



# ESG Report 2020-21



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## Message from Senior Management

Dear Stakeholders,

It gives me great pleasure to present our first-ever standalone ESG report for FY20-21, a document that summarises the objectives, activities, and the performance of the entity from ESG perspective to its stakeholders.

This report includes examples of how we have demonstrated our commitments and applied our management approach on a range of ESG topics, including environmental stewardship, health & safety, relationships with local community, and governance. In these extraordinary times, we remained committed to our long-term strategy. In response to this year's pandemic, we acted with determination and took concrete actions to ensure the safety of our workforce as well as that of our community and continued to do our best work towards meeting India's energy demand. We continued to deliver value to our customers, supported our communities, and empowered our employees, all this while minimising our impact on the environment.

We have always focused on building a business that is resilient and can deliver value for stakeholders by having played our role as a sustainable energy company, with the best skills and capabilities across the industry. In many ways, FY 2020-21 was a year of unprecedented changes. The developments in the macroeconomic environment caused by the pandemic situation, climate change, extreme weather, delicate interactions between the business and biodiversity, global outlook towards digital innovation, and data privacy, alongside changing geopolitical balances, have been among the principal forces driving enterprises to innovate and immunise their business model.

I would like to take this opportunity to show my deep appreciation towards our stakeholders who have stood by us. OPG has always remained committed to strengthen this bond founded on transparency and shared growth. As we intend to make further investments over the coming years, we will continue to emphasise on innovative ways to deliver cleaner and more reliable energy to our customers.

To our people and fraternity of investors, I extend my sincere gratitude for always having demonstrated the utmost belief in the business, which has enabled us to ensure continuity of our services.

Looking forward to a promising year ahead of us.

Yours sincerely,

**Arvind Gupta**

**Chairman, OPG Power Ventures Plc**

## About this report

This report is designed to provide transparent and succinct information on our economic, social, and environmental performance to our stakeholders. The report has been prepared in accordance with **Global Reporting Initiative (GRI) Standards (core option)** and the recommended disclosures therein as applicable to the ESG performance indicators being reported by OPG. We intend to disclose our sustainability performance on an annual basis. The last sustainability performance was reported as part of our annual report for FY2020. There are no significant changes in the list of topics and content compared to previous reporting periods.

### Reporting period

This report covers information for the period from **1<sup>st</sup> April 2020 to 31<sup>st</sup> March 2021**.

### Scope & boundary

The data is related to environment and social performance based on the actual performance of our 414 MW thermal power plant units located at Gummidipoondi, Thiruvallur District located 50 km north of Chennai, Tamil Nadu, 62 MW Solar Project in Karnataka and office complex in Chennai. There have been no significant changes in the organisational structure nor in our supply chain during the reporting year period.

**For any queries related to this ESG report, please contact:**

**Dmitri Tsvetkov, CFO, Director**

**Email: [dmitri.tsvetkov@opgpower.com](mailto:dmitri.tsvetkov@opgpower.com)**

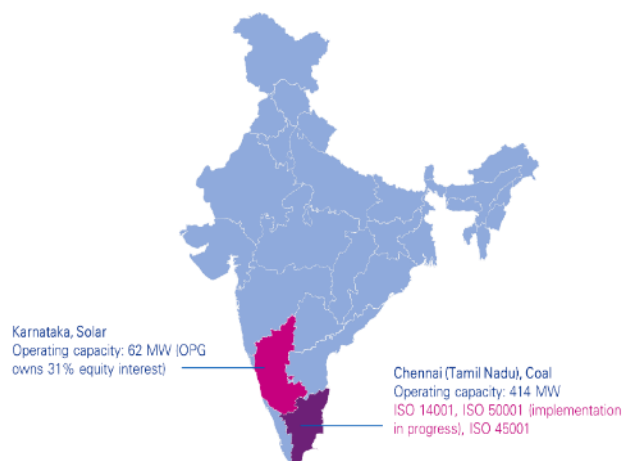
## Introduction

OPG Power Ventures Plc is a public limited company incorporated and headquartered in the Isle of Man which is quoted on the AIM Market of the London Stock Exchange. We are primarily engaged in the development, ownership, operation, and maintenance of private sector power projects in India. We operate a 414 MW coal based thermal power plant unit located at Gummidipoondi, Tiruvallur district of Tamil Nadu State and 62 MW solar units in Karnataka in which we have a 31% equity stake. The thermal power plant comprises of two units of 77MW each and two units of 80 MW and 180 MW each. The plant was commissioned in 2010 with the gradual addition of capacity since inception. All units are technologically enabled to use imported coal or domestic coal.

### 414MW thermal power plant at Gummidipoondi, Tiruvallur district of Tamil Nadu State







The electricity generated from the plants is sold principally to Public Sector undertakings, SEB's and heavy industrial companies in India. As an organisation our aim is to focus on the power generation business within India and thereby provide reliable, cost-effective power to the industrial captive power shareholders and other users under the 'Group Captive' provisions mandated by the Government of India.



### Our solar assets located in Karnataka

#### Our Objective

OPG's overall objective is to build shareholder value and be a first-choice provider of power to its captive power shareholders. We have pursued this objective by focusing on:

- ✚ Providing reliable and uninterrupted power to our captive power shareholders at competitive rates
- ✚ Profitable, sustainable & responsible growth
- ✚ Adopting best operational practices and pursuing environmental goals and strategies to minimise emissions and to reduce carbon footprint.

We have an opportunity to become a leader in the energy sector – leadership in terms of the quality of our environmentally responsible operations, delivery of profitable, sustainable growth and inclusive possibilities for the future.

### Value chain context

The purpose of value-chain analysis in OPG is to increase production efficiency so that the company can deliver maximum value for the least possible cost. The key elements of our value chain from Coal to kilo-Watt/hour are observed in the procurement of coal, plant operations, O&M supplies and spares, fuels and chemicals, manpower for O&M and projects, sale of fly ash for sustainable use and power evacuation to our captive power shareholders. We have identified the impact areas related to our value chain activities, linked it back to our business partners and developed strong relationships with our value chain partners. Since our key business focus is power generation, we have focused our disclosures related to material topics of power generation in this report.

We follow a robust process of vendor selection through a well-defined pre-qualification criterion, which ensures only credible vendors are onboarded who have the capacity & capability to execute assignments, to adhere to health, safety and environment norms and to comply with statutory requirements. The performance of vendors is monitored and regular data-driven, transparent feedback ensures continuous improvement and better deliverables to OPG.

### Membership & Associations

Some of the Industry Associations OPG is associated with include CII, FICCI, and Tamil Nadu Power Producers Association (TNPPA). We maintain active memberships in these Industry and Trade Associations to leverage and advocate energy security, power sales, coal, environmental aspects, financing and taxation, fiscal and legal issues. Through these bodies, we have made our submissions to various governmental authorities such as the Government of Tamil Nadu, Ministry of Power, Ministry of Finance, Ministry of Environment, Forests and Climate Change, Central Pollution Control Board, Central Electricity Authority and Coal India Limited.

## Sustainability at OPG

As a responsible organisation our goal is to meet the expectations of our stakeholders while continuing to contribute towards the sustainability of the planet and the well-being of the society. At OPG, we believe in efficient, sustainable, and responsible growth. Our objective is to comply with ever emerging emission standards, maintain technological leadership by employing new technologies and collaborating with our key stakeholder groups. In line with our vision, we regularly invest in supporting and developing local communities through initiatives that create a long-term positive impact on their lives. The COVID-19 pandemic has also sparked a renewed interest to respond to both environmental and societal challenges.

### Integrating sustainability in operations

ESG topics have been at the top of our corporate agenda even before the COVID-19 pandemic, but in the current scenario the 2030 Agenda for Sustainable Development proposed by the United Nations seems more relevant than ever before.

The success of our business requires a more focused and cautious approach to all sustainability considerations, including our participation in the United Nations Sustainable Development Goals (SDGs), to address these issues in an inclusive way.

We are working towards revisiting our present sustainability agenda, to make it more comprehensive and aligned to the global targets. We believe the UN SDGs provide a tangible framework for us to align and prioritise our business activities. The energy sector, and in particular, the private sector, has a pivotal role to play in the achievement of sustainable development goals. Our approach is to utilise the expertise we have achieved over the years to make the most of the opportunities identified. We monitor and report our sustainability performance as part of our annual report. We refer to some of the global reporting frameworks like the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB) and Financial Times Stock Exchange (FTSE) to improve our overall report.

### Our contribution to Sustainable Development Goals





## **Our ESG strategy - Creating long term impact by optimising resources**

A strategy can be understood as a framework for channeling limited resources at our disposal such as time, manpower and funding towards achieving certain prioritised set of goals. Our ESG strategy is no different. We wish to direct our resources towards addressing issues where we can create the maximum impact in the long term. We carried out a peer analysis to identify topics that are of the utmost importance to our industry/ sector. These identified topics will assist us in shaping our overall ESG strategy.

Our ESG strategy will focus on the top-priority issues where we want to create the most impact over the long term. It would be an effective framework that would explain how we as an organisation plan on addressing the identified issues. Our strategy would include goals/ targets/ ambitions around the identified issues. These targets would be ambitious, measurable and time bound. Our aim would be to provide longer-term stretch goals with interim targets embedded into them.

With a keen focus on the sustainability trends and based on the impacts that our activities have on our stakeholders and the risks and opportunities presented by these trends, we will be formulating our ESG strategy. Our approach to mitigating these impacts will be based on the Precautionary Principle. The strategy would also cover activities/ initiative that we would be undertaking to achieve the set goals and targets.

We realise that developing a future fit ESG strategy involves anticipating how the (material) issues might change over time. New issues might come into focus while others may fade away. No business can predict all the issues that it will be expected to address over the next decade. Owing to this constantly changing environment we commit to reviewing, refreshing, and updating our ESG strategy periodically to remain environmentally conscious and nimble.

## Our sustainability highlights FY20-21

### MANUFACTURED CAPITAL



414 MW (2 x 77MW, 1 x 80MW, 1 x 80MW)  
62MW solar power plant (31% equity interest)  
(As on 31<sup>st</sup> March 2021)  
Power generation capacity

“ All units are equipped with best in the class technology such as ultra low NOx burners and reheat machines for better heat rate. ”

~1700 million units  
Power generated from thermal plants

~1560 million units  
Power sales from thermal plants

58%  
Plant load factor, incl. deemed PLF (FY21)

### NATURAL CAPITAL



0.473 MT/ MWh  
Specific coal consumption  
@6000 kcal/kg NAR (Net As  
Received)

“ When normalized to 6000 kcal/kg NAR (Net As Received ) Coal, the specific coal combustion comes out to be 0.473 MT/ MWh. ”

0.093 m<sup>3</sup>/MWh  
Specific water consumption

1.27 Kg CO<sub>2</sub>e/ KWh  
GHG emissions intensity

### HUMAN CAPITAL



240  
Company employees

250  
Contractor workforce

5.9 hours  
Average hours of training provided

0  
Total recordable injury rate (TRIR)

### FINANCIAL CAPITAL



GBP 93.8 Mn  
Revenue

GBP 33.7 Mn  
EBIDTA

GBP 0.4 Mn  
Income tax paid

GBP 2.4 Mn  
Total wages and benefits paid

### INTELLECTUAL CAPITAL



ISO 14001 (Environment  
Management System)

ISO 45001 (Occupational Health &  
safety management system)

ISO 50001\* (Energy management  
system)

\* Under implementation

## SOCIAL CAPITAL



GBP 120,702  
Total CSR spend for FY20-21

*Focus areas of spend include: Borewell construction, water tank construction, water harvesting project, sanitation project, COVID-19 relief materials including O2 concentrators, education, sports etc.*

*“ OPG conducted training programs during the pandemic for contract workers, canteen staff as well as truck drivers on COVID guidelines to be followed. ”*

## Engaging with our Stakeholders

We engage with stakeholders frequently through various modes of engagement to understand their concerns and use their inputs for decision-making in our business. Engaging with stakeholders and responding to their expectations and concerns helps us identify the critical business issues. We have identified stakeholder groups relevant to our business, based on their position in our value chain. *We were not able to carry out stakeholder engagement specifically for this ESG report due to COVID-19 related constraints.* The table below summarises the engagement modes, key concerns, our response, and frequency of engagement during the reporting period.

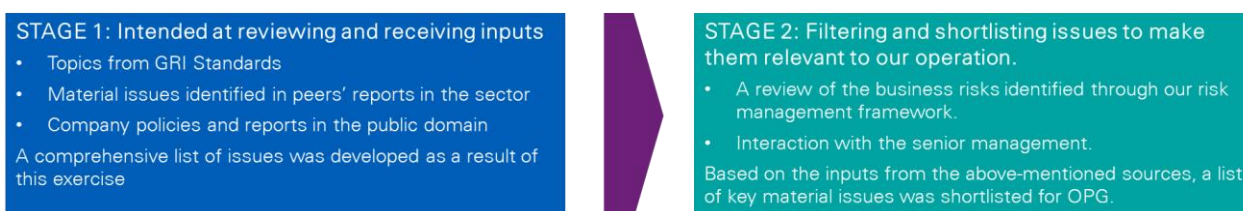
Table 1: List of identified stakeholders and engagement details

Engagement methods	Concerns raised	OPG's response	Engagement frequency
<b>Employees</b>			
Direct interaction, emails, and correspondence, events, employee grievance mechanisms and management meetings	Health and safety, energy efficiency, training & development	Initiatives taken to improve work environment, health and safety, energy-efficiency, and employee capacity building measures	Regular and time specific engagement
<b>Contractual workforce</b>			
Direct Interactions, Training sessions, open forums, toolbox talks, Events	Occupational health and safety, training, and skill development	Actions taken to improve Health and safety, work environment, skill development and training, promotional events, and a grievance redressal mechanism	Regular and time specific engagement
<b>Local communities</b>			
Direct interaction with CSR project beneficiaries and community-based organizations	Education, infrastructure, community healthcare, vocational skill development, support during natural calamities	Education programs support through PTA; community health programs; skill development programs, Provisions given during natural calamities	Regular as well as need-based engagement
<b>Government/ Regulators</b>			
Response to information sought, Timely filing of reports, Regulatory audits, and inspections. Visits by regulatory bodies and meeting with officials	Compliance with applicable laws, taxes, Verification audits and CSR implementation	Timely compliance of all statutory requirements, payment of taxes & levies, submission of reports and other related information, and CSR initiatives	Regular as well as time bound engagement
<b>Investors</b>			
Investor meets, AGMs, meeting with bankers and other financial institutions, and periodic declaration of results	The Company's performance, growth opportunities	Prudent financial management system and reporting	Bi-annual basis and need-based engagement
<b>Customers</b>			

Direct communication with existing and new customers through binding agreements such as PPAs.	Plant availability, transmission availability, forced outages	Power generation planning and scheduling	Regular and need based engagement
<b>Vendors (Suppliers &amp; Contractors)</b>			
On-boarding process, annual supplier meets, supplier site visits	Timelines for payments	Clearance of payments due to supplier	Regular engagement









## Prioritising material ESG topics


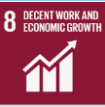





For us, material issues are those that are of high concern to the business and stakeholders and can impact our value drivers such as operational efficiency, and our brand. We adopt a structured approach and methodology to identify and prioritize material issues.



This assessment led to the identification of specific issues in the short-, medium- and long-term strategic areas, as well as site-specific operational challenges. The topics identified for our business are provided below:

### List of material topics with boundary classification:

Topics	Alignment with SDGs	Topic Boundary
<b>GHG Emissions</b>	 	Within and outside OPG
<b>Non- GHG Emission</b>	 	Within and outside OPG
<b>Water management</b>	 	Within and outside OPG
<b>Waste management (fly ash, bottom ash)</b>		Within and outside OPG
<b>Biodiversity</b>		Outside OPG

Occupational health & safety	 	Within OPG
Training & development		Within OPG
Community engagement & development	   	Within and outside OPG

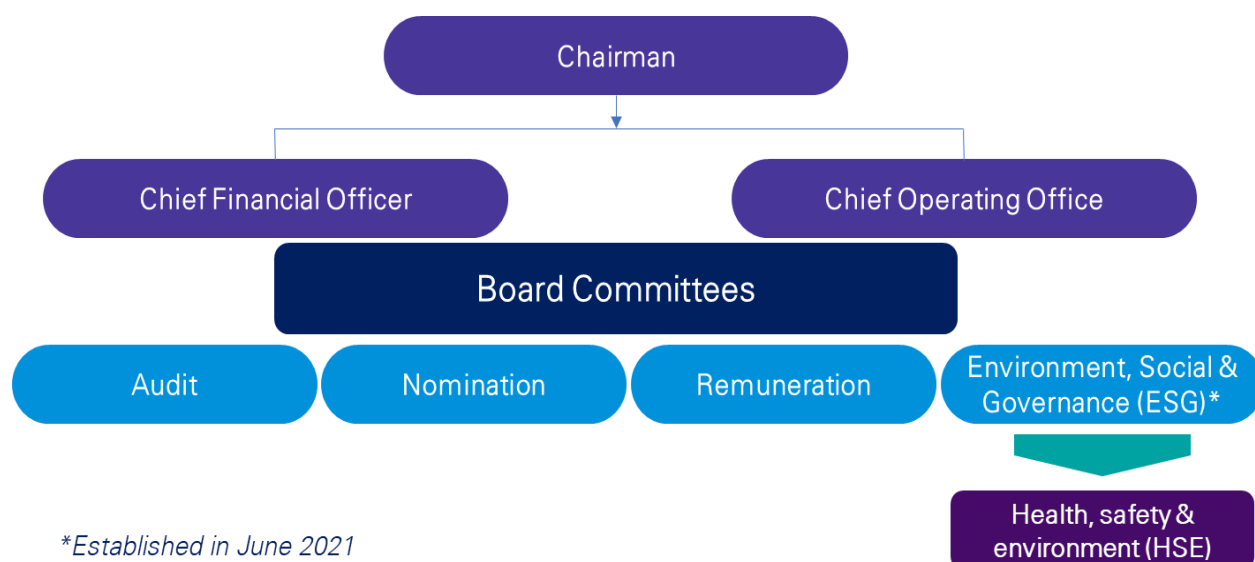
## Corporate Governance

The Company is committed to high standards of corporate governance and places good governance at the heart of the business. In March 2020, the Board of the Company formally adopted the *Quoted Companies Alliance's ("QCA") Corporate Governance Code* ("the Code") in line with requirements of the AIM Rules for Companies. The Board believes that the Code provides the Company with a rigorous Corporate Governance framework to support the business and its success in the long-term. The Code sets out *ten Corporate Governance principles* which are as listed below:

- 1 Establish a strategy and business model which promotes long-term value for shareholders
- 2 Seek to understand and meet shareholder needs and expectations
- 3 Consider wider stakeholder and social responsibilities and other implications for long-term success
- 4 Embed effective risk management, considering both opportunities and threats, throughout the organization
- 5 Maintain the board as a well-functioning, balanced team led by the chair
- 6 Ensure that between them the directors have the necessary up-to-date experience, skills and capabilities
- 7 Evaluate board performance based on clear and relevant objectives, seeking continuous improvement
- 8 Promote a corporate culture that is based on ethical values and behavior
- 9 Maintain governance structures and processes that are fit for purpose and support good decision making by the board
- 10 Communicate how the Group is governed and is performing by maintaining a dialogue with shareholders and other relevant stakeholders



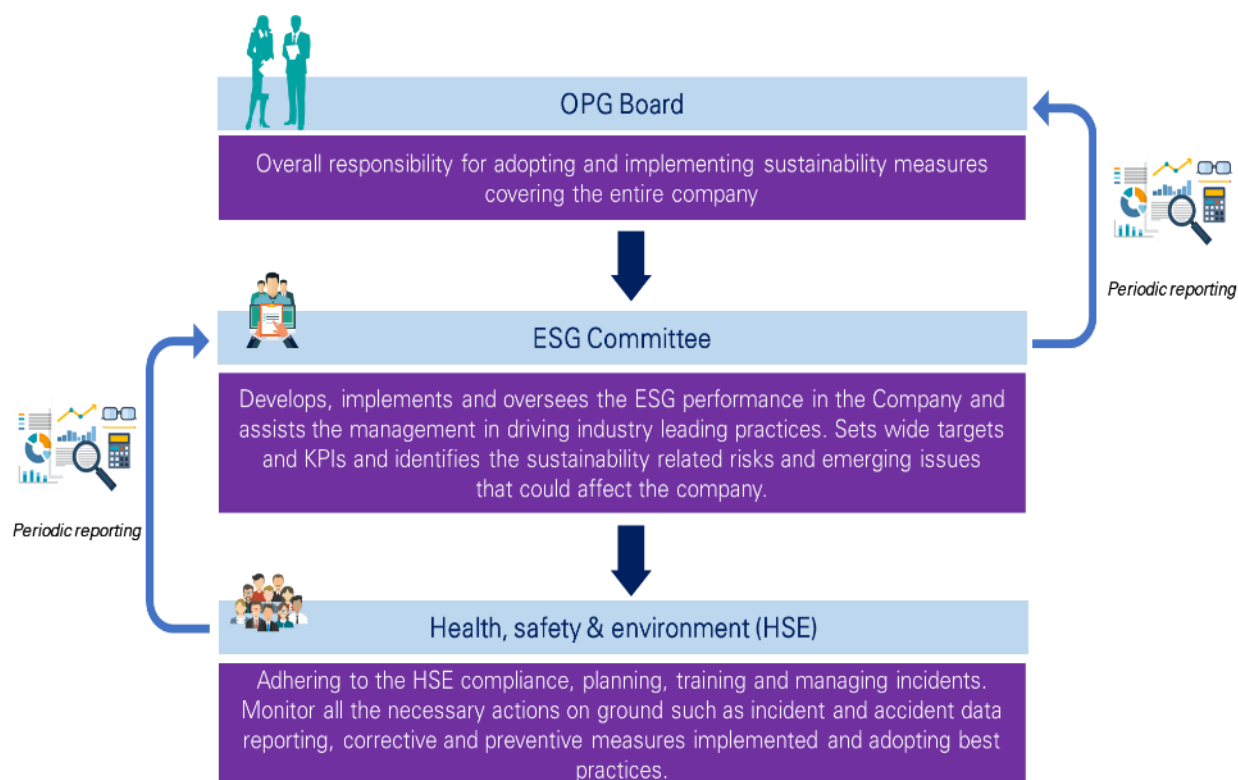
Our overall Corporate Governance structure (OPGPV) is as shown below:



### Sustainability Governance

The overall responsibility for adopting and implementing sustainability measures across the Group lies with the OPG Board. The ESG Committee was created in June 2021 and its primary duty is to establish objectives and milestones to achieve short and long-term ESG goals and to lead the process of development and implementation of Company's ESG strategy. The Health, Safety and Environment (HSE) committee develops, implements, and oversees the HSE performance of the Company and assists the management in driving its HSE agenda and in implementing industry best practices. The ESG committee is tasked with keeping track of strategic and operational issues and periodically reporting to the Board. The ESG committee is also responsible for setting goals & targets and identifying key performance indicators (to track and monitor set targets) and identifying emerging ESG related risks and issues that could have an overall detrimental impact on our company.

A dedicated Steering Committee has also been put in place which reports to the HSE Committee on site specific HSE performance and challenges if any. The responsibilities of the Steering Committee include ensuring adherence to the HSE compliance, planning, training, and managing incidents. The Committee monitors all the necessary actions on the ground such as incident and accident data reporting, corrective and preventive measures implemented and adopting best practices.



### Mitigating risks and capitalising on opportunities

The Company has adopted precautionary approaches through a risk identification, management, and mitigation process. We realise that the purpose of risk management is not to eliminate risks but to minimise the potential negative consequences arising out of risks. The risk management process we have in place includes assessing the external and internal ESG as well as operational risks, along with their likelihood, severity, and impacts. We are in the process of integrating the sustainability risk management with our overall enterprise-wide risk management processes. Our stakeholders are increasingly becoming aware about the impact of these ESG risks on our operations as well as on the environment and the nearby community. We constantly identify the risks and opportunities to ensure our business strategy is aligned to the internal and external business environment. We have identified the following risks & opportunities:

Mitigating Risks			
Risk areas	Identified risks	Potential impact	Action plan
Economic	<ul style="list-style-type: none"> <li>Availability of quality coal at optimal cost</li> <li>Forex variation</li> <li>Credit risk &amp; timely financial closure</li> </ul>	<ul style="list-style-type: none"> <li>Increased operational cost</li> <li>Business continuity risk</li> </ul>	<ul style="list-style-type: none"> <li>Due to the plant’s proximity to a port and design of the boilers, the Company has flexibility of procuring coal from various international and domestic sources and blending different types of coal</li> <li>From time to time the Company enters into fixed price coal supply contracts and/or uses financial hedging instruments</li> </ul>

			<ul style="list-style-type: none"> <li>• When appropriate, forex exchange forward contracts are used to mitigate forex volatility and exposure</li> <li>• Negotiate with financial institutions to get favorable credit terms &amp; conditions to reduce credit risks</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>• Compliance with new and current laws, rules, regulations, and government policies regarding water use, reduced GHG and other emissions.</li> <li>• Cyclones and other natural calamities</li> <li>• Epidemics and Pandemics</li> <li>• Irradiance and erratic weather conditions</li> <li>• Water Management</li> <li>• Real time monitoring of energy conversion</li> <li>• Continuous-compliance of ESG regulations</li> <li>• Delay in land acquisition, forest clearance and obtaining environmental clearances</li> </ul>	<ul style="list-style-type: none"> <li>• Increased operational cost</li> <li>• Disruption in business due to violation of regulations/ norms</li> <li>• Business continuity risk</li> <li>• Project cost and time overruns</li> </ul>	<ul style="list-style-type: none"> <li>• A dedicated compliance monitoring team to monitor compliance with ESG regulations as well</li> <li>• Anticipate changes in regulations especially around GHG emissions and set an emissions reduction target</li> <li>• Insurance of assets to cover extreme weather-related events as well.</li> <li>• Inclusion of epidemics &amp; pandemics in the emergency response plan</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>• Social activism</li> <li>• Labor unrest</li> </ul>	<ul style="list-style-type: none"> <li>• Business disruption due to labor unrest</li> </ul>	<ul style="list-style-type: none"> <li>• Regular engagement with stakeholders can be conducted to understand and act upon their concerns.</li> </ul>

### Capitalising on Opportunities

Identified opportunities	Potential impact
<ul style="list-style-type: none"> <li>• Increased focus on renewable capacity addition</li> <li>• Increase in energy demand due to improved living standard</li> <li>• Power demand for electric mobility in the future</li> <li>• Focus on enhancing energy efficiency and initiatives to reduce GHG emissions</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in product portfolio</li> <li>• Alignment to changing global preferences (transition towards low carbon economy)</li> <li>• Greener operations leading to reduced cost of operations</li> <li>• Increased social acceptance due to greener portfolio for power generation</li> <li>• Enhanced overall ESG performance</li> </ul>

## Sustainability in our daily operations

### Protecting our Environment



Figure 1: ISO 14001:2015 certificate

Power generation from fossil fuels is, by nature, a resource and emission-intensive activity. Coal and water are the primary resources for thermal power generation. The major impact that our operations have on the environment include stack emissions and waste generation. Major emissions through stacks are of Particular Matter (PM), Oxides of Sulphur (SO<sub>x</sub>) and Oxides of Nitrogen (NO<sub>x</sub>). Besides, CO<sub>2</sub> is also emitted due to the use of fossil fuels. In activities where coal is used as the primary fuel, the solid waste generated is majorly fly ash. We have been proactively working towards achieving continuous improvements in our environmental performance and to prevent, mitigate, and reduce the environmental impact of the operations.

Our focus on adherence to the highest standards of environmental management is applicable across all our sites. Towards this, we have adopted various environmental protocols and adhere to leading certifications ensuring compliance with applicable environmental legislation. Our EHS policy endorses our

commitment to improving our performance on various environmental aspects that go beyond regulatory compliances. We adhere to the requirements of ISO 14001 – Environmental Management System.

### Environmental compliance

Though electricity is a clean form of energy at the consumption stage, the process of generation usually involves depletion of natural resources, environmental pollution, displacement of population, health hazards, changes in land use pattern, and loss of forests among other things. These adverse impacts of thermal power plants can be offset by correct technological control, judicious siting, necessary control measures and effective environmental management of the operations.

It is embedded in our Group strategy to ensure compliance with standards set forth by the relevant authorities and seek to exceed the norms laid down by the regulatory standards in practice where possible. A legal compliance review of all the project sites is done in a systematic manner. Our plant specific steering committee assesses the compliance of the project site against the conditions laid out in the consents, permits and licenses, on regular basis. The steering committee of the plant submits the disclosure on legal compliance to the Board-level HSE committee.

## Energy & Emissions

In the reporting period, we **consumed 1,264,807 MT of coal** which translated to **21,410,927 Million KJ of energy consumed** to generate 1,700,552,000 KWh of electricity, while in the previous fiscal year we generated 2,468,467,000 KWh of electricity, against the consumption of 30,107,503 Million KJ of energy.



0.473 MT/  
MWh

Specific coal combustion\* for the reporting year

\*specific coal combustion is normalized based on 6000 kcal/kg NAR coal



### Measures to reduce auxiliary power

- Pump De-staging, (BFP) (1 pump modified, other 2 pump in progress)
- APH seals replacement in Unit-IV in both the passes with improved seals
- Energy efficient blades for Air cooled condensers (4 fans replaced, 4 fans ordered)
- LED lights replacement (First phase completed, second phase in progress)
- Advanced APH Seals (Design stage completed, Detailed Engineering in Progress)
- Solar PV installation (In finalization)
- Lower size pump installation (Two mode operation) (one pump replaced, other pump in progress)
- Energy management Software (to enhance the operating methods)
- Compressed air optimization (Worn out compressor replaced, leaks arresting works brought in PM)

We are actively working towards optimising our energy intensity to mitigate energy and emissions related risks. We have been proactively taking steps towards installing energy efficient equipment within our processes. We are also investing in processes and technologies that promote sustainable growth – enhancing energy efficiency and developing low-carbon technologies.

As a result of the energy conservation and efficiency initiatives undertaken, we were able to **reduce our energy consumption by ~31,570 Million KJ in the reporting year**. We are also working towards implementing Energy Management System – ISO 50001. In this fiscal year, we also drafted our energy policy.



~31,570  
Million KJ

Amount of energy conserved due to the energy conservation initiatives undertaken

We have recently conducted our *first carbon footprint accounting study* to understand our major sources of GHG emissions and track changes over time. Information presented in the GHG inventory can help inform corporate strategies and prioritize actions to reduce emissions. It can also provide benchmarks against which the success of the mitigation activities can be measured. The study will help us in setting a GHG emission reduction target in line with the requirements of the Paris Agreement goals.

Scope wise emissions	FY19-20	FY20-21
Direct emissions (Scope 1)	2,726,528	1,983,071
Indirect emissions (Scope 2)	25	35
Other indirect emissions (Scope 3)	0	740.2
<b>Total emissions (tCO<sub>2</sub>e)</b>	<b>2,726,552</b>	<b>1,983,846</b>

The table shows our scope GHG emissions for FY19-20 and FY20-21.

Table 2: Total GHG emissions by Scope



1.27 Kg  
CO<sub>2</sub>e/ KWh

Our generation emission intensity for the reporting period

Our power plant operations are strictly monitored with respect to environmental aspects by effective control of stack emissions which include SO<sub>x</sub>, NO<sub>x</sub>, and PMs. The norms are set to get stringent since the MOEFCC introduced new norms for coal-based power stations to cut down emissions of particulate matters (both PM<sub>10</sub> and PM<sub>2.5</sub>), Sulphur dioxide (SO<sub>2</sub>) and oxides of nitrogen (NO<sub>x</sub>) for which they have fixed the deadline for carrying out necessary improvements as 31 December 2024.

Our plant is equipped with a Continuous Emission Monitoring System (CEMS) which is linked to the State Pollution Control Board servers to relay real-time emissions data. We also have two dedicated stations within our premises to carry out continuous monitoring of ambient air quality parameters including SO<sub>x</sub>, NO<sub>x</sub>, and SPM. This is to ensure that the ambient air quality in the area surrounding the plant is within the prescribed norms. We have installed State of Art Electrostatic Precipitators before the stacks to ensure that the PM level is controlled well within the prescribed limits.

Table 3: Average Non-GHG emissions for FY20-21

Average emission figures for FY20-21							
Source emission			Ambient Air Quality Parameters				
SO <sub>2</sub>	NO <sub>x</sub>	PM	PM2.5	PM10	SO <sub>2</sub>	NO <sub>x</sub>	CO
µg/Nm <sup>3</sup>	µg/Nm <sup>3</sup>	µg/Nm <sup>3</sup>	µg/Nm <sup>3</sup>	µg/Nm <sup>3</sup>	µg/Nm <sup>3</sup>	µg/Nm <sup>3</sup>	mg/Nm <sup>3</sup>
196	116	22	24.78	49.24	5.68	12.88	<1.2

We consume only low sulphur coal having lesser than 0.4% Sulphur content as against prescribed limit of 1.2% provided by the MoEFCC. Due to this our SO<sub>x</sub> emissions are always well below the new stack emission norms. As per MOEFCC's guidelines to reduce NO<sub>x</sub> emissions further, we have already initiated the process of installation of a DeNO<sub>x</sub> retrofit system which would be completed well before the prescribed timeline of 31st December 2024.



## Water management

As per the Central Ground Water Authority block wise Groundwater Resource Assessment Report, 2020, Gummidipoondi block falls under the **Safe** category. Our primary source of water is ground water. We have undertaken many initiatives in the 4R's -Reduce, Reuse, Recycle and Regenerate water in our operations to minimise our use of ground water. The ground water table is measured regularly at various points inside the plant through piezometric wells. Further, water meters have been installed at our project site to measure, monitor and manage our water consumption.



0.093 m<sup>3</sup>/  
MWh

Our specific water consumption in the reporting year against the norm of 2.5 m<sup>3</sup>/MWh for thermal power plants.

Due to the adoption of air-cooled condensers and prudent water management measures undertaken by us, our specific water consumption stood at just 0.093 m<sup>3</sup>/MWh (less than 5%) as compared to the prescribed 2.5 m<sup>3</sup>/MWh. The water cycle follows a closed loop system at OPG. The domestic water treated in the Sewage Treatment Plant ('STP') is used for nurturing the green belt. No effluent is released from the OPG premises which makes us a **Zero Discharge Plant (ZLD)**.

During the reporting year, the **total ground water withdrawal for our plant stood at 158.16 million liters. We consumed a total of 157.33 million liters of water.** The remaining 0.73 million liters was sent to the elevated solar pond for slow rate evaporation. OPG has employed air cooled condensers which have effectively reduced the water footprint per unit of electricity generated by 99% in comparison to conventional water-cooled condensers. Our rainwater harvesting systems collect 90% of run-off.

In this fiscal year, we also formulated our water policy.

## Waste management

Waste type	Generation (in MT)
Waste oil	0.9
Oil-soaked cotton waste	1.075
Bio-waste	0.036
E-waste	0.95

Table 4: Waste generation by type for FY20-21

Power plant operations generate non-hazardous as well as hazardous waste. The utilisation and disposal of this waste is governed by strict regulations. Ash is a major non-hazardous waste and a material aspect for us considering the quantity and challenges for utilisation in certain geographical areas. The hazardous waste that we generate is small in quantity and includes oil-soaked cotton waste, batteries etc. We have engaged a State Pollution Control Board Authorized Agency for responsible handling and disposal of this hazardous waste. We do not engage in

import or export of any hazardous waste or materials under the Basel Convention. In this fiscal year we also drafted our waste management policy.

## Fly ash management

Fly ash is a by-product generated out of coal-based power generation. During the reporting period our plant generated a total of 67,307 MT of fly ash and 16,842 MT of bottom ash.



100%

Fly ash utilization during the reporting year

Though utilisation of fly ash is a challenge for the entire Power sector, we have achieved 100% ash utilization rate by engaging with cement and brick manufacturers who use fly ash for sustainable purposes as a raw material.

### **Biodiversity**

None of the operational sites owned, leased, or managed by us are in or adjacent to protected areas and areas of high biodiversity value outside protected areas. We are taking every possible step to make our premises an eco-friendly workplace. We recognise that our operations have a potential to impact biodiversity, both directly and indirectly. We plant saplings annually across our project sites to protect and restore natural habitats while sequestering carbon. We annually plant 2,000 saplings at each of our project sites. With an aim to increase the overall green cover of our sites, we have dedicated 30% of the area at our premises as green belt to promote local biodiversity. In this fiscal year, we also drafted our biodiversity policy.

## Biodiversity at OPG



## Employee wellbeing, health & safety

Our Board level HSE committee supports our operations and employees in integrating health and safety standards into their operational planning, business decisions, and daily process activities. Based on each project site’s health and safety performance, the site-specific steering committee design their own annual improvement plans, which include targets and improvement measures. The progress made towards the established targets is monitored periodically by the steering committee.

## Safety Management Systems

We have an integrated Health & Safety Management System in line with ISO 45001 standard. We also observe adherence to national laws on Occupational health & safety related legislation. As part of system implementation, we carry out safety inspection and management activities at all our project sites. Our health and safety management system guidelines apply to all the employees on our payrolls as well as those on contract. We have developed a robust Health, Safety and Environment (HSE) strategic plan considering all the elements to achieve our goal of Zero Harm. Our EHS policy articulates our commitment towards excellence and achieving HSE related targets.

Our integrated health & safety management system covers all employees (~240 Nos.) as well as contract workers (~250 Nos). The workers’ have the right to join a trade union of their liking and bargain collectively. Currently, there are no collective bargaining agreements with our workforce. However, our engagement activities provide sufficient avenues to our employees as well as contract workforce to voice their opinions.



Figure 2: ISO 45001:2018 certification

Work related injuries*	
No. of fatalities	0
Rate of fatalities	0
No. of recordable work- related injuries	0
Rate of recordable work- related injuries	0
Main types of work-related injuries	Cut injury, First-degree burn injury
Work related ill-health	
No. of fatalities as a result of work-related ill health	0
No. of cases of recordable work-related ill health	0
Main types of work-related ill health	Body pain, dehydration

\*As per statutory requirements (Tamil Nadu Factories Rules, 1950 Sub section (4) of Rule number 96), any Injury shall be classified as Reportable Injury “ When any accident occurs in a factory which causes such bodily injury as prevents the person from working for a period of 48 hours immediately following the accident”

Table 5: Work related injuries and ill-health for FY20-21

Our project site personnel are trained to identify, mitigate, and control risks specific to their operation. Any condition that is observed unsafe is brought to the notice of the site head, a responsibility is fixed for mitigating the risk in a time bound manner and is monitored periodically. For each incident, a formal report is prepared with incident type and root cause. This report is also integrated in the monthly safety report and presented in the safety committee meetings. During the year, we worked upon key strategic initiatives to enhance & improve our HSE practices. With a **total of 951,934 man-**



*hours worked in the reporting year*, we continue to retain Zero Fatality status.

### **Emergency Response**

Our emergency response management framework ensures responsiveness in case of crises, and consistency across safety strategies adopted at project sites. The framework also provides guidance on preventing or mitigating significant negative occupational health and safety impacts that are directly linked to our operations. We deploy critical controls, subject to ongoing review and verification, to effectively manage our risks. Based on our emergency response plan, we conduct periodic mock drills. Our project sites also have an onsite well-equipped medical facility with a visiting doctor and nurse to attend to any medical emergency.

### **Promoting safety culture**

We have established a proactive safety culture, by defining HSE objectives & goals while ensuring continual improvement. Recognizing that leadership is the key driver of safe operations, our management leaders drive a cultural change and help us achieve our goal of everyone's safety and well-being. It involves leaders monitoring and spending time at project site engaging with employees and contractors on how we can enhance our safety processes. This leadership engagement also focuses on improving on-field verification of fatal risks.

To encourage our employees and inculcate a proactive safety culture, we have set up an Internal Safety Reward and Recognition Scheme. Employees are appreciated and recognized for their efforts that significantly contribute to making the workplace safer and in achieving operational excellence.

### **Training and supervision**

We at OPG realise that occupational health & safety training is as vital as workplace safety itself. It enables our management to ensure a safe and healthy work environment. It also helps the employees to recognise safety hazards around them and correct them. Trainings are carried out in key areas such as safety induction training, toolbox talks, safety training for employees & contractors, first aid training, OHS training, hazard identification & risk assessment training etc.

Recognising that leadership is the key driver of safe operations, our leaders drive cultural change and help us achieve our goal of employee safety and well-being. It involves leaders monitoring and spending time at project sites engaging with employees and contractors on how we can improve our safety processes. This engagement focuses on improving on-field verification of all safety risks. To encourage our employees and inculcate proactive safety culture, we have institutionalized an internal safety reward and recognition scheme. We appreciate the employees for their outstanding performance, that significantly contributes to achieving operational excellence.

As best practice, we have implemented a "Permit- To-Work" (PTW) system, Hazard Identification and Risk Assessment (HIRA) and ensure adherence to all other safety procedures developed by the steering committee. Our safety performance and compliance are supervised through our safety dashboards.

## Our commitment to local community

In addition to our legal compliance requirements, we believe in obtaining a social license to operate. OPG is committed to the communities in which it operates and recognises the importance of engaging with local communities. We recognise that contributing to the community is important to not only ensure loyalty and commitment from the local community but also the sustainability of our overall investment. As an organisation we try and address the existing issues in our nearby community by focusing on areas where we can bring about tangible, measurable improvements and create long-term value for the beneficiaries.

Our goal is to identify critical areas of development that require investment and intervention, followed by active support to ensure meaningful socio-economic development that benefits a broader demography. We believe that in doing so, we will be able to bring in larger participation from the community.

### Community development



A good CSR program for local communities must focus on local requirements that have a measurable impact on the environment and communities. Rather than treating them as recipients of corporate donations, we worked with the community and other local stakeholders such as the government to better understand their needs and, as a result, have completed several projects such as the construction of borewell, water tanks, water harvesting projects in nearby schools, community hall construction, etc.



*Receiving award from District Collector for revamping of water bodies at nearby villages through rainwater harvesting*



## Promoting Education- Mission 'Build a progressive and skilled society'



Children have a fundamental entitlement to an education that will improve their opportunities. We have taken a comprehensive approach to promoting education and have helped to enhance the educational infrastructure in our surrounding communities in a variety of ways. Every year, we offer school supplies such as uniforms, notebooks, books, and shoes, as well as pay the academic fees for the students who live in the villages surrounding our facility. This gives financial aid to families that would otherwise be unable to fund their children's education.

We've also helped to improve the infrastructure of the schools by supplying them with needed furnishings, and we've taken on the task of maintaining the infrastructure of the schools in the area. We built a complete toilet building at a Girls Higher Secondary School as part of infrastructure upgrades.



*Inauguration of a toilet facility at a cost of INR 12 lakhs at Jayagopal Garodia Govt. Girls Higher Sec. School, Ponneri*

We also offered financial support to schools by paying teachers' wages, ensuring the employment of qualified and devoted educators. This also helps to enhance the teacher-to-student ratio, which raises overall educational quality.

We gave tablets and computers to pupils at government schools inaugurated during Covid-19 so that they could continue their study without interruption.

We continue to fund the university education of eligible female students from our neighborhood as part of our ongoing commitment to "inclusive and varied training," to empower these families and create a community with a gender-diverse workforce. We have been funding 12 deserving female students to complete their university study as part of our program.



*Sponsoring 100% education fees for girls from Kayalarmedu village*

### Strengthening of primary healthcare



We believe that everyone should have access to high-quality healthcare. However, many individuals lack access to basic healthcare. Our efforts to enhance healthcare have a direct impact on the lives of people in our surrounding areas, and include rebuilding primary healthcare clinics, upgrading their infrastructure, and providing beds, medication, and other necessities. We also help these healthcare facilities financially by funding the wages of the paramedical employees. We've also assisted with medical expenditures for needy individuals in surrounding areas, as well as at old age homes and orphanages.



*Renovation work carried out in the Dispensary at Siddha Raja Kandigai village*

### National welfare- contribution to Flag Day Fund



Flag Day is commemorated every year in India with the goal of raising cash for the development of the Armed Forces staff, and it has become a tradition to honor the soldiers, sailors, and airmen and airwomen of India on this day. The money raised on Flag Day is also utilized to help serving and ex-servicemen and ex-servicewomen in our community, as well as to rehabilitate those who have been injured in combat.

### Promoting sports

We support sports tournaments on a regular basis to promote sports among the children in the surrounding areas. Kabaddi, cricket, and volleyball are some of the sports that we have supported in the surrounding communities.

## Our support to the community during the COVID-19 pandemic



The farmers' hard work went to waste owing to the country's unexpected halt due to government lockdown restrictions and insufficient supplies for food distribution, which regrettably coincided with peak harvesting season. Food deprivation has occurred in our neighboring towns because of the unexpected disruption in the food delivery chain, especially in these types of emergency situations. We have stepped in to provide life-saving assistance to the needy by supplying relief packages in the form of basic groceries, prepared meals, and ration packets to the surrounding villages.

We started relief operations by providing medical supplies and services for healthcare personnel and neighboring vulnerable populations, keeping in mind the immediate need, and protecting the safety of the individuals engaged, reinforcing our commitment to the fight against COVID-19. Our action assisted the work of local authorities in sanitizing and maintaining COVID-19 preparedness in our local regions. We supplied complete hygiene kits to all frontline health professionals as well as all households in the surrounding villages, including masks, sanitisers, PPEs, soaps, bleaching powder (to assist sanitise public spaces), and more.

This aid came at the right moment, allowing our community to be prepared when India was hit by the second wave of COVID-19 at the conclusion of the fiscal year. To supplement our efforts, we provided 60 Oxygen Concentrators to government hospitals in Tamil Nadu's industrial and rural areas shortly after the year ended and during the peak of the second wave, to help them meet the high demand for O<sub>2</sub> caused by the influx of infected patients.

Due to an extreme scarcity of medical oxygen, some hospitals treating COVID-19 patients in India have been pushed to the brink, and India's oxygen producers are failing to satisfy medical oxygen demand at numerous hospitals around the nation. Oxygen Concentrators have shown to be an important need for those suffering with COVID-19 and seeking to recuperate during these hard times.





Training program on COVID guidelines for contract workers

Training program on COVID guidelines for canteen staff



Training program on COVID guidelines for truck drivers



*Providing relief materials to people from Kayalamedu village during COVID-19*



*Distribution of grocery material to people from nearby villages during COVID-19*



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## Abbreviations

AGM	Annual General Meeting
CII	Confederation of Indian Industry
CSR	Corporate Social Responsibility
CO <sub>2</sub>	Carbon Dioxide
ESG	Environment, Social and Governance
EHS	Environment, Health & Safety
FICCI	Federation of Indian Chambers of Commerce & Industry
GBP	British pound
GHG	Greenhouse Gases
HSE	Health, Safety & Environment
HIRA	Hazard Identification & Risk Assessment
KPI	Key Performance Indicator
KJ	Kilo Joule
KWh	Kilo Watt hours
MW	Mega Watt
MWh	Mega Watt hours
NAR	Net As Received
O&M	Operations & Maintenance
PPA	Power Purchase Agreement
PPE	Personnel Protective Equipment
SDG	Sustainable Development Goals
STP	Sewage Treatment Plant
UN	United Nations
ZLD	Zero Liquid Discharge





55 Athol Street,  
Douglas, Isle of Man  
IM1 1LA

Tel: +44 (0) 1624 681250

[www.opgpower.com](http://www.opgpower.com)