11 April 2022
Submission by:

I wish to make the following submission to Environment Protection Authority Victoria (EPA Victoria) regarding the development licence application for the Hastings Generation Project by Esso/ExxonMobil.

Introduction:
This submission will outline my primary reasons for opposing approval of the development licence application of the Project by EPA Victoria.

As a resident of the Mornington Peninsula, I strongly oppose the Hastings Generation Project (the Project) due to its potential adverse environmental effects on local residents and businesses, impacts on air quality, noise, flora, fauna, air pollutants and increased greenhouse gas emissions at Long Island Point, Hastings.

I do not believe that adequate community consultation has been conducted by Esso to inform local residents and businesses on the Mornington Peninsula about the Project and its environmental effects. EPA Victoria published a guide to community consultation (Publication 1145.1 March 2010) that Esso appears not to have utilised to date.

The residents of Crib Point, Bittern, Hastings, Balnarring, Somers and other townships on the Mornington Peninsula as well as communities on French Island and Phillip Island have long opposed any new industrial development or facilities around Western Port Bay that may have an adverse impact on the ecological character of the region including impacts on the local environment, flora, fauna and migratory species.

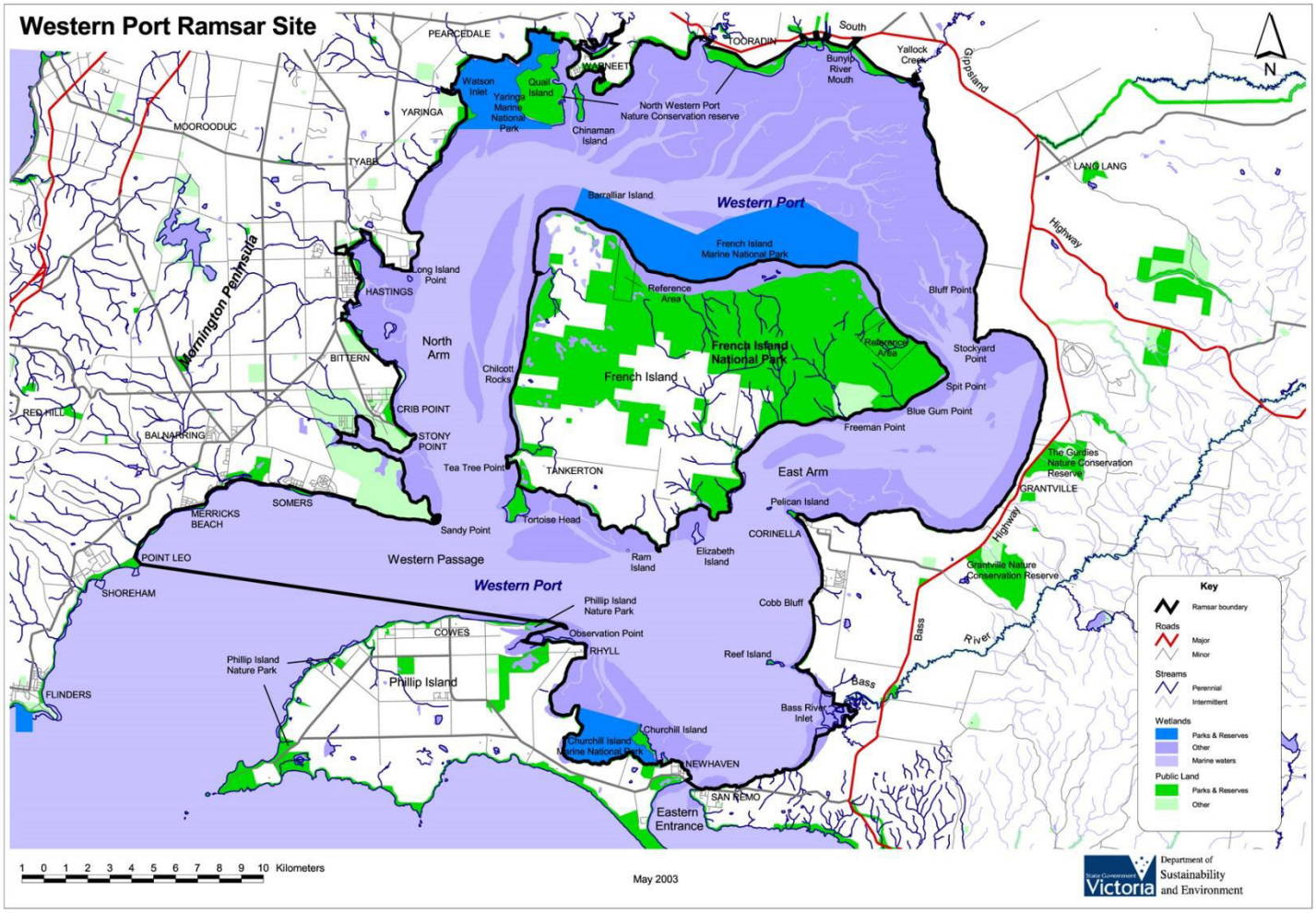
Mornington Peninsula Shire Council adopted a Climate Emergency Plan on Tuesday 25 August 2020 – *"Ensuring Our Future: Our Climate Emergency Response"* that provided clear priorities and actions to guide the Mornington Peninsula towards zero carbon emissions by 2040. The Project does not appear to comply with the Climate Emergency Plan for the Mornington Peninsula due to increased greenhouse gas emissions.

Esso must do more to find a solution to excess ethane production at Long Island Point that does not increase greenhouse gas emissions on the Mornington Peninsula or cause other adverse impacts on our community or our environment. Greenhouse gases must not be transferred from Altona to the Mornington Peninsula.

EPA Victoria and Mornington Peninsula Shire Council should reject this development licence application by Esso and recommend that a full Environment Effects Statement (EES) is required of this Project in order to identify all environmental effects and other adverse impacts.

Development Licence Application
1.0 Primary Information:

The Mornington Peninsula is known for its beaches, tourism, accommodation, food and wine production, restaurants and wineries and access to Western Port and Port Phillip Bay.



Western Port map

The natural environmental features around Hastings include:

- Western Port
- French Island
- Phillip Island
- Yaringa Marine National Park
- Hastings Foreshore Reserve
- Warringine Park (Bittern)

In 1982, Western Port was designated as a wetland of international importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention). The site occupies 59,297 ha and consists of large shallow intertidal areas dissected by deeper channels, and a narrow strip of adjacent coastal land in some areas.

2.0 Scheduled Permission Activity:

Esso (a subsidiary of ExxonMobil) proposes to generate electricity by burning excess ethane in three gas turbines at its site at Long Island Point, Hastings – known as the Hastings Generation Project.

I believe that the Esso ethane project site should be considered as a scheduled premises due to the emissions to air. Schedule 1 of the *Environment Protection (Scheduled Premises) Regulations 2017* prescribes premises that discharge or emit, or from which it is proposed to discharge or emit, to the atmosphere.

I believe the nitrogen oxides (NOx), carbon monoxide (CO), VOC (volatile organic compounds) and particulate emissions from the proposed operation of three Solar Titan 130 gas turbines would exceed the scheduled premises thresholds over a twelve month period.

I am concerned about the air emissions and noise impacts from the proposed Esso ethane project that may have a potential impact on residential homes around Hastings. The proposed plant and equipment operating 24 hours per day could create sound levels over 100dBA that would impact on local residents and businesses around Hastings.

Long Island Point, Hastings

3.0 Activity Locations:

Long Island Point is located on Western Port which is a Ramsar wetlands site of international importance. Australia is a Contracting Party to the Ramsar Convention on Wetlands (Ramsar, Iran, 1971) and the Convention commits its member countries to promote the conservation of their Wetlands of International Importance (Ramsar wetlands) and to plan for the wise use of all of the wetlands in their territories.

A definition of wise use was updated in 2005 and states that: 'Wise use of wetlands is the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development."
The Vision for the Fourth Ramsar Strategic Plan 2016 – 2024 states:
"Wetlands are conserved, wisely used, restored and their benefits are recognised and valued by all"

I do not believe that the burning of excess ethane is a "wise use" near a Ramsar wetlands site of international importance due to the potential adverse impacts and risks to the local environment of Western Port including native flora and fauna, migratory birds and mangroves.

I do not believe that burning excess ethane could be considered 'sustainable development'.

4.0 Waste Information:

N/A

5.0 Land Use:

As the Hastings Generation Project will create greenhouse gas emissions and other air pollutants, I believe that an Environment Effects Statement (EES) is required to identify all environmental impacts on the local community and local environment.

Significant noise levels from the operations of the three Solar Titan 130 gas turbine generators could impact on local residents and businesses – especially at night. Projected noise levels could exceed 100dBA and require additional control measures that may not effectively reduce the impact of industrial noise on local residents.

There are other alternatives to burning excess ethane that Esso should consider to avoid additional flaring at Long Island Point. Flaring has been a long-term issue due to Esso operations at Long Island Point and as natural gas demand declines in coming years, Esso will need to find alternative uses for excess petroleum products, like ethane, without increasing greenhouse gas emissions on the Mornington Peninsula.

6.0 Community engagement:

I do not believe that Esso has conducted adequate community consultation regarding the Hastings Generation Project with local residents and businesses to receive feedback and record concerns about the Project.

Esso has not advertised the Project widely or invited the general public to attend community meetings, forums or information sessions on the Mornington Peninsula to explain the Hastings Generation Project in detail.

Esso held a Long Island Community and Stakeholder Meeting in September 2021 to discuss its business operations and community funding but this meeting did not provide specific consultation or detailed technical information on the Hastings Generation Project.

EPA Victoria has published '*A Planning Process for Community Engagement* – Publication 1145.1' which provides steps to create an effective community engagement plan. I do not believe Esso has provided enough information on the Hastings Generation Project or enough opportunities for public feedback to date.

EPA Victoria should consider holding a *Conference of Interested Persons* (s236) community meeting regarding the Hastings Generation Project at Long Island Point, Hastings. Local residents should have the opportunity to ask Esso questions about the Project, describe their concerns, provide comments and feedback and learn more about potential impacts on our community and environment.

Esso has advertised in the Western Port News newspaper recently and provided an email address communityANZ@exxonmobil.com for residents to ask questions about the Project. However this is not the email address provided in Esso's development licence application for community members to ask questions – that email address is consultation@exxonmobil.com Clarification is required to ensure all community concerns and questions are recorded as part of the Project's community engagement process.

7.0 Choice of Process and Technology:

Esso has selected the Solar Titan 130 gas turbines to burn excess ethane for electricity at Long Island Point. The Solar Titan 130 gas turbines generate heat, noise, greenhouse gases and various air pollutants such as oxides of nitrogen, carbon monoxide, particulate matter and other hydrocarbons.

The three Solar Titan 130 gas turbine generators will produce significant quantities of CO2 (carbon dioxide) that may exceed 200,000 tonnes per year at Long Island Point – the trigger for an Environment Effects Statement (EES). The efficiency of the Solar Titan 130 gas turbine generators is around 35%.

Alternative options for the excess ethane should be found rather than burning or flaring the ethane at Long Island Point. Other alternatives should be explored beyond the six examples provided in the development licence application. The issue of decreasing demand for natural gas in Victoria in coming years will require Esso to review their operations and create new solutions for their petroleum products that do not lead to increasing greenhouse gas emissions.

Comparing ethane powered electricity with coal fired power electricity generation should also include comparisons with solar and wind power generation. We need less fossil fuel electricity generation – not more.

8.0 Greenhouse Gas Emissions:

The Hastings Generation Project is projected to generate over 195,000 tonnes of CO2 during annual operation.

This would increase CO2 emissions on the Mornington Peninsula above current quantities.
This would be a significant impact on the local environment of the Mornington Peninsula and does not meet the expectations of many local residents who support new renewable energy sources above fossil fuels.

Esso suggests that gas-fired power generation is better than coal-fired (lignite) power generation in terms of C02 emissions but ignores the rise of renewable energy such as solar and wind technologies.

Highlighting the benefits of gas-fired power generation may suit Esso but it is not the best solution for creating electricity and lowering carbon emissions on the Mornington Peninsula.

The purchase of certified carbon offsets by Esso to compensate for annual carbon emissions from the operation of the Hastings Generation Project will not remove those CO2 emissions from the skies above the Mornington Peninsula and Western Port. The carbon emissions will still impact on native flora, fauna and birds around Long Island Point.

The proposed Hastings Generation Project would not reduce greenhouse gas emissions on the Mornington Peninsula – it would increase emissions above current levels. The Project would not reduce climate change risks – it would contribute to the impacts of climate change on the Mornington Peninsula.

Solar Titan 130 gas turbine generator

9.0 Risk Assessment:

There are many environmental and human health risks associated with the Hastings Generation Project.

Greenhouse gas emissions, air pollutants, noise, odours, impacts to flora and fauna, artificial lighting and other risks would exist if this Project were operational at Long Island Point, Hastings.

Esso has not provided a maximum ethane quantity per day but an annual average of 189 tonnes of ethane per day. It would be helpful to know the maximum amount of ethane that could be burned in a 24 hour period to determine the extent of CO2 emissions and other air pollutant risks from the operation of the Project.

If more than 189 tonnes of ethane is burned per day, the modelling for air quality could be inaccurate and the environmental effects of the Project could be far greater than predicted.

10.0 Risk Management:

A new EPA Victoria air quality monitoring station is required at Long Island Point, Hastings to provide accurate measurements of air quality and pollutants. Using background air quality data from Geelong, Dandenong and Alphington for this Project would not be as accurate as real-world data from Long Island Point.
EPA Victoria should consider establishing a new air quality monitoring station at Long Island Point for accurate measurements of current industrial activity and in case of future developments in the area.

Noise modelling for the operation of the Hastings Generation Project may not be accurate if weather conditions, wind speed and temperature allow noise from the three Solar Titan 130 gas turbines to reach local residences and businesses.

Noise levels above 100dBA would be difficult to suppress from reaching local residents even with noise mitigation measures – especially on cold, still nights in Hastings and across the waters of Western Port.

Odours from volatile organic compounds (VOC) in air emissions may reach nearby residences and businesses depending on weather conditions despite modelling predictions.

Human health may be impacted due to increased greenhouse gas emissions from the Project on the Mornington Peninsula. If this Project was not approved, there would be less risk of greenhouse gas emissions and less risk of climate change impacts on the Mornington Peninsula.

11.0 Other Approvals:

N/A

12.0 Supporting Evidence:

N/A

ENGAGING PEOPLE ACTIVELY

A PLANNING PROCESS FOR COMMUNITY ENGAGEMENT

This process helps you think through the steps for the development of a community engagement plan. Each step provides a series of important questions to answer before moving on. Step 6 in the planning process refers to the Community Engagement Model overleaf. For further information please contact your local EPA Community Engagement facilitator or our Community & Stakeholder Engagement Unit.

1. IDENTIFY THE DILEMMA/OPPORTUNITY

What is the dilemma/opportunity? Why do you want to involve the public, community and/or stakeholders?

2. IDENTIFY THE PEOPLE IN THE 'COMMUNITY'

Who do you need to talk to? Who's demanding to be let in? Whose input do you need? Who is legitimately part of this discussion? Whose interests are affected (positively/negatively) by this issue/problem/project? Who will be outraged later if excluded now? Whose buy-in do you need?

3. ANALYSE THE COMMUNITY'S GOALS AND CONSTRAINTS

What do the stakeholders/community want from the process? What possible benefits and costs are posed to them by your activities? What possible benefits and costs are posed to them by participating in your engagement program? How much power do they currently have to influence the outcome/decision? How much would they like to have? How would they like to be engaged? What type of engagement might the community be expecting? (Some social research can help here.)

4. ANALYSE YOUR GOALS AND CONSTRAINTS

What are you hoping to get from the community in order to achieve your goals? What does success look like? What does failure look like? What are you allowed to do or not do? What is forbidden/compulsory/non-negotiable? What decisions are predetermined? What is negotiable/flexible/open for debate? What's your mandate/role, budget and timelines? How would you like the community to be engaged? What type of engagement is your organisation expecting?

5. DETERMINE THE 'TENSIONS AND SYNERGIES'

Based on all of the above information, what is worth discussing? What goals might the community have that you can meet? What goals might you have that they can meet? Where is discussion likely to prove fruitful and where isn't it? How aligned are the engagement expectations?

6. DETERMINE YOUR PURPOSE, PROCESS AND TOOLS

Based on all of the above, what is your overall engagement purpose with this project/issue (refer to IAP2 Model overleaf)? How might different people/stakeholders be engaged differently? What tools are appropriate for this project?

7. OUTLINE HOW RISKS WILL BE MANAGED

Based on the above analysis, what are the risks if you don't engage with the community/stakeholders? What are the risks if you do engage with the community/stakeholders? What is the likelihood of these risks occurring? What would be the impact if they did occur? How will these risks be managed?

8. OUTLINE HOW SUCCESS WILL BE MEASURED

What is the purpose of the evaluation? Who wants to know what from the evaluation? What evidence will be collected and how? When will this reflection occur and what resources are required to do it?

9. OUTLINE YOUR LEARNING APPROACH

What do you want to learn about community engagement? What skills in community engagement do you want to build? What approach will you use to develop your skills? When and how will this happen? How can you help others learn from your experience?

10. WRITE UP YOUR PLAN AND IMPLEMENT IT

Get buy-in internally and externally when you write up the plan. Evaluate and revise as you go along. Remember it is a living document, not an archive.

EPA VICTORIA

Victoria The Place To Be

A model for community engagement

This model defines the different types of engagement. Each type (Inform, Consult etc) has an associated goal and promise. You can use this model to help you define which type of engagement is appropriate for your project or for particular stakeholders or segments of the community in a project. Once you have defined your engagement purpose(s) you can decide which tools would best meet your aims.

IAP2 – Public Participation Spectrum

Developed by the International Association for Public Participation (IAP2).
Modified by the Community & Stakeholder Engagement Relations Unit staff at EPA Victoria, March 2010.

INCREASING LEVEL OF PUBLIC IMPACT

INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL:	**PUBLIC PARTICIPATION GOAL:**	**PUBLIC PARTICIPATION GOAL:**	**PUBLIC PARTICIPATION GOAL:**	**PUBLIC PARTICIPATION GOAL:**
To provide stakeholders and the broader public with balanced and objective information to assist them in understanding the problems, alternatives and/or solutions.	To obtain feedback from stakeholders and the broader public on analysis, alternatives and/or decisions.	To work directly with stakeholders and the broader public throughout the process to ensure that their issues and concerns are consistently understood and considered.	To partner with stakeholders and the broader public in each aspect of the decision, including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of stakeholders and the broader public.
PROMISE TO THE PUBLIC:	**PROMISE TO THE PUBLIC:**	**PROMISE TO THE PUBLIC:**	**PROMISE TO THE PUBLIC:**	**PROMISE TO THE PUBLIC:**
We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and provide feedback on how your input influenced the decision.	We will work with you to ensure that your concerns and issues are directly reflected in the alternatives developed and provide feedback on how your input influenced the decision.	We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
EXAMPLE TOOLS:	**EXAMPLE TOOLS:**	**EXAMPLE TOOLS:**	**EXAMPLE TOOLS:**	**EXAMPLE TOOLS:**
• Fact sheets • Websites • Open houses	• Public comment • Focus groups • Surveys • Public meetings	• Workshops • Deliberate polling	• Citizen advisory committees • Consensus building • Participatory decision-making	• Citizen juries • Ballots • Delegated decisions
EPA EXAMPLES:	**EPA EXAMPLES:**	**EPA EXAMPLES:**	**EPA EXAMPLES:**	**EPA EXAMPLES:**
• Information bulletins • EPA website • Publications	• Planning permits • Works approval process	• Publication development • Schools program • 20B conferences	• Codes of practice • Policy • EIPs • EREPs	• NEIPs • Sustainability covenants

INCREASING LEVEL OF EDUCATION/LEARNING/SOCIAL CAPITAL POTENTIAL

EPA VICTORIA
Victoria The Place To Be
www.epa.vic.gov.au **T:** 03 9695 2722 **F:** 03 9695 2780

Publication 1145.1 March 2010

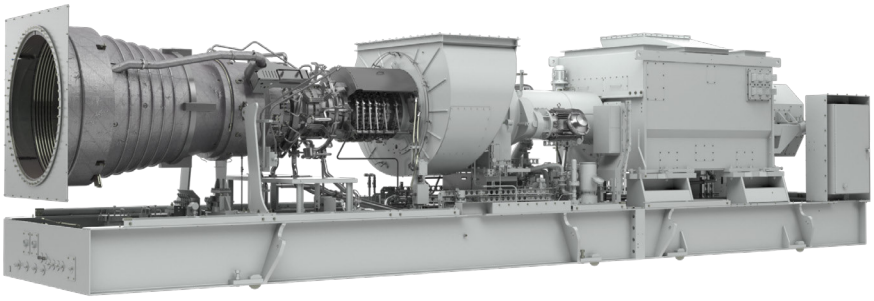
Solar® Turbines

A Caterpillar Company

TITAN 130

Gas Turbine Generator Set

Power Generation



General Specifications

Titan™ 130 Gas Turbine

- Industrial, Single-Shaft
- 14 Stage Axial Compressor
  - Variable Inlet Guide Vanes and Stators
  - Pressure Ratio: 19.1:1
  - Inlet Airflow: 55.4 kg/sec (122 lb/sec)
  - Vertically Split Case
- Combustion Chamber, Annular-Type
  - 21 Conventional Fuel Injectors
  - 14 Lean-Premixed, Dry Low Emissions SoLoNOx™ Injectors
  - Single Torch Ignitor System
- Power Turbine
  - 3-Stage Reaction
  - Clockwise Rotation
- Bearings
  - 3 Radial Journal: Tilt-Pad
  - 1 Thrust, Active: Tilt-Pad
  - 1 Thrust, Inactive: Fixed Tapered Land
- Coatings
  - Compressor: Inorganic Aluminum
  - Turbine and Nozzle Blades: Platinum Aluminide (Stages 1 and 2)
- Vibration Transducer Type
  - Proximity Probes, 2 per Radial Bearing/ 2 per Thrust Bearing

Main Reduction Drive

- Epicyclic Type
  - 1500 or 1800 rpm (50 or 60 Hz)
  - Vibration monitoring: Acceleration Transducer

Generator

- 4 Pole, 3 Phase, 6 Wire, Wye Connected, Synchronous with Permanent Magnet Generator Exciter
- Available Construction Types:
  - Open Drip-Proof Construction
  - CACA/TEAAC (Closed Air, Cooling Air/ Totally Enclosed, Air to Air Cooling)*
  - CACW/TEWAC (Closed Air, Cooling Water/Totally Enclosed, Water to Air Cooling)*
- Sleeve Bearings
- Vibration Monitoring; Velocity Transducers
- Vibration Monitoring; Displacement Transducers*
- NEMA Class F Insulation
- Class B Temperature Rise*
- Continuous Duty Rating Voltages:
  - 3300, 6600, 11 000 (50Hz)
  - 4160, 6900, 12 470, 13 200, 13 800 (60Hz)

Package

- Mechanical Construction
  - Steel Base Frame with Drip Pans
  - 316L Stainless Steel Piping
  - Compression Type Tube Fittings
- Start System
  - Direct Drive AC Motor with VFD Control
- Package Electrical Certification
  - NEC, CSA Class 1, Group D, Div.2
- Fuel System
  - Natural Gas
  - Diesel*
  - Dual (Natural Gas and Diesel)*
  - Low BTU Gas*
- Integrated Lube Oil System
  - Turbine-Driven Lube Pump
  - AC Motor Driven Pre/Post Lube Pump
  - DC Motor Driven Backup Lube Pump
  - Air to Oil Cooler
  - Water to Oil Cooler*
  - Integral Lube Oil Tank
  - Lube Oil Tank Heater
  - Lube Oil Filter
  - Duplex Lube Oil Filter*
  - Oil Tank Vent Separator with Flame Arrestor
- Air Inlet and Exhaust Systems
  - Carbon Steel
  - Stainless Steel*
  - Barrier Type Filters
  - Self-Cleaning Filters
  - Inlet and Exhaust Silencers
  - Inlet Evaporative Cooler*
  - Inlet Chiller Coils*
- Enclosure
  - Complete Package
  - Driver Only*
  - Fire Detection and CO_2 Suppression System
- Turbine Compressor Cleaning Systems
  - On-Crank/On-Line
  - Portable Cleaning Tank*
- Package Power
  - 120VDC Battery/Charger System
- Turbotronic™ On-Skid Gas Turbine and Generator Control System Features
  - Combination Generator Control Module with Load Share, Auto Synchronization, Voltage Control
  - Standard Display with Discrete Event Log, Strip Chart, Historical Trend, Maintenance Screen
  - Vibration and Temperature Monitoring
  - English Display Text and Labels
  - Spanish, Portuguese, German, French or Simplified Chinese Display Text
  - Auxiliary and Remote Display/Control Terminals*
  - Turbine Performance Map*
  - KW Import Control*
  - KVAR/Power Factor Control*
  - ControlNet Redundant Media, Ethernet or Modbus RS232C/422/485 Supervisory Interface*
  - Heat Recovery Application Interface*
  - Multi-Unit Applications: Load Shed Control, Import/Export or kW/KVAR Control Panels*
  - InSight System™ Equipment Health Management*
  - Printer/Logger*
- Electrical System Options
  - Neutral Grounding Resistor or Transformer*
  - Switchgear and Generator Protective Relay*
  - Motor Control Center with Automatic Transfer Switch*
- Documentation
  - Drawings
  - Quality Control Data Book
  - Inspection and Test Plan
  - Test Reports
  - O&M Manuals
- Factory Testing of Turbine
- Factory Testing of Package Systems
  - Non-Dynamic
  - Dynamic

* Option

Solar Turbines
A Caterpillar Company

TITAN 130
Gas Turbine Generator Set

Power Generation

Performance

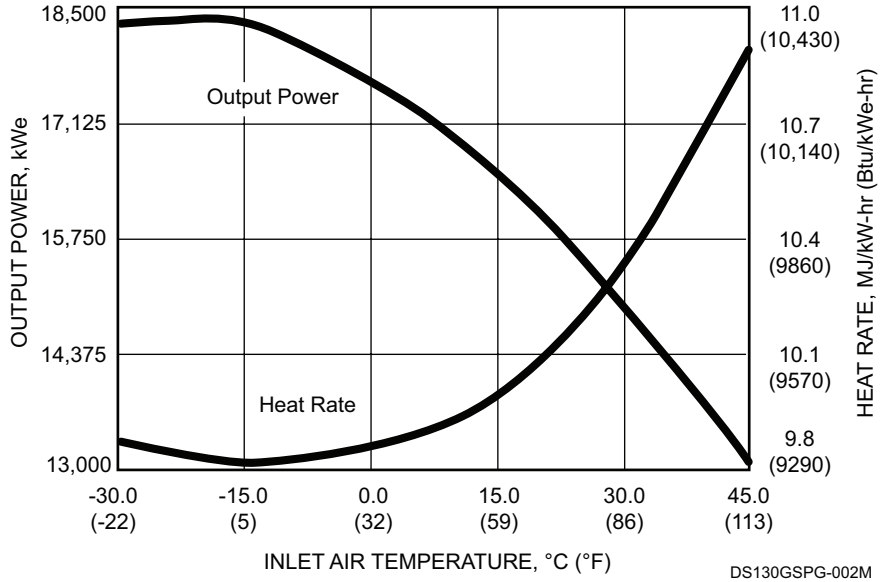
Output Power	16 530 kWe
Heat Rate	10 160 kJ/kWe-hr (9630 Btu/kWe-hr)
Exhaust Flow	202 510 kg/hr (446,460 lbs/hr)
Exhaust Temperature	490°C (910°F)

Application Performance

Steam (Unfired)	29.2 tonnes/hr (64,490 lb/hr)
Steam (Fired) 1536°C (2800°F)	134.1 tonnes/hr (295,730 lb/hr)
Chilling (Absorp.)	25 240 kW (7170 refrigeration tons)

Nominal rating – per ISO
At 15°C (59°F), sea level
No inlet/exhaust losses
Relative humidity 60%
Natural gas fuel with
LHV = 35 MJ/Nm³ (940 Btu/scf)
No accessory losses
Engine efficiency: 35.4%
(measured at generator terminals)

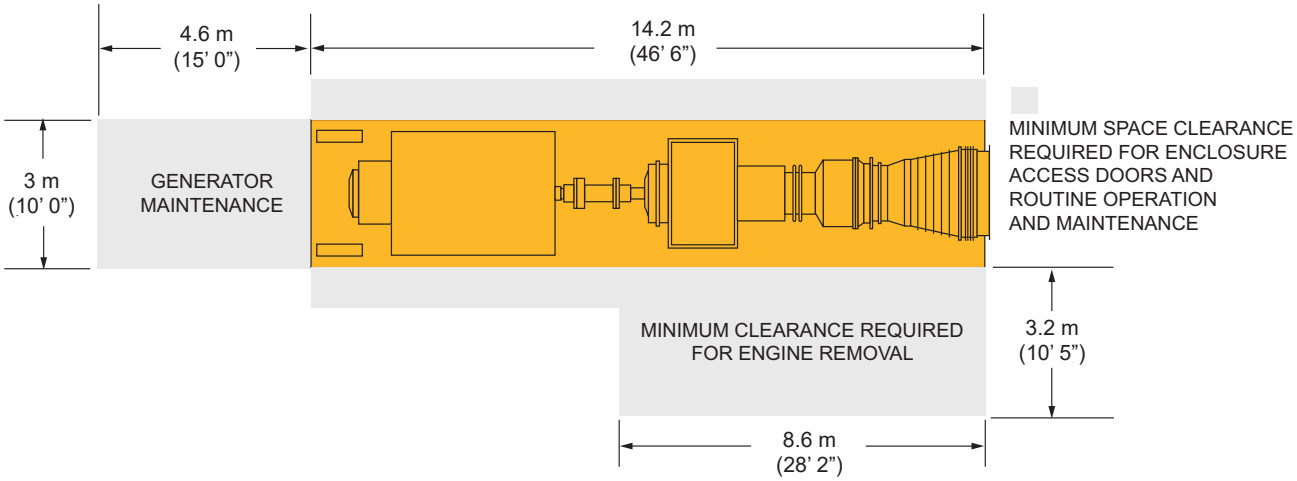
Available Power*



DS130GSPG-002M

* *SoLoNOx*

Enclosure Access and Maintenance Space



DS130PG-003C

Package Height: 3.9 m (12' 9")
Package Weight: 87 510 kg (192,925 lb)

Dry weight, unenclosed height

Solar Turbines Incorporated
P.O. Box 85376
San Diego, CA 92186-5376

DS130PG/0120/EO

FOR MORE INFORMATION

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Internet: www.solarturbines.com

ISO-9001
DNV
CERTIFICATED FIRM