Box 55
TOWNSVILLE QLD 4810
Australia

9.8.6 ABN/ACN

ABN

91610317327 - MILFORD BAKER PTY LTD

9.8.7 Organisation Telephone

0744109000

9.8.8 Organisation E-mail

Australian Government
Department of the Environment and Energy

nicholas.baker@wildenvironmental.com

Referring Party - Declaration

I, Nicholas Baker, I declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature:..... Date: 28/07/2017

Appendix A - Attachments

The following attachments have been supplied with this EPBC Act Referral:

1. amended_layout3.jpeg
2. amended_layout_final.kml
3. jw171109_20170726_final_response_to_module_8.pdf
4. rps_environmental_assessment_part_1.pdf
5. rps_environmental_assessment_part_2.pdf