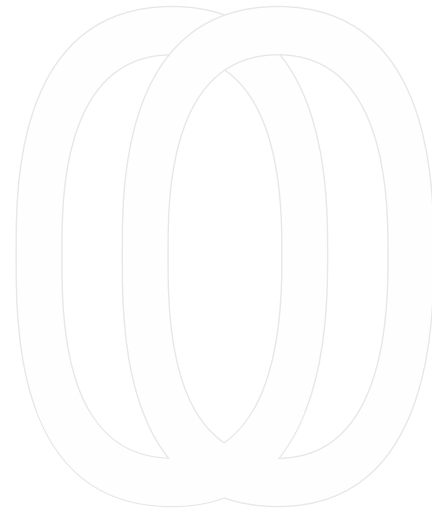




**GLOBAL
NETWORK
FOR ZERO**

Net Zero Energy Assessment Report



**Empowering people and organizations to accelerate
the realization of a zero emissions world.**

SRK EMPIRE

Shree Ramkrishna Exports Pvt. Ltd.

99, Vastadevdi Road, Katargam, Surat-395 004, India, Gujarat

Net Zero Energy Assessment Report

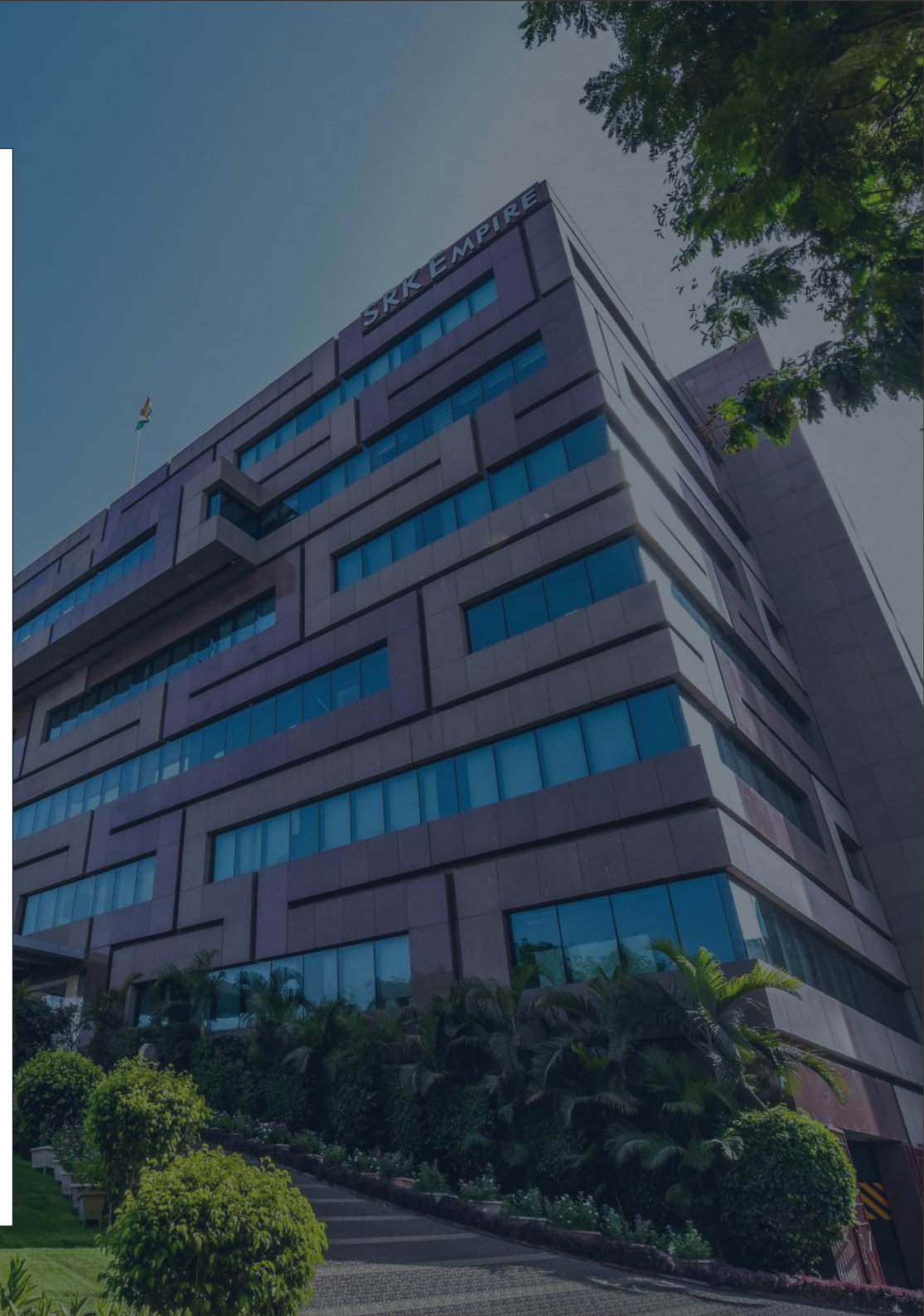
Reporting Period:

01-Apr-2023 to 31-Mar-2024

Report Date:

18-Jun-2024

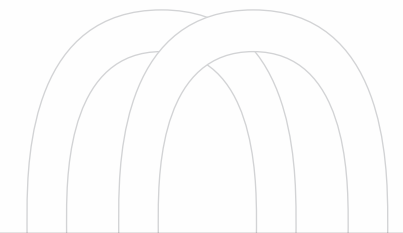
Assessment Conducted by





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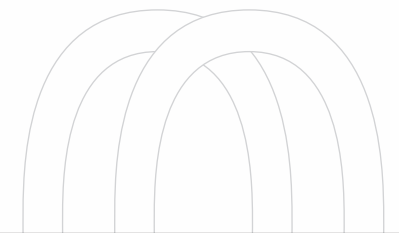




1. Executive Summary

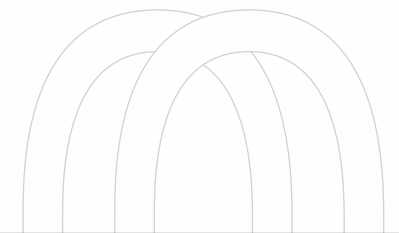


The Global Network for Zero (GNFZ) is the world's premiere independent net zero certification body. GNFZ provides independent, third-party net zero certification for buildings, businesses, communities, cities, products, processes and more. Shree Ramkrishna Exports Pvt Ltd (SRK), one of the most sustainable diamond crafting companies in the world, is the first company in the world to pursue and achieve GNFZ's Net Zero Energy certification for its two flagship crafting facilities: SRK House and SRK Empire.



This Net Zero Energy Assessment Report analyzes all of the energy requirements (in terms of kWh or kilowatt-hour) due to the various business activities performed at SRK Empire during the period April 1, 2021 to March 31, 2024. The objective of this assessment is to validate that the energy consumption at SRK Empire meets the requirements from renewable energy sources to qualify for GNFZ's Net Zero Energy certification and to determine opportunities and outline necessary action plans required to sustain the net zero energy status.

GNFZ would like to thank SRK for entrusting us with the task of conducting this assessment and congratulate SRK on achieving Net Zero Energy certification at SRK Empire. We would also like to thank all the team members at SRK for their cooperation and support in conducting this assessment and contributing to the sustainability goals by adopting climate change mitigation practices.



The total energy consumption reported at SRK Empire is presented in the table below.

Table 1: Summary of Energy Consumption

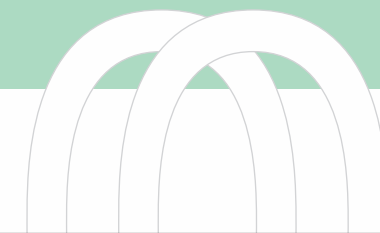
Year	Total Electrical Consumption (Billed)	Total N Gas Consumption (Billed)	Total N Gas Consumption (Billed)	Total Equivalent Energy Consumption (Billed)
	kWh	SCM	kBtu	kWh
2021-22	52,23,930	44543	15,43,748	56,76,377
2022-23	46,11,610	36608	12,63,036	49,81,785
2023-24	44,21,280	33438	11,34,817	47,53,876

In pursuit of GNZ's Net Zero Energy certification, SRK's management decided to replace the overall energy consumption at SRK Empire with renewable energy sources.

A solar plant has been commissioned as per the details below:

- **Phase 1** – 810 kW DC ground-mounted solar power plant at Amod, Bharuch, Gujarat vide PO no. SRD/PO/SUR/SP/20210414 dated April 14, 2021.
- **Phase 2** – 3600 kW DC ground-mounted solar plant at Akala, Amreli, Gujarat vide PO no. SRD/PO/SUR/SP/20230427 dated April 27, 2023.

Further details and documentation are provided in the following report.





SRK EMPIRE

SRK

2. Introduction

Founded by Shri Govind Dholakia in 1964, SRK is one of the world's leading diamond crafting and exporting conglomerates. Valued at nearly \$1 billion, SRK employs over 6,000 people and has played a pivotal role in transforming India's contribution to the global economy over the last six decades. With an unwavering pursuit of perfecting all aspects of diamond crafting, SRK has proved time and again its commitment to serving the planet and to building a better India and beyond. A purpose driven organization committed to what it calls 'PURE' trust, transparency, and tenacity, SRK is leading the gems and jewelry industry to prioritize sustainable practices, compliances, and shedding light on the urgent and necessary acceleration efforts for a zero emissions India and beyond.

SRK is committed to delivering high-quality products that meet the expectations and requirements of its clients. The company also strives to adhere to the highest standards of ethics, transparency, and social responsibility in its operations. SRK believes that sustainability is not only a goal but also a way of life.

SRK's approach to diamond artistry combines pure science with meticulous craftsmanship, ensuring that each diamond is cut to perfection by over 4,000 master artisans. The SRK Grading System (SGS) exemplifies the company's transparency, offering a refined 20-step process to authenticate the true value of a diamond, surpassing the traditional 4C evaluation. SRK's vision extends beyond crafting exquisite diamonds; it encompasses a deep-rooted purpose to contribute positively to society and the environment.



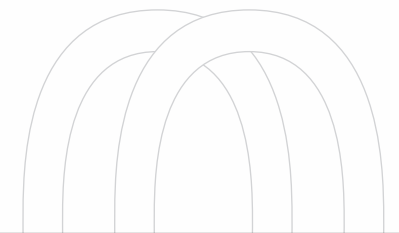
SRK's commitment to ethical practices is deeply ingrained in its corporate philosophy, which is centred around the principles of environmental, social, and governance (ESG). The company's dedication to conducting business in a safe, ethical, and sustainable manner is evident in its comprehensive approach to corporate social responsibility (CSR). SRK's initiatives extend beyond the traditional scope of business, focusing on community welfare, employee empowerment, and environmental stewardship.

One of the key aspects of SRK's ethical practices is its unwavering commitment to education and healthcare. The company has made significant contributions to community welfare, with initiatives that have impacted millions of lives. SRK's philanthropic arm, the SRK Knowledge Foundation (SRKKF), has been instrumental in advancing education and healthcare, thereby fostering community development and well-being.

In terms of environmental responsibility, SRK has taken bold steps towards sustainability and decarbonization. The company's net zero goals are aligned with the United Nations Sustainable Development Goals (UN SDGs) and the Science-Based Targets Initiative (SBTi).

SRK's ethical sourcing is another cornerstone of its practices. The company has pioneered 'The Footprints', a traceability feature that ensures ethical sourcing by tracing diamonds to their Country of Origin. This initiative not only guarantees the integrity of the supply chain but also promotes responsible consumption patterns.

Moreover, SRK's commitment to ethical practices is reflected in its adherence to the highest standards of professional conduct. The company's anti-bribery compliance policy meets the strictest requirements of global laws, ensuring that integrity and trust remain cornerstones of its operations.



SRK Empire – Vision in Action

The term "SRK Empire" brings to mind a legacy of excellence and innovation in the diamond industry. SRK has established itself as a leader in the field, offering a journey of authenticity and luxury through its diamonds. The company's dedication to quality and ethical sourcing is reflected in its state-of-the-art facilities. This vision is perfectly embodied at SRK Empire, which is not only one of the largest facilities in the industry, but also a testament to technological advancement and environmental responsibility.

One of the highest performing LEED certified buildings in the world (Platinum – at 96 points), SRK Empire was also the first building in the world to achieve GNFZ's net zero certification for existing buildings, reflecting the company's ethos of luxury intertwined with responsibility. SRK has undertaken several measures towards sustainability at SRK Empire to ensure the highest levels of sustainability and operational performance.

SRK Empire and SRK House are the first GNFZ certified buildings in the world



3. Scope and Boundary

a) Physical site location:

Shree Ramkrishna Exports Pvt Ltd (referred to as “SRK Empire” throughout this report)

SRK Empire, 99, Vasta Devdi Rd, Katargam, Surat, Gujarat 395004

Location: <https://maps.app.goo.gl/nWZMNUhy3LhCzC4u6>

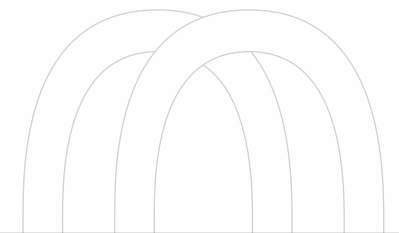
Project area: 1,54,731 ft²

Occupancy: 4000+

b) Project activities:



SRK has evolved over six decades into a globally trusted entity, recognized for its consistent supply of high-quality polished diamonds across all shapes and sizes. SRK's vision is to maintain its position as the world's most trusted supplier of premium, certified diamonds, while its mission focuses on achieving excellence with a mindful approach to the environmental and societal impacts of its business.

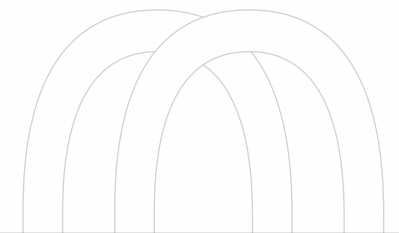


The company's state-of-the-art facility in Surat is equipped with advanced technology and systems, capable of producing an impressive 720,000 carats annually. With a workforce exceeding 6,000 skilled individuals, SRK boasts of having one of the best infrastructures in the industry, including innovative systems like the Sarin Planner Machines and a customized in-house grading system, the SGS. This commitment to craftsmanship and innovation is further evidenced by the company's numerous ISO certifications and its recognition as the most compliant company in the diamond industry.

The company's direct contracts for rough diamond purchases from major mining giants like De Beers, Burgundy Diamond Mines Ltd., and Rio Tinto, along with its participation in the United Nations Global Compact (UNGC), demonstrate its commitment to responsible sourcing and sustainable practices.

Moreover, SRK is associated with prominent industry associations such as the World Diamond Council (WDC), Responsible Jewellery Council (RJC), the U.S. Green Building Council (USGBC), Natural Diamond Council (NDC), and Gems and Jewellery Export Promotion Council (GJEPC). Its role as a preferred crafter for Canadamark and Forevermark diamonds, known for their distinctiveness and responsible sourcing, further solidifies its reputation in the market.

In addition to its diamond crafting expertise, SRK is also recognized for its transparent and stringent grading process, the SGS, which goes beyond the traditional 4C evaluation to authenticate the true value of a diamond. The company's traceability feature, 'The Footprints,' launched in 2019, allows customers to discover the journey of their diamonds from the mines to their hands, ensuring pure traceability and transparency.



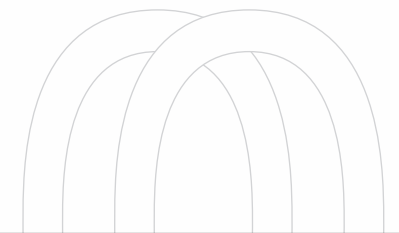
SRK's approach to luxury and craftsmanship is not just about producing exquisite diamonds; it's about understanding and fulfilling the emotional drivers of consumers. The company's jewellers are adept at turning inspiration into objects of desire, crafting each piece with precision and artistry. This blend of pure art and science in diamond crafting positions SRK as a leader in the industry, committed to delivering authentic quality and luxury to its clients worldwide.

c) Data applicability:

The estimation of energy performance considers all the operational activities at SRK Empire at the physical site location mentioned above. Energy performance for the diamond crafting process as defined in project activities is included.

d) Types of Energy Use:

- a. Two energy sources are used at SRK Empire – electricity and piped natural gas. The further energy use is bifurcated as per the following figure.
- b. The energy performance incorporates at minimum the following requirements for energy use and consumption of the facility:



I. Building operation requirements

1. HVAC & chiller system
2. Air handling Units and Fan (exhaust, fresh air, other)
3. Computer – office works
4. Cooler
5. Lift
6. Lighting – indoor & outdoor area
7. Kitchen requirements (equipment)
8. Water pumping
9. Plug load

ii. Process requirements include diamond crafting equipment and other supporting loads depending upon diamond productions

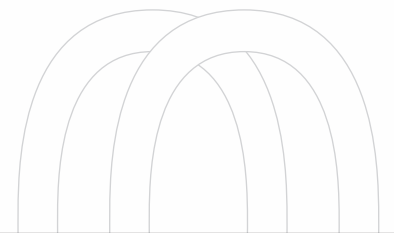
1. Compressor
2. Work machines
3. Heaters
4. Lighting - task

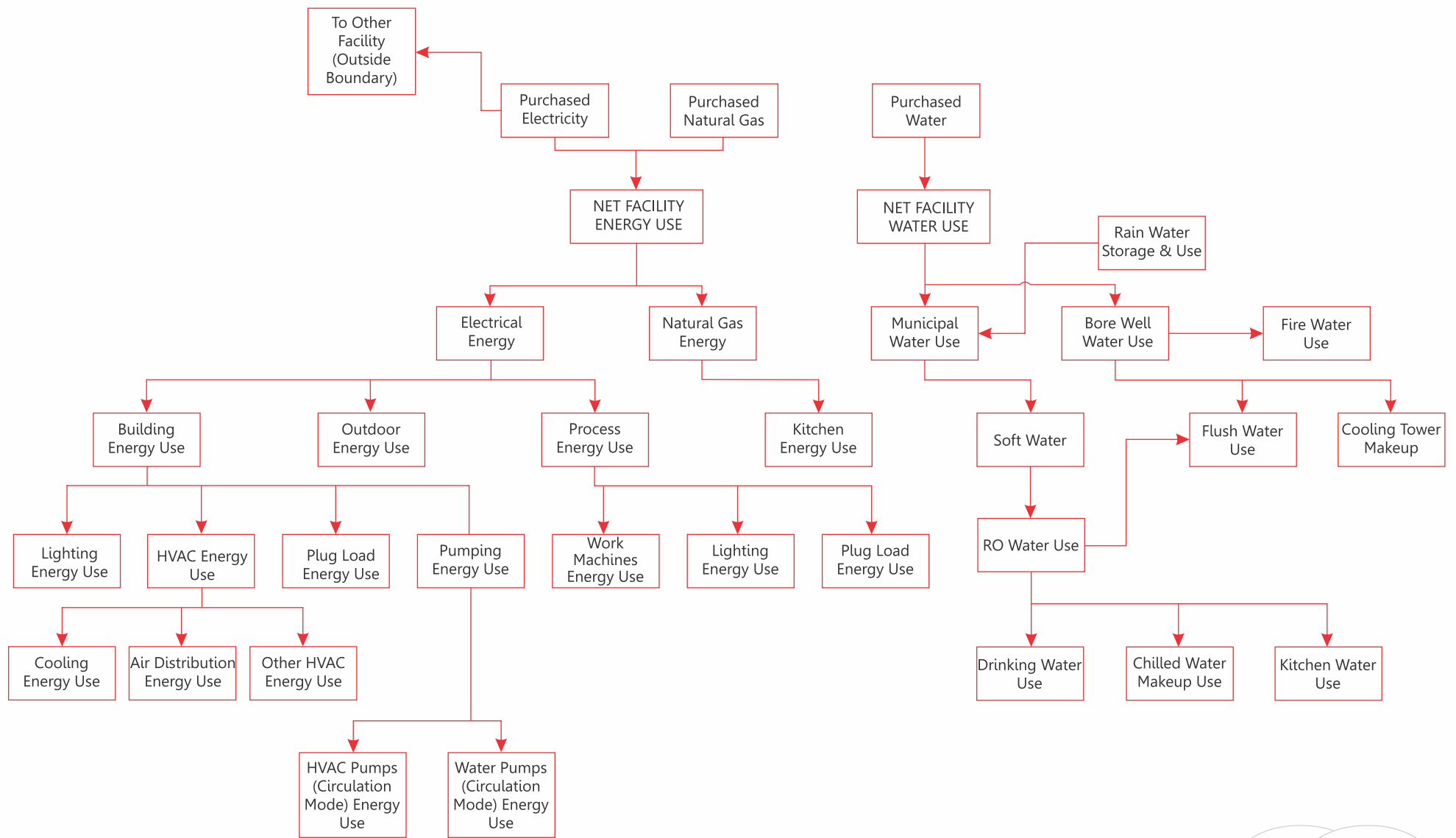


iii. External transfer or external supply

1. Consumption for other energy-consuming equipment installed at the adjacent facility which is outside of the boundary and excludes from the scope of certifications.
2. This load corresponds to the outside of the LEED project boundary and excluded from the scope of ISO 50001-2018 requirements.

- c. a. The strategies outlined in this method focus on the energy use & consumption caused by the daily operations and apply to all SRK Empire activities and are to be followed by employees, service providers, and all occupants, at the physical boundary, as applicable. Occupant and contractor education is essential for implementing this method and will be conducted and used by SRK Empire for compliance.







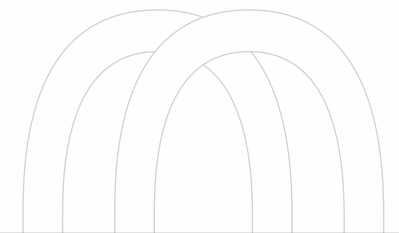
4. Commitment

Net Zero Energy certification balances the energy produced at a building with the amount consumed, effectively reducing a building's net energy usage to zero. This ambitious goal is crucial for combating climate change and involves a comprehensive energy production and consumption approach. It requires transitioning to renewable energy sources, such as wind and solar, and the implementation of energy-efficient practices across various sectors, including transportation, industry, and residential areas.

Committing to this also encompasses leveraging new technologies and infrastructures, such as smart grids and electric vehicles, which are essential for a sustainable energy future. Governments, businesses, and individuals around the world are increasingly recognizing the importance of net zero energy as a step towards a more resilient and environmentally friendly planet.

By striving for Net Zero Energy certification at SRK Empire, SRK has committed to create a cleaner, more sustainable world for future generations. SRK strongly believes this is feasible and offers various compliances towards more resilience and sustainability. This can be achieved by setting out to ensure the operations at SRK Empire meet net zero energy standards with the following targets.

SRK's commitment to ethical practices is deeply ingrained in its corporate philosophy, which is centred around the principles of environmental, social, and governance (ESG). The company's dedication to conducting business in a safe, ethical, and sustainable manner is evident in its comprehensive approach to corporate social responsibility (CSR). SRK's initiatives extend beyond the traditional scope of business, focusing on community welfare, employee empowerment, and environmental stewardship.



One of the key aspects of SRK's ethical practices is its unwavering commitment to education and healthcare. The company has made significant contributions to community welfare, with initiatives that have impacted millions of lives. SRK's philanthropic arm, the SRK Knowledge Foundation (SRKKF), has been instrumental in advancing education and healthcare, thereby fostering community development and well-being.

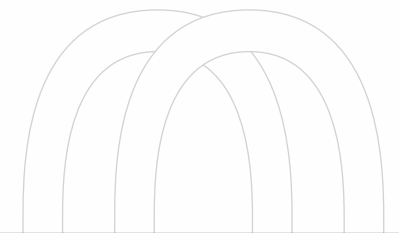
In terms of environmental responsibility, SRK has taken bold steps towards sustainability and decarbonization. The company's net zero goals are aligned with the United Nations Sustainable Development Goals (UN SDGs) and the Science-Based Targets Initiative (SBTi).

SRK's ethical sourcing is another cornerstone of its practices. The company has pioneered 'The Footprints', a traceability feature that ensures ethical sourcing by tracing diamonds to their Country of Origin. This initiative not only guarantees the integrity of the supply chain but also promotes responsible consumption patterns.

Moreover, SRK's commitment to ethical practices is reflected in its adherence to the highest standards of professional conduct. The company's anti-bribery compliance policy meets the strictest requirements of global laws, ensuring that integrity and trust remain cornerstones of its operations.

All the energy consumption at SRK Empire is to be mitigated for 100% of activities from renewable energy sources by 2024.

All the Scope 1 and Scope 2 emissions at SRK Empire is to be mitigated for more than 95% of activities from renewable energy sources by 2024.



5. Inventory Management

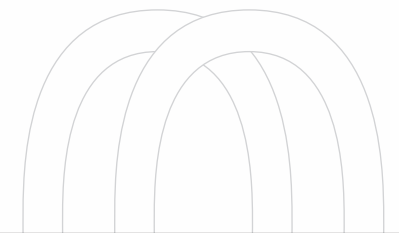
The basic requirement to estimate energy performance is data related to all the activities that can have or can impact energy performance. It is important to ensure the data collection with higher assurance levels, considering the appropriate frequency and periods to estimate energy performance. The following are some important requirements for data collection.

1. Data Accuracy:

- a. All the data required for energy consumption estimation as defined in the scope and boundaries are taken from utility bills or invoices. However, monthly invoices are provided as appropriate and annexed to establish traceability and to ensure verification and validation requirements.
- b. All the data, required for the estimation of energy consumption includes all the energy sources applicable to the defined scope and boundary.

2. Data Adequacy:

- a. Electricity data – Data adequacy is ensured by taking the invoices from the service provider that include appropriate information for example actual demand, power factor, time-of-day usage, night-hour usage, hourly load profile or set-off period data. This helps in estimating the set-off requirements from net energy generated and consumed for the specific period.



- b. Electrical consumption is available for all the months related to the baseline and reporting period. All the figures mentioned are supported by monthly utility bills from Torrent Power Limited (TPL) and monthly records are kept to ensure the adequacy of the data and to determine the opportunities related to net zero energy requirements every month.
- c. Piped natural gas consumption is available for all the months related to the baseline and reporting period. All the figures mentioned are supported by monthly utility bills from Gujarat Gas Limited (GGL) and monthly records are kept to ensure the adequacy of the data and to determine the opportunities related to net zero energy requirements every month.

3. Data Applicability:

- a. It is important to apply available and adequate data to estimate baseline energy consumption and determine additional opportunities related to the availability and adequacy of the data, to improve on reporting and mitigating appropriate energy consumption for SRK Empire's activities.
- b. Ensuring appropriate applicability of the relevant data also defines the confidence levels and improves assurance levels of the reporting including verification and validation of the data.



4. Data Appropriateness:

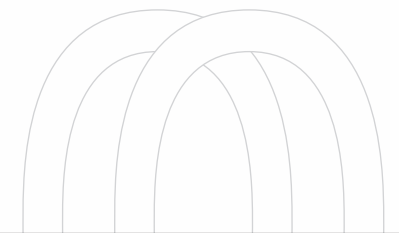
- a. Submitted details and supporting evidence ensure that energy consumption details are appropriate.
 - i. A monthly breakup is provided
 - ii. All the details are supported with appropriate evidence

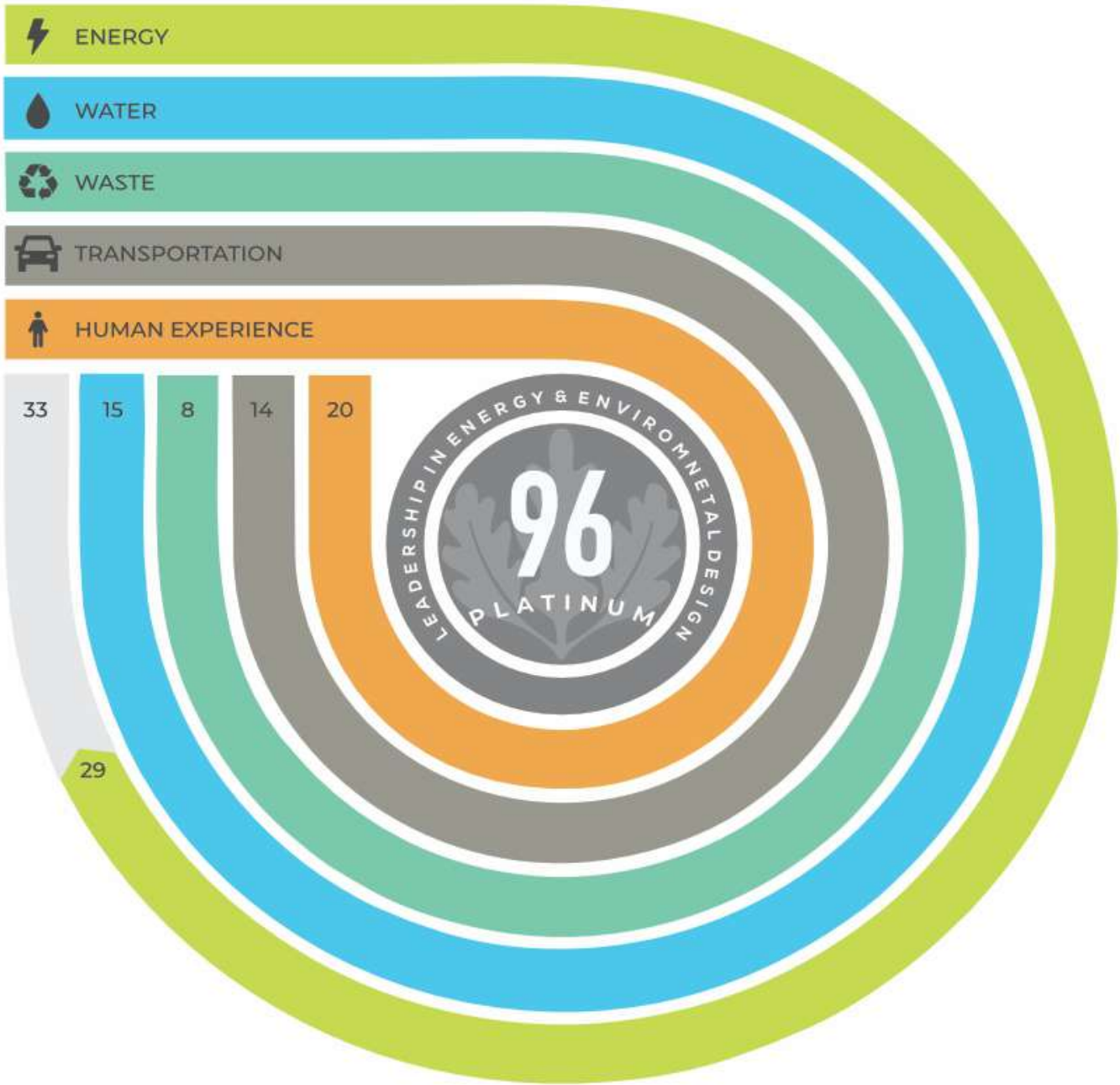
5. Data Availability :

- a. Submitted details and their supporting evidence ensure that energy consumption details are appropriate.
 - i. Monthly data are available for electricity and natural gas from April 2021 to March 2024.

Based on the observations related to inventory management as above, the reported energy consumption has “**Reasonable Assurance**”, as assessed energy performance and related activities cover 95.0% of the confidence level.

As data covered for reporting of energy consumption for the period from April 1, 2021 to March 31, 2024, It is recommended that the baseline for FY 2021-22, FY 2022-23 and FY 2023-24 be considered, which can be used to track the offsetting the energy consumption by implemented renewable energy source for the performance periods with appropriate normalization.

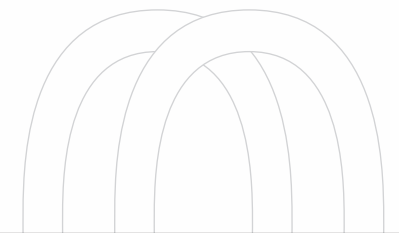




6. Mandatory Requirements

1. Applicable legal requirements :

- a. India has made a commitment to become net zero by 2070. Further to this, by 2030, India aims to: (1) build non-fossil energy capacity to 500GW; (2) **meet 50% of energy requirements from renewable energy sources; (note: SRK committed to meet 100% of energy requirements from renewable energy sources at SRK Empire by March 2024)** (3) reduce total projected carbon emissions by 1 billion tonnes, **(note: SRK committed to meet minimum 95% of Scope 1 and Scope 2 emissions at SRK Empire from renewable energy sources equivalent to more than 4,500 tonnes of CO₂e by March 2024)** and (4) reduce carbon intensity to less than 45%. To achieve these aims, various policies and mandatory requirements are being established by the Ministry of Power (MoP), Ministry of Environment and Forest & Climate Change, (MoEFCC) and Ministry of Jal Shakti (MoJS) under the National Action Plans for Climate Change (NAPCC). Various laws and requirements anchor, for the first time, a national goal in India for reducing greenhouse gas emissions.
- b. The legal requirements for greenhouse gas (GHG) emissions are not presently guided by the overarching policies aimed at promoting renewable energy and reducing carbon footprint. However, in managing the facilities and operations, these guidelines include performance improvement for energy consumption, waste management, and emission standards to ensure that the manufacturing process aligns with the country's commitment to environmental sustainability and climate change mitigation. Relevant business processes need to adhere to these regulations to contribute to the national goal of increasing renewable energy capacity while minimizing GHG emissions. For detailed and specific legal requirements, consulting the official guidelines and policy papers, as well as any local environmental regulations, is recommended.



c. SRK's action at SRK Empire related to mitigating climate change and supporting national targets, by complying with the applicable regulatory requirements and by adopting the best practices and technologies for achieving intended outcomes of net zero emissions, are positive steps towards providing examples to their stakeholders.

2. Applicable business requirements :

a. SRK's business activities are related to providing sustainable and affordable products. There for it is necessary to set an example for their facility (SRK Empire) by achieving Net Zero Energy requirements.

3. Applicable business requirements :

a. Based on the portfolio of services provided by SRK, it is necessary to ensure all the stakeholder's requirements are supported and promote them to achieve the necessary net zero milestones.

4. Strategic and tactical requirements:

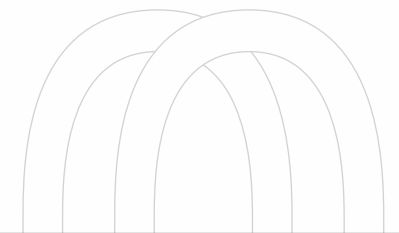
a. Strategic requirements are those, which require actions at management levels, these include but are not limited to,

i. Effective data management or documented information (accuracy, repeatability, frequency, period, etc.)

ii. Appropriate decision-making (mainly time and related to provision of resources)

iii. Competency improvements (users, support providers and decision makers)

iv. Communication improvement (manual to automation, monthly to daily etc.)



6. Details of Energy Consumption

Details of energy consumption for the reporting period of April 1, 2021 to March 31, 2024 and other financial years are presented herewith and the future performance periods including all the energy sources as defined in the scope and boundary are to be presented in the subsequent period (monthly updates are suggested to keep the track on net zero-energy status).

1. Energy consumption details based on the project's activities (inventory scope and boundary) :

- a. Electricity and natural gas: SRK Empire has various energy sources – electricity and PNG. No other energy source is used within the stated boundary and its related scope. Energy consumption for electricity and PNG is presented in the table below and sourced from the utility bills from TPL and GGL.

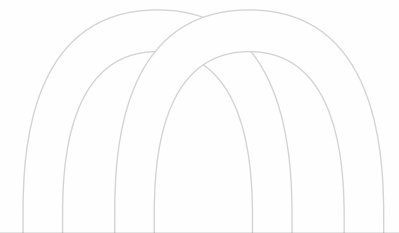


Table 2: Energy Consumption for FY 2021-22

Month	Electricity Consumed (As per Bill), kWh	Natural Gas Consumed (As per Bill), kBtu	Overall Equivalent Electricity Consumption (kWh)
Apr-21	5,40,465	1,46,333	5,83,353
May-21	5,70,150	1,43,060	6,12,078
Jun-21	4,55,130	1,12,218	4,88,019
Jul-21	5,44,380	1,63,285	5,92,236
Aug-21	3,87,405	1,08,628	4,19,242
Sep-21	4,28,295	1,39,958	4,69,314
Oct-21	4,53,585	1,41,660	4,95,103
Nov-21	1,70,340	40,860	1,82,315
Dec-21	4,32,780	1,45,044	4,75,290
Jan-22	3,77,805	1,39,768	4,18,769
Feb-22	3,75,900	1,26,287	4,12,913
Mar-22	4,87,695	1,36,647	5,27,744
Total	52,23,930	15,43,748	56,76,377

Table 3: Energy Consumption for FY 2022-23

Month	Electricity Consumed (As per Bill), kWh	Natural Gas Consumed (As per Bill), kBtu	Overall Equivalent Electricity Consumption (kWh)
Apr-22	4,38,915	1,24,148	4,75,301
May-22	3,00,405	67,728	3,20,255
Jun-22	4,83,465	1,19,396	5,18,458
Jul-22	4,70,205	1,30,433	5,08,433
Aug-22	4,45,800	1,10,294	4,78,125
Sep-22	4,69,665	1,19,912	5,04,809
Oct-22	3,37,995	85,508	3,63,056
Nov-22	2,22,315	43,535	2,35,074
Dec-22	4,23,045	1,22,465	4,58,937
Jan-23	2,95,875	1,02,839	3,26,015
Feb-23	3,04,205	1,07,797	3,35,799
Mar-23	4,19,720	1,28,981	4,57,522
Total	46,11,610	12,63,036	49,81,785

Table 4: Energy Consumption for FY 2023-24

Month	Electricity Consumed (As per Bill), kWh	Natural Gas Consumed (As per Bill), kBtu	Overall Equivalent Electricity Consumption (kWh)
Apr-23	4,25,840	1,16,240	4,59,908
May-23	2,70,840	57,613	2,87,725
Jun-23	4,37,280	1,15,872	4,71,240
Jul-23	4,22,280	1,22,142	4,58,078
Aug-23	4,26,560	1,15,397	4,60,381
Sep-23	3,86,760	1,04,440	4,17,370
Oct-23	4,21,360	96,842	4,49,743
Nov-23	1,48,280	29,697	1,56,984
Dec-23	2,75,160	47,913	2,89,202
Jan-24	3,65,600	1,04,563	3,96,246
Feb-24	3,95,800	1,12,118	4,28,660
Mar-24	4,45,520	1,11,981	4,78,340
Total	44,21,280	11,34,817	47,53,876

8. Target Setting

To achieve the milestone, the targets are set for various activities. This is performed by

1. Establishing targets for the relevant activity(ies), the following requirements are ensured.

- a. Specific and consistent with the commitment
- b. Measurable, as appropriate and if practicable
- c. Achievable, to ensure the effectiveness
- e. Realistic, to have confidence in achieving intended results
- f. Time-bound
- g. Being able to monitor and communicate
- h. Consider applicable requirements (legal, business, stakeholders etc)



2. Based on the monthly energy consumption details for electricity and piped natural gas, the future energy consumption for the following performance period is estimated based on:

- a. To evaluate the capacity of the proposed solar plant to offset all the energy consumption for the respective periods.
- b. To ensure, that the peak consumption is considered for the respective months and/or performance periods to minimize the risk of mitigating with the renewable energy sources.
- c. Predicted energy consumption for the next performance period is estimated as per the following table.

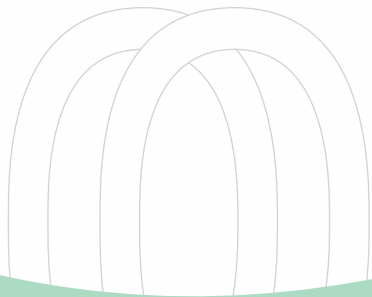


Table 5: Predicted Energy Consumption

Month	Electricity, kWh*	Natural Gas, kBtu	Overall Equivalent Electricity, kWh
Apr	5,40,465	1,46,333	5,83,353
May	5,70,150	1,43,060	6,12,078
Jun	4,83,465	1,19,396	5,18,458
Jul	5,44,380	1,63,285	5,92,236
Aug	4,45,800	1,15,397	4,79,621
Sep	4,69,665	1,39,958	5,10,684
Oct	4,53,585	1,41,660	4,95,103
Nov	2,22,315	43,535	2,35,074
Dec	4,32,780	1,45,044	4,75,290
Jan	3,77,805	1,39,768	4,18,769
Feb	3,95,800	1,26,287	4,32,813
Mar	4,87,695	1,36,647	5,27,744
Total	54,23,905	15,60,369	58,81,223

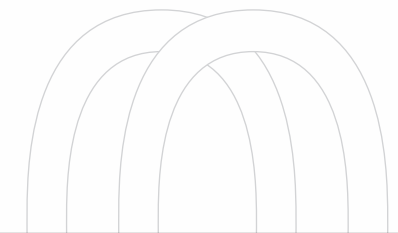
***Predicted data is the highest value of respective month of previous 3 years**

3. Hence, the net equivalent energy required at the site is 58,81,223 kWh and to offset the same 69,42,520 kWh needs to be generated every year at maximum as per the following estimation.

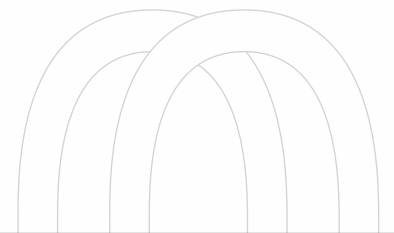
Table 6: Predicted Energy Generation			
Sr	Particulars	Units	Value
1	Gross unit generation	kWh	69,42,520
2	Distribution Losses @ 9.50%	kWh	6,59,539
3	Transmission Losses @3.25%	kWh	2,04,197
4	Wheeling Losses @ 3.25%	kWh	1,97,560
5	Net available units at the site for offset or export	kWh	58,81,223
6	The total capacity of solar plant required at an offsite	kWp DC	4359.11
7	Recommended Capacity	kWp DC	4414.5

4. Actual and maximum energy consumption for the respective months of the past three years is considered as monthly energy consumption.

a. Actual and maximum energy consumption for the respective months of the past three years is considered as monthly energy consumption.



- b. The conversion factor from kBtu to kWh is considered as 3.412
 - c. FY 2021-22 is observed to be the highest energy consumption since occupancy of the building. (April 2011 to date)
 - d. Solar electricity generation is referenced from the manufacturer's data sheet and is considered to average 4.363 kWh gross generation per kWp DC per day.
 - e. The total working days for the solar plant is considered 365, however, guaranteed generation is 85% of the estimated generation (as per PO terms and conditions), which means a maximum of 15% generation can vary due to maintenance and weather conditions.
 - f. The timeline to implement the above requirement is December 2023.
5. Any exclusions and/or limitations during the estimation of future energy consumption and solar plant capacity.
- a. Nil



6. Relevant performance indicators required

a. Electricity generation

I. Daily and monthly values in kWh - Predicted

ii. Daily and monthly values in kWh - Actual

iii. kWh block data generation – 15 minutes interval

iv. GHI data in W/m² – 15 minutes interval

v. GTI data in W/m² – 15 minutes interval

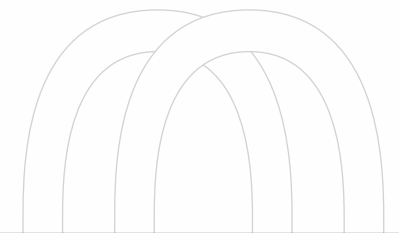
vi. Daily and monthly breakdown details in hours – Actual

vii. Weather details at the site (Continuous): dry bulb temperature, humidity, PV module temperature, wind speed and wind direction, precipitation

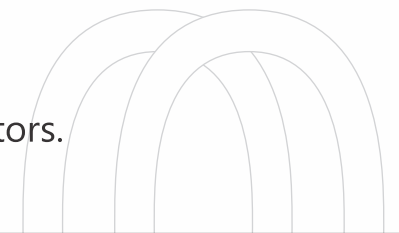
viii. Additional indicators can be made as appropriate

b. Electricity consumption

I. Daily and monthly values in kWh - Predicted



- i. Daily and monthly values in kWh - Actual
 - ii. kWh block data consumption – 15-minute interval
 - iii. Daily and monthly values in kWh - Setoff estimates
 - iv. Daily and monthly values in kWh – export to the grid
 - v. Daily and monthly values in kWh – import from the grid
 - vi. Daily and monthly values in kWh – ToU1 and ToU2 consumption
 - vii. Daily and monthly values in kWh – NTC consumption
 - viii. Daily and monthly breakdown details in hours – Actual
 - ix. Additional indicators can be made as appropriate
- c. Piped natural gas consumption
 - i. Daily and monthly values in SCM and mmBtu
 - d. Monthly bills and estimates from electricity supplier – TPL
 - e. Monthly bills from natural gas supplier - GGCL
 - f. Coverage of all the related activities needs to be considered first to define any specific indicators.

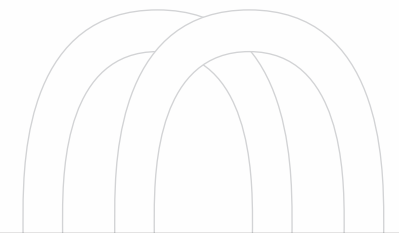




9. Action Plan(s)

To achieve the defined target for various activities, action plan(s) are established. This is performed by

1. For each target, action plan(s) is developed that is required to support implementation and includes the following attributes.
 - a. What will be done?
 - b. What resources will be required?
 - c. Who will be responsible?
 - d. When it will be completed
 - e. Where it is applicable
 - f. How performance improvement will be verified (method)
 - g. How results will be verified



2. The relevant action plan(s) are submitted, concerning relevant information as described above to ensure appropriate implementation and monitoring requirements.

Installed Capacity of the Solar Plant

The required capacity is installed in two phases at different locations.

- a. Phase 1 – 810 kW DC ground-mounted solar power plant

- I. Location: Amod, Bharuch, Gujarat

- ii. <https://maps.app.goo.gl/FEMTqrZDgkyqCKQu9>

- iii. PO no. SRD/PO/SUR/SP/20210414 dated 14-Apr-2021

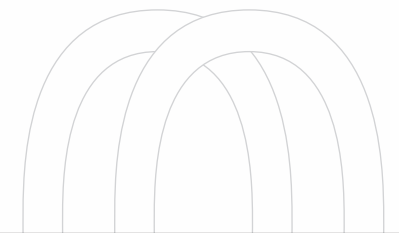
- b. Phase 2 – 3600 kW DC ground-mounted solar plant

- a. Location: Akala, Amreli, Gujarat

- b. <https://maps.app.goo.gl/8Y6o8weitsbXrqUi8>

- c. PO no. SRD/PO/SUR/SP/20230427 dated 27-Apr-2023

- d. GEDA Registration: GEDA/SOL-556/2023/04/OW/083 dated 11-Apr-2023



- e. PGVCL Meter Test Report Plant: 31909 dated 23-Feb-2024
- f. PGVCL Meter Test Report Substation: 31908 dated 23-Feb-2024
- g. Wheeling Agreement (provisional) with TPL:IN-GJ29663127040230W dated 14-Feb-2024
- h. Long-term open access approval letter from GETCO: GETCO/R&C/LTOA/2259/574 dated 20-Mar-2024
- I. GEDA commissioning letter: GEDa/SOL-556/2024/03/OW/8226 dated 30 Mar 2024



Table 7: Predicted Monthly Energy Generation

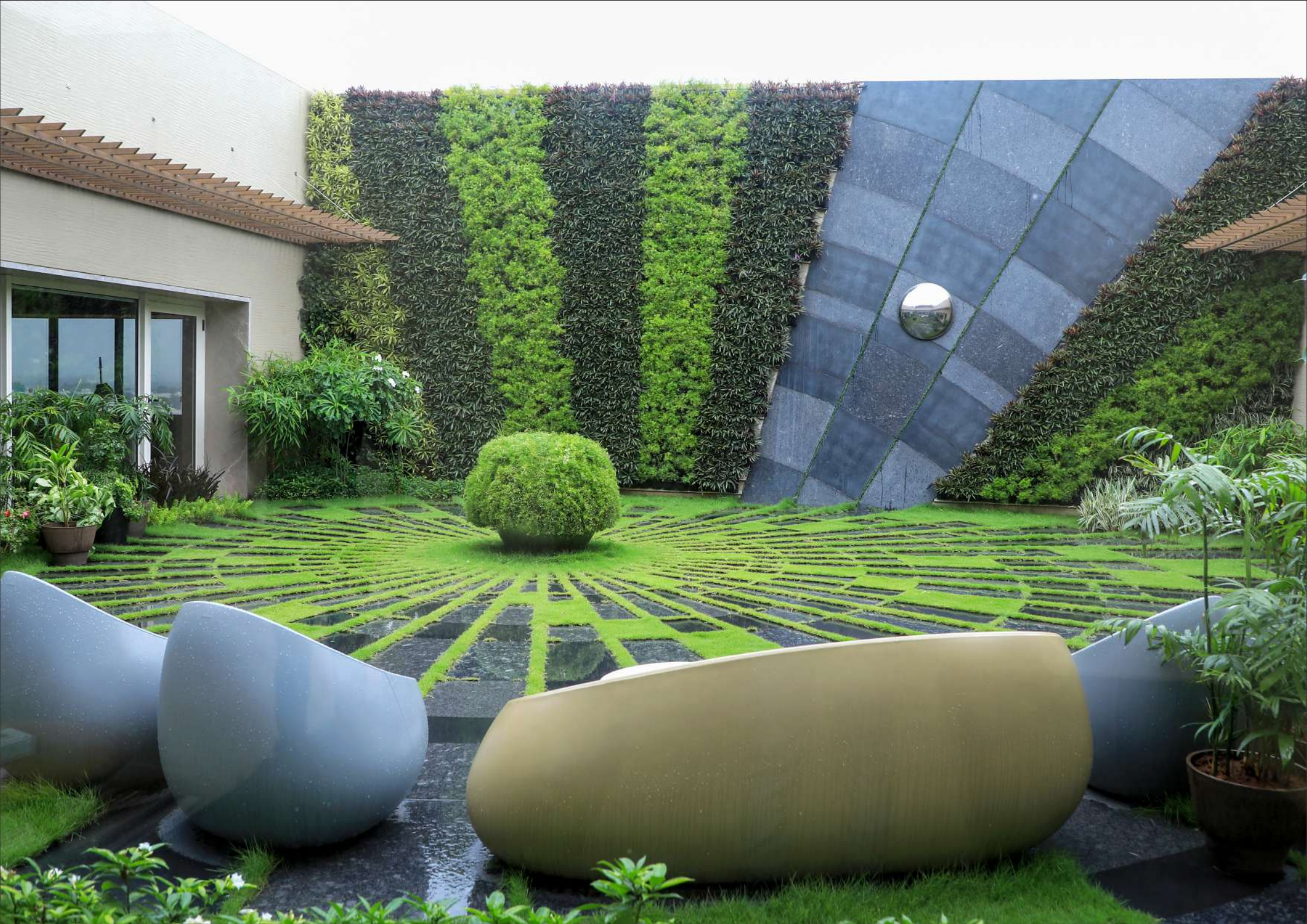
Month	Gross Electricity Generated - Solar Plant (kWh)	Net Electricity Generated - Solar Plant (kWh)
Apr	7,37,131	6,22,183
May	7,81,062	6,59,263
Jun	6,56,971	5,54,523
Jul	4,80,532	4,05,598
Aug	4,99,073	4,21,247
Sep	5,84,383	4,93,254
Oct	5,76,008	4,86,185
Nov	5,04,186	4,25,563
Dec	4,81,391	4,06,322
Jan	5,03,127	4,24,669
Feb	5,40,119	4,55,892
Mar	6,91,365	5,83,554
Total	70,35,347	59,38,252

10. Allocation of Resources

Appropriate resources (including human resources, financial, technological, data collection infrastructure and specialized skills) in achieving Net Zero Energy targets are allocated.

1. The provision of appropriate resources is recorded for additional verification and validation processes.
2. Data collection infrastructure includes the provision of additional meters, data loggers, updates in BMS/EMS, and/or handheld or portable tools for measurements, that provide more data to determine opportunities for improvements.
3. The technological resource includes the implementation of updates in best available practices and technologies like the use of AI/ML techniques.

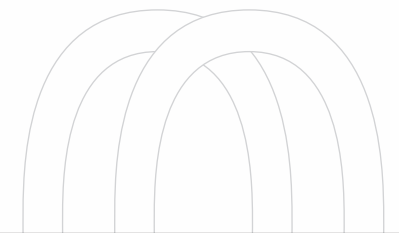




11. Impact Assessment

Due to limitations related to the assessment, manufacturing outputs and availability of the data, the impact assessment and relevant risk management in achieving Net Zero Energy targets can be predicted as low to medium except for the financial risk. However, once all the limitations are ensured by implementing relevant measures, impact assessment can be performed based on applicability and related to the past measures taken by SRK at SRK Empire. The following impact assessment categories are recommended in reporting from the next performance period.

1. Climate risks and opportunities relevant to the project's scope and boundaries.
2. Progress against net zero energy targets and relevant action plans including the impact of actions taken. (milestone achievements)
3. Specific requirements for energy performance and offsets beyond boundaries including impact on climate change.
4. Impact and/or benefits for the achieved net zero status and sustaining the same for the following performance periods.
5. Financial risks due to non-performing assets (solar plant and its associated equipment)
6. Financial risks due to updates in applicable legal requirements





12. Mitigation and Offset Management

GNFZ's Net Zero Energy certification

The basic terminology used to achieve Net Zero Energy is

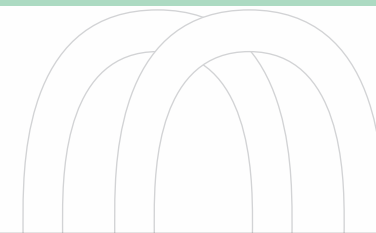
Total energy consumed (all sources and non-renewables) \leq Total energy generated (renewables - offsite or onsite) + Total alternative energy consumed (renewables - offsite or onsite)

Total energy consumed (all sources and non-renewables) covers all types of energy sources (non-renewable) and all types of energy used by the organizations for their business activities and within the control of the organization for the specific period (recommend annually).

As discussed in the "Energy Consumption Details" section, the total energy consumption is reported for all sources and non-renewables.

Total alternative energy consumed (renewables – offsite or onsite) covers the consumption of alternative sources of energy (which eliminate the non-renewable energy source intake) by the organizations for their business activities and within the control of the organization for a specific period (recommended annually). Generally, all types of renewable energy sources are considered.

The total alternative energy consumption is not applicable, as there is no other source available based on site location (stated scope and boundary) that can qualify for this purpose.



Total energy generated (renewable – offsite or onsite) covers the quantity of energy produced or procured from renewable sources and consumed for internal use and/or supplied to external requirements by the organizations for their business activities and within the control of the organization for the specific period (recommend annually).

Hence, SRK Empire opted for energy generation from captive power plants (810 kWp DC and 3600 kWp DC) from renewables – offsite (solar).

The following table represents the overall summary of the above requirements for GNFZ's Net Zero Energy certification.



Table 8: Comparison of Net Zero Energy

Month	Net Electricity Generated - Solar Plant (0.814+3.6 – MWp), kWh	Overall Equivalent Energy (Electricity + PNG) Consumption, kWh	Type of Data	Difference, Generation – Consumption, kWh
Apr-24	5,87,232	5,11,099	(As per Bill)	76,133
May-24	6,59,263	4,10,042	(As per Bill)	2,49,221
Jun-24	5,54,523	5,18,458	Estimate	36,065
Jul-24	4,05,598	5,92,236	Estimate	-1,86,638
Aug-24	4,21,247	4,79,621	Estimate	-58,373
Sep-24	4,93,254	5,10,684	Estimate	-17,431
Oct-24	4,86,185	4,95,103	Estimate	-8,918
Nov-24	4,25,563	2,35,074	Estimate	1,90,489
Dec-24	4,06,322	4,75,290	Estimate	-68,968
Jan-25	4,24,669	4,18,769	Estimate	5,900
Feb-25	4,55,892	4,32,813	Estimate	23,080
Mar-25	5,83,554	5,27,744	Estimate	55,810
Total	59,03,302	56,06,932		2,96,370

Based on the basic terminology used to achieve Net Zero Energy

Total energy consumed (all sources & non-renewables) \leq Total energy generated (renewables - offsite or onsite) + Total alternative energy consumed (renewables - offsite or onsite)

For SRK Empire and based on the above details:

Total energy consumed (56,06,932 kWh) \leq Total energy generated (renewables - offsite or onsite) (59,03,302 kWh – Net) + Total alternative energy consumed (renewables - offsite or onsite) (0 kWh)

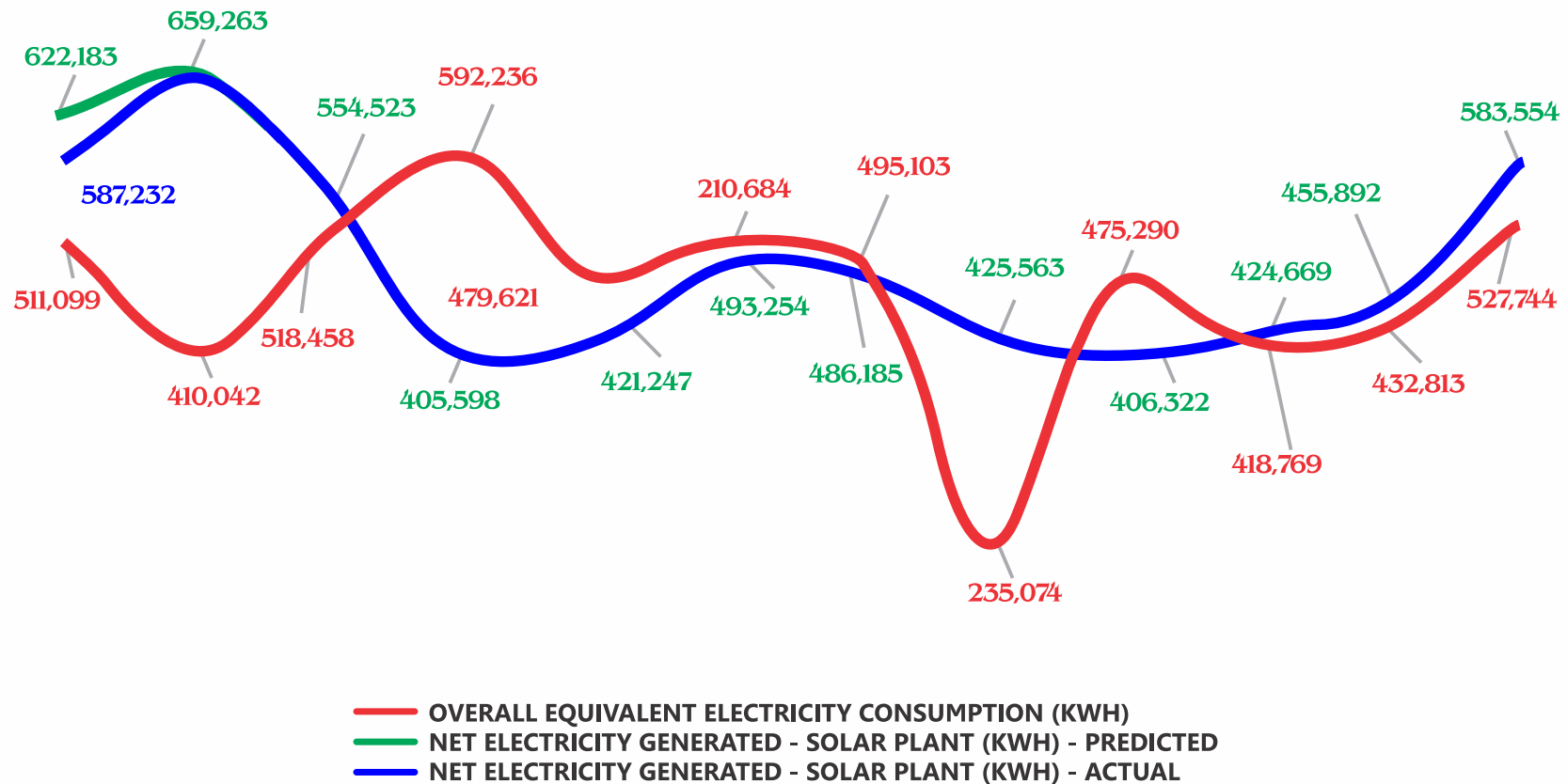
As per these criteria,

- a) There is excess generation @ 2,96,370 kWh net, which corresponds to 5.3% of maximum energy consumption and 5.0% of net electricity generation.
- b) Predicted annual consumption is the highest consumption based on the building life cycle to date. Actual consumption for FY 2022-23 is 11.1% less and FY 2023-24 is 15.2% less.
- c) It can be said, that, there is a clear margin of 20% (@5% from the generation side and @15% from the consumption side)
- d) The billing cycle is defined by the utility company (TPL) and they mention the net generated units for the specific month in the next billing cycle for estimation of applicable charges. (i.e. Net generated units (setoff units only) for Jan will be reflected in Feb – actual consumption of “Feb” month will be considered while adjusting the net generation (setoff units) of “Jan”). To ensure consistency in reporting all the units, the same pattern as per the utility invoices is followed.

e) Considering the overall performance for May 2024 and various agreements with the regulatory authorities, it can be said that, SRK Empire fulfils the criteria for Net Zero Energy certification and it is recommended that, the provisional "Net Zero Energy" certificate be issued, after verification of the report.

Figure : Net Zero – Energy Estimate

Energy Generation (Net) Vs Energy Consumption - Monthly Estimate in kWh

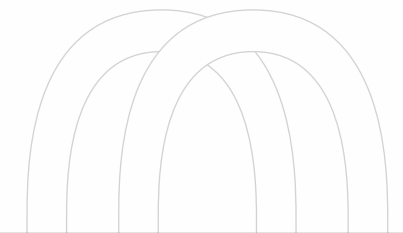


APR-24 MAY-24 JUN-24 APR-24 APR-24 APR-24 APR-24 APR-24 APR-24 APR-24 APR-24 APR-24

Table 9: Net Zero Energy Criteria

GNFZ's Net Zero Energy
Applicable and focused on all the projects including buildings (classified as per IBC) and all types of industries (classified as per ILO) that have or can have an impact on water consumption.
Considers site energy (within the organization's control). Eliminate the use of source conversion factors.
Energy balance is developed based on "CUSUM" techniques for the period of the past 12 months and updated monthly to ensure that the project sustains the Net Zero certification.
Considers impact-related criteria to certify the project (encourage the project to improve on the business activities that can lead to additional sustainability-related compliances like ESG or UNSDG).
Considers on-site or off-site energy-related measures to maintain net zero status. However, accounting is based on CUSUM techniques and updated monthly.
Can be combined with other energy-related tools, standards and guidelines (like EnMS, and CFV)

IBC – International Building Code; ILO – International Labor Organization



Emissions Related to Net Zero Energy

Based on the estimation of emissions, as SRK Empire implemented its energy requirements from renewable energy sources, the equivalent emission from the Scope 1 and Scope 2 categories can also be mitigated. Following are the details of such estimates.

Scope 1 or direct emission: The emission factor for natural gas is considered based on NCV and SCM values mentioned in the relevant invoices from the supplier and a 100% conversion rate. This equivalent is 14.43 kg of carbon per mmBtu and 52.91 kgCO₂ per mmBtu (14.43 x 44/12).

Scope 2 or indirect emissions: The total electrical energy consumption from the grid is estimated based on actual data based on TPL invoices and covers non-renewables sources only for April 1, 2021 to March 31, 2024. No other energy source is used within the stated boundary and its related scope. Hence, emission due to electricity use from the grid is presented in the table below.

Table 10: Scope 2 Emission Factor for Electricity Use from Grid*

Emission Factors (tCO ₂ /MWh) (incl. Imports)	FY 2021-22	FY 2022-23	FY 2023-24
Simple Operating Margin (1) (2)	0.960	0.971	0.971
Build Margin (not adjusted for imports)	0.869	0.867	0.867
Combined Margin (1) (2)	0.915	0.919	0.919
Weighted Average Emission Rate (2)	0.810	0.823	0.823
Weighted Average Emission Rate Incl. RES (2)	0.711	0.713	0.713

*Source: CEA database – India – declared recently for the FY 2022-23 data and hence, the same factors are considered for FY 2023-24

Table 11: Summary of Emissions

Sr No	Emission Category	Reported Emissions FY 2021-22 (kgCO2e)	Reported Emissions FY 2022-23 (kgCO2e)	Reported Emissions FY 2023-24 (kgCO2e)	Level of Assurance
1	Scope 1	81,680	66,827	60,043	95.00%
2	Scope 2	42,29,201	37,95,355	36,38,713	95.00%
	Total	43,10,881	38,62,182	36,98,757	95.00%

Note:

1. The level of assurance is estimated based on
 - a. Data availability,
 - b. Data accuracy,
 - c. Coverage of activities for Scope 1 and 2 emissions
 - d. Assumptions made to estimate emissions
- a. Overall assurance is based on a weighted average considering the emissions category and its independent level of assurance.

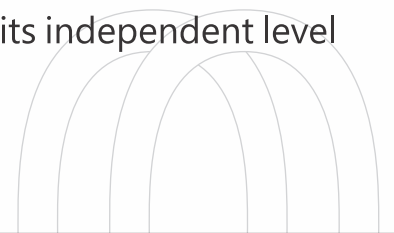
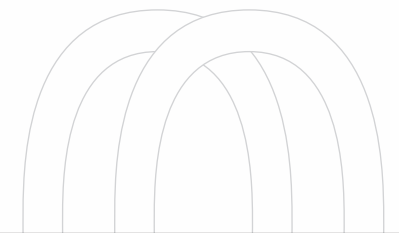


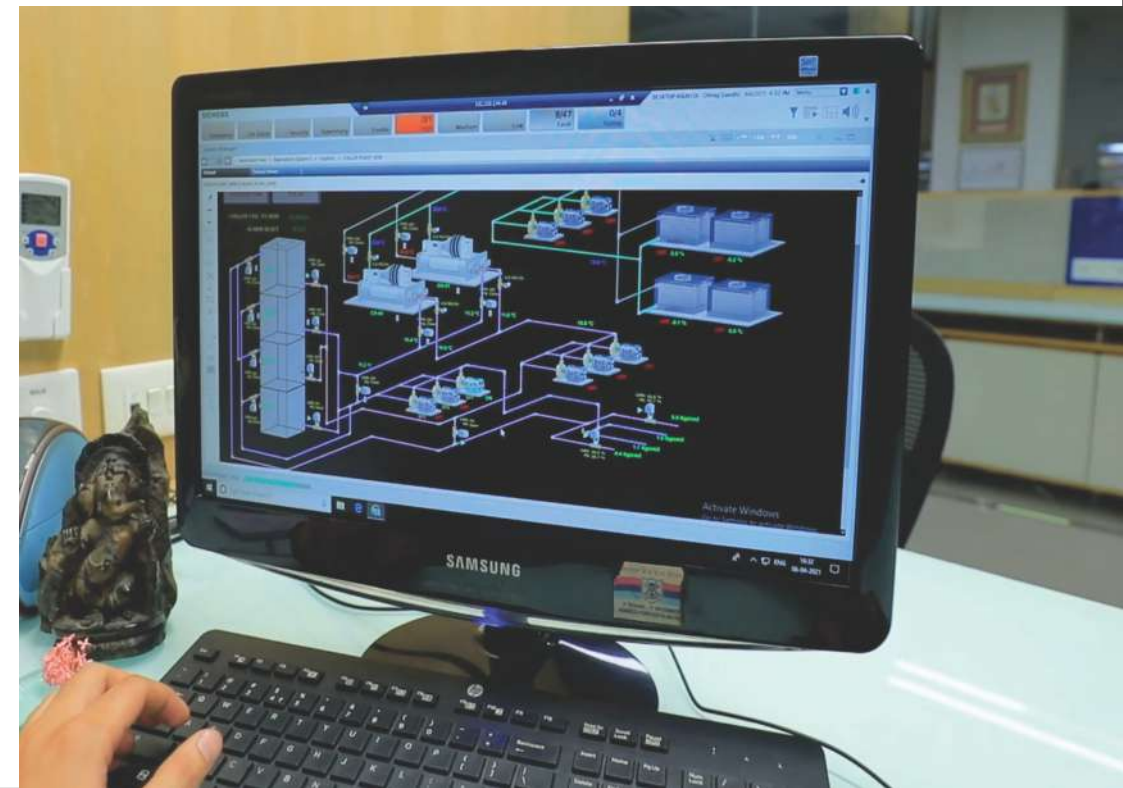
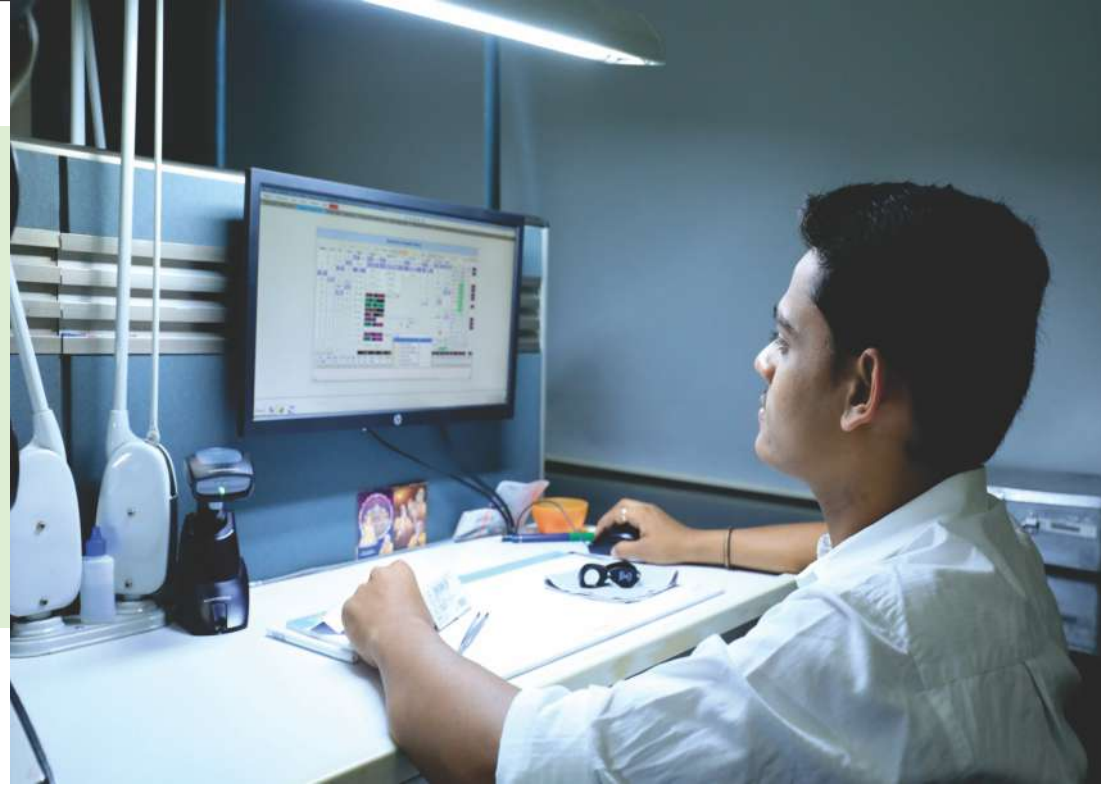
Table 12: Summary of Emissions Mitigation

Energy Source	Predicted Energy Consumption FY 2024-25	Estimated Emissions FY 2024-25 (kgCO₂e)	Predicted Net Generation (kWh)	Equivalent Emissions Mitigation FY 2024-25 (kgCO₂e)
Natural Gas, kBtu	14,55,703	Scope 1 – 77,021		
Electricity	51,80,290	Scope 2 – 42,63,379		
Total Equivalent, kWh	56,06,932	43,40,400	59,03,302	48,58,417

As per the table above, the difference between CO₂ equivalent mitigated (**48,58,417 kgCO₂e**) versus generated (**43,40,400 kgCO₂e**) is **518.018 tCO₂e**. This means SRK Empire can earn 518 REC certificates if overall performance is optimized/controlled based on the above-reported estimate.

We hope the information included herewith is useful in developing the necessary roadmaps for achieving more prestigious and sustainable results for the business activities of SRK Empire and creating benchmarks in energy, carbon and water performance. It is recommended that SRK Empire takes appropriate actions and strives for improvements considering other relevant frameworks.

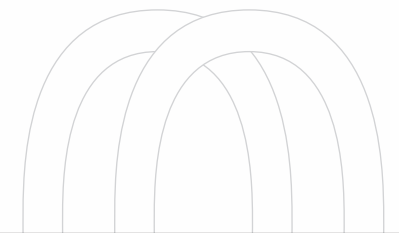




13. Opportunities for Improvement

The following are the recommended opportunities for improvements in GHG emissions and their relevant evaluations.

1. Convert existing provisional agreement (for 3600 kWp DC solar plant) with regulatory authorities from Non-REC captive use to "REC with captive use". This will eliminate the banking charges for setoff units and relevant REC attributes can be claimed.
2. Track energy generation from both the solar plant (810 kWp DC and 3600 kWp DC) and ensure guaranteed performance is achieved as estimated and reported herewith.
3. A minimum of 12 months of performance is required to ensure "Net Zero" status from provisional to verified status. Hence, the SRK Empire team is advised to submit the monthly performance of energy generation and energy consumption with appropriate supporting evidence.
4. Post 12 months of performance verification, SRK Empire will receive "Net Zero" verified status and sustain the criteria for the same on a "CUSUM" basis (cumulative sum – every month, latest 12 months data will be considered to qualify and sustain for net zero status)
5. Data management
 - a. Maintain utility bills (electricity and piped natural gas) with relevant information (date, type of fuel used, quantities, distance, mode of transport etc.) mentioned in the same.



- b. Maintain performance indicators as defined in the report for solar power plant including tracking overall performance.
- c. Ensure data is available at a minimum monthly level, however, daily details are recommended for those activities which have significant emissions like energy-related activities.

6. Material and energy efficiency


- a. It is observed that annual energy consumption is in decreasing trends. However, energy consumption depends upon many factors like production volumes, weather conditions, occupancy, and equipment performance, it is necessary to control and/or optimize the use of energy to improve energy costs and reduce the related emissions.

7. Additionally, it is recommended that individual net zero milestones in water and waste categories can be achieved by adopting relevant criteria as appropriate.



14. Supporting Documented Information

The following is the documented information, submitted by SRK for SRK Empire, in support of the estimation of Net Zero Energy verification and validation.



GEDA
ગુજરાત ઊર્જા વિકાસ એજન્સી
GUJARAT ENERGY DEVELOPMENT AGENCY
A Government of Gujarat Organisation


GEDA/SOL-556/2024/03/CW/S224 Date: March 30, 2024

CERTIFICATE OF COMMISSIONING

This is to certify that M/s. Shree Ram Diamek Pvt. Ltd., 99, Vasta Devdi Road, Opp. Gayatri Mandir, Katargam, At- Surat, Ta-SuratSurat, Dist- Surat has installed and commissioned **2980 kW(AC)/ 3616.62 kW(DC)** capacity Solar Power Plant at Survey no.347 P3, of Village- Akala, Ta-Lathi, Dist.-Amreli on 23-02-2024 along with the associated equipment as per following details.

GEDA Registration No.	GMSPVINDGEDA11042023-556
Capacity of Solar Power Project	2980 kW(AC)/ 3616.62 kW(DC)
SPV Modules- Type / Make	Mono- PERC / Goldi
Nos. of Photovoltaic Modules / Rating	6636 / 545 Wp
Inverters- Type / Make	String / Waipower; Hwawei, Hwawei
Nos. of Inverter / Rating	09 / 275 kW, 01 / 185 kW, 02 / 160 kW
ABT Meter- Make / Serial no.	Secure / PG 5406 B
Name of Substation	66 kV GETCO S/S, Luvariya

The commissioning of the Ground Mounted Solar PV System has been carried out; the ABT meter has been installed.

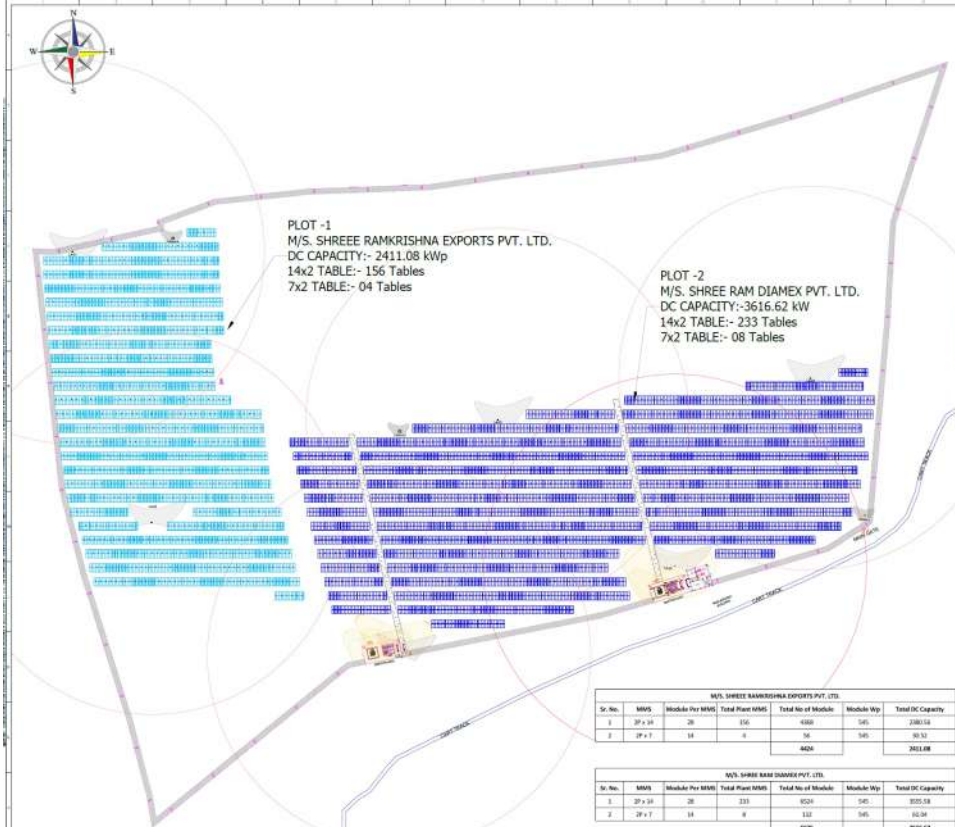
For Gujarat Energy Development Agency

Sr. Project Executive I/c.

To,
M/s. Shree Ram Diamek Pvt. Ltd.
99, Vasta Devdi Road, Opp. Gayatri Mandir, Katargam,
At- Surat, Ta-Surat,
Dist- Surat- 395004

Cc to: (1) Chief Engineer (Tech.),
Pancham Gujarat Vij Company Limited (PGVCL),
Registered & Corporate Office, Nana-mava Main Road,
Laxmi Nagar, Rajkot - 360004


(2) Chief Engineer, State Load Dispatch Centre (SLDC)
GETCO, 132kV Gotri Sub Station Compound,
Opp. Kalipruv building, Near T.B. Hospital, Gotri Road,
Vadodra - 390 021

Ph: 079-233-57261/53
Fax: 91-79-232-47997-57155
e-mail: director@geda.org.in
www.geda.gujarat.gov.in



LEGEND	
1	SOLAR PV MODULE
2	SPV INVERTER
3	PLANT BOUNDARY
4	MAIN CONTROL ROOM
5	SWITCHYARD
6	WATER TANK
7	LIGHTNING ARRESTOR
8	LIGHTNING ARRESTOR SHADOW
9	LIGHTNING ARRESTOR PROTECTION RADIIUS SYM
10	SECURITY CABLE SHADOW
11	SECURITY CABLE
12	SOLAR STREET LIGHT
13	ROADWAY

KEY PLAN



SYSTEM SPECIFICATION	
SITE LOCATION	21.481615 N, 72.941816 E
MODULE CAPACITY	545 Wp (PERK SOLAR)
MODULE DIMENSION (L x W x H)	2079 x 1131 x 35 mm
PLANT CAPACITY (PDC)	3617 KW (P)
PLANT CAPACITY (AC)	2980 KW (P)
DC AC RATIO	1.23
TOTAL PV MODULES	6636
PV MODULE TILT ANGLE	6° 32' 30" (SEASONAL TILT)
PV MODULE SPACING (METER)	2.7
INVERTER	17.5M METER
TOTAL NO OF PV INVERTER	9
TOTAL NO OF PV INVERTER	9
PER STRAND MODULE	29.80 KW

NOTE:
1. ALL DIMENSION ARE IN mm.

ISSUED FOR APPROVAL
 APPROVED FOR EXECUTION WITH COMMENTS
 APPROVED FOR CONSTRUCTION

Prepared By: _____ Approved By: _____
Signature: _____ Signature: _____
Date: _____ Date: _____

M/S. SHREE RAMKRISHNA EXPORTS PVT. LTD.			
Sr. No.	MMS	Module Per MMS	Total Plant MMS
1	SP x 14	28	156
2	SP x 7	4	28
			184
			2411.08 Kwp

M/S. SHREE RAM DIAMEK PVT. LTD.			
Sr. No.	MMS	Module Per MMS	Total Plant MMS
1	SP x 14	28	233
2	SP x 7	4	28
			261
			3616.62 kW