

## Proposal for funding of Phase-II 5TPD CBG Plant of Carbon Circle Pvt. Ltd. (CCPL):

### *Phase-I Project of CCPL: 5 Tons per day (TPD) Compressed Biogas (CBG) Capacity*

CCPL has achieved successful commercial operations (DCCO or COD) of Phase-I project at Village Shahpur Dandi, Tehsil Baheri, District Bareilly, Uttar Pradesh on 1<sup>st</sup> August 2024. (please refer **Annexure-1** for the commissioning certificate received from HPCL and other related site pictures).

The Company has sold about 15 Tons of CBG with methane purity of more than 96% (avg.) during its first billing cycle (1<sup>st</sup> to 15<sup>th</sup> August'24) and the first invoice was generated on 16<sup>th</sup> August'24. The payment for the same shall be made by GAIL into the ESCROW Account created for the project.

Presently, the off-take of the CBG is through 250 Bar compressor + cascades arrangement which is being done by HPCL in the absence of the proposed CGD pipeline is delayed. However, the Company has provided HPCL filling stations infrastructure with the necessary approval from PESO and other assistance on day-to-day basis for smooth operations.

The Company has chosen the robust technology and reputed vendors to deliver best quality to its consumers. The common infrastructure build under Phase-I project is sufficient to satisfy the 10 TPD capacity of CBG production by addition requisite Anaerobic Digesters (AD) only.

All necessary clearance & approvals required for smooth operations of the project are in place.

### *Key milestone achieved in the Phase-I project are as follows:*

- Financial Closure: Jul'23
- Cold Commissioning: May'24
- Project completion: Jul'24

The Project achieved commercial operations within about 1 year from its financial closure date.

As anticipated during Phase-I project's due diligence, Government of India (GoI) has been providing a significant policy support for the Biofuels' inclusion in its energy basket. Therefore, the Company has planned to imitate process for Phase-II project (5 TPD Capacity) implementation at the earliest.

### *Strong government support to develop CBG market:*

- 5% RNG blending mandate announced for all CGD entities in a phase-wise implementation.
- Compressed Biogas (CBG) Market development:
  - Supply through cascade @ ~ 75% of retail price of CNG in respective City Gas's area
  - Supply through gas pipeline injection @ INR 1,290/MMBTU
- FOM and LFOM<sup>1</sup> Market Development
  - Inclusion of FOM in the Fertiliser Control Order, a prerequisite for sale of FOM as fertiliser.
  - Waiver of licences for production or sale of FOM.
  - Market development assistance (MDA)/ Grant of INR 1,500/MT for FOM
- Central Grant: INR 4 Cr. per 4.8 TPD (capped at INR 10 Cr/Project).
- State Grant: INR 0.75 Cr./ TPD, capped at INR 20 Cr./Project.
- "Priority Sector Lending" classification, leading to 50bps cheaper loan from banks
- Grant equal to 50% of capex for laying pipeline for connecting with City Gas grid
- Lower import duties for equipment
- CBG projects have been exempted from pollution clearance
  - Capacity allocation capped at 40% of the estimated waste in a catchment area
  - Exclusivity to allotted catchment area
- Capital subsidy for agri-waste aggregation
- CBG as one of the activities in the list for trading of carbon credits under Article 6.2 (bilateral/ cooperative approaches) and also under Article 6.4 of Paris Agreement (compliance market).

### *Present Status of Phase-II Project:*

<b>Land</b>	√	Purchased, levelled, CLU obtained with land earmarked for additional digester(s) under Phase-II.
<b>Feedstock</b>	√	Agreement with FPO for supply of Napier Grass.
<b>Equipment supply &amp; project Implementation</b>	√	<ul style="list-style-type: none"> <li>• All common infrastructure is developed for 10 TPD capacity incl. dedicated transmission line, Biogas upgradation plant, product compressor, cascades filling stations, MCC, electricals, etc.</li> <li>• For additional digester(s) order will be placed to same vendor i.e. PlanET Biogas GmbH.</li> </ul>
<b>Construction power &amp; water</b>	√	Phase-I project is operational. Thus, sufficient water & electricity is in place to take care of construction power & water.

<sup>1</sup> FOM = Fermented Organic Manure (Solid) ; LFOM = Liquid FOM



<b>Sale of CBG</b>	√	A Tripartite Agreement executed with GAIL & HPCL for 10 years for entire 10 TPD CBG at the bi-annually notified CBG price. Prevailing CBG price is Rs. 1290/ MMBtu.
<b>Sale of FOM &amp; LFOM</b>	√	<ul style="list-style-type: none"> <li>• Sale through FPOs</li> <li>• Retailing through dealers</li> <li>• Sale through tenders of Fertiliser Companies</li> <li>• Market Development Assistance (MDA) is available for Rs. 1.5/ Kg of FOM &amp; LFOM.</li> </ul>
<b>Approvals &amp; clearances for project implementation</b>	√	Majority of approvals & clearances obtained from the respective authorities are already for 10 TPD capacity of the Project. The Company is agreeable to obtain any additional or modified clearance/ approval is required to satisfy the Lender.

### *Feedstock arrangement for Phase-II Project:*

The Company has identified Napier Grass as the primary feedstock for the Phase-II project. In this regard an Agreement with Shergarh Kisan Producer Company (an FPO), Baheri, Bareilly, U.P is executed for cultivating, harvesting and supplying the requisite Napier Grass at the plant by the farmers.

The Landed price agreed under the agreement is Rs. 725/ Ton of Napier grass.

Farmers associated to the FPO shall grow Napier Grass in line with the practices advised by the Company and the payment of Rs. 700/ Ton will directly be paid to the Farmers. An administrative fee of Rs. 25/ Ton will be paid to the FPO.

About 400 Acres of land will be used by the FPO to cultivate Napier Grass for the project, will shall be satisfactory to meet Phase-II project's entire requirement through out the year.

This arrangement will isolate the entire project (Phase-I and Phase-II together) from the risk of single source dependability. Also, it will help local farmers to explore a different crop to diversify from one crop.

### *Proposed Phase-II Project implementation schedule:*

- Financial Closure of Phase-II : 30-Oct-2024
- Notice to Proceed to Anaerobic Digester Vendor : 1-Nov-2024
- Commissioning of Phase-II Project : 31-Mar-2025

### Financial Proposal:

The Company is submitting proposal for availing a sanction of total Rs. 40.7 Crore towards an additional Term Loan Facility of Rs. 35.34 Cr., additional BG Limits of Rs. 2.1 Cr. and additional WC Limits of Rs. 3.25 Crs.

### Present status of the CAPEX incurred in the project.

CCPL Phase-1 (5 TPD) CBG Project at Baheri				(Rs. In Crores)
	As Appraised by SBI (TEV + Sanction Letter)	Expected Project Cost of Ph-1 on COD	Increase/ (decrease) in project cost from TEV	Remarks
Land & site development	1.15	1.90	0.75	Increase is due to additional 0.225 Ha land (Gata no. 388) purchased for the project and expenses incurred related to approach road.
Building & Civil Works	8.74	9.73	0.99	Increase is due to common infrastructure is being built for entire 10 TPD capacity.
Plant & Machinery (AD, BUP and Compressor)	23.25	25.45	2.20	Increase is due to Insulation & cladding sheets installed around ADs, pump, etc.
Utilities & other FA	2.91	14.77	11.86	Increase is due to inclusion of common Infrastructure for the ultimate capacity of the Project (i.e. 10 TPD) such as Firefighting system, entire plant electricals, MCC, bagging unit, hot water generator and other misc. FA.
Dedicated bay in the Richha sub-station and 33kV transmission line for the 10 TPD capacity project	-	2.45	2.45	The project requires 24x7 power supply and CCPL is also exploring possibility of Green Open Access. Therefore, an investment of dedicated bay in Richha S/s and transmission line of 33kV is considered to support ultimate capacity of 10 TPD. This will provide uninterrupted power supply at a cheaper tariff (considering partial power procurement through renewable O/A).
Pre-ops	1.75	5.31	3.56	Increase is mainly due to inclusion of commissioning feedstock procurement & storage cost, commissioning electricity, commissioning BUP media, etc.
IDC	2.40	2.60	0.20	This also includes upfront fee/ loan processing charges paid.
Margin Money	0.20	0.56	0.36	Increase in MM is mainly due to WC assessment in TEV study was lesser than the actual requirement for 5 TPD capacity.
<b>Total Project Cost</b>	<b>40.40</b>	<b>62.77</b>	<b>22.37</b>	

*Sources of Funds for above expenditure:**(Rs. In Crores)*

Debt	24.00	24.00	-	
Equity	10.00	11.06	1.06	Additional Capex is incurred towards common infrastructure for the ultimate capacity of 10TPD and the same is being funded through promoter's unsecured loan at this moment.
USL from Promoter	6.40	27.71	21.31	
<b>Total sources of funds</b>	<b>40.40</b>	<b>62.77</b>	<b>22.37</b>	

*Proposed CAPEX for the ultimate capacity of the Project (i.e. 10 TPD)***10 TPD ultimate capacity of the Project (expected COD by Mar'25)***(Rs. In crores)*

	Estimated Project cost of ultimate Capacity (10 TPD)	Additional Capex to be incurred during Phase-II to achieve 10 TPD capacity	Remarks
Land	1.90	-	No Additional land is required to set-up additional ADs under Phase-II for 5 TPD.
Building & Civil Works	11.00	1.27	Expenses for Civil works to construct additional AD for another 5 TPD capacity of the project and feedstock yard.
Plant & Machinery	63.40	20.73	Expenses for P&M for additional AD required for another 5 TPD capacity of the project.
Pre-ops	5.31	-	No additional Pre-operative expenses required as the same shall be funded through Phase-I cashflows.
IDC	2.60	-	No additional IDC will be capitalized as Phase-I is already commissioned.
Margin Money	0.56	-	No additional MM for WC will be capitalized as Phase-I is already commissioned.
<b>Total Project Cost</b>	<b>84.77</b>	<b>22.00</b>	

**It is to be noted that only Rs. 22 Crore's additional expenditure is required to achieve 10 TPD Capacity from existing 5 TPD capacity of the project.**

### Proposed Rupee Term Loan Facility for Phase-II Project:

Debt: Equity structure for the ultimate capacity of the Project (10 TPD) and additional funding required under Phase-II project:

Sources of funding		D:E Ratio	Increase/ Decrease	Amount in Rs. Crore
				i.e. 70% of the total project cost of ultimate capacity of 10TPD.
Debt	59.34	70%	35.34	Term Loan will be utilized towards funding Phase-II project (~Rs. 22 Cr) and reimbursement to the Promoter for additional expenses incurred (USL) during Phase-1 towards development of the common infrastructure for ultimate capacity of 10 TPD (~Rs. 13 Cr.).
Equity	25.43	30%	14.37	Equity = 30% of the final project cost (10TPD) will be satisfied by converting Promoter's USL into Equity.
USL from Promoter	0		-27.71	After satisfaction of converting a part of USL into Equity, balance USL will be repaid to the Promoter by way of reimbursement from the Term Loan disbursement.
<b>Total</b>	<b>84.77</b>		<b>22.00</b>	

Thus, Rs. 35.34 Crore of Term Loan is requested under Phase-II Project of the Company with the same terms & conditions of the Term Loan Facility sanctioned by SBI for Phase-I Project. This shall be used toward the following:

- **Rs. 22.00 Crore: Phase-II CAPEX of Rs. 22 Cr.**
- **Rs. 13.34 Crore: Re-imburement to the Promoter for the expenses incurred in Phase-II already over and above equity requirement of 30%.**

*Proposal for Bank Guarantee and WC/ CC Limit requirement under Phase-II Project:*

<b>BG requirements of the Project:</b>	<i>For 10 TPD Capacity</i>	<i>limits sanctioned Apr'24</i>	<i>Addition al Limits requested</i>	<b>Remarks</b>
BG for submission to UP government to execute the Agreement (Rs. Crore)	1.6	1.6		The Company has secured UPNEDA approval for the Project (for ultimate capacity of 10 TPD). As the next milestone to execute a definitive agreement, CCPL need to submit a BG of Rs. 1.59 Crore (validity - 30 months). Necessary details in this respect are already submitted.
BG for availing 50% disbursement of Central Financial Assistance from MNRE, GoI (Rs. Crore)	4.2	2.1	2.1	The project (for ultimate capacity of 10TPD) is eligibility for Rs. 8.34 Cr. of Central Financial Assistance (CFA) under MNRE's Waste-to-Energy programme. As per the guidelines, subsequent to receipt of in-principal approval from MNRE against the application, 1st part of disbursement of 50% of eligible amount can be availed by submission of a BG of equivalent amount (with validity of 4 years). Please refer screenshots of relevant part of the Guidelines. Thus, we will need to submit a BG of Rs. 2.1 Cr. to MNRE for 1 <sup>st</sup> disbursement of CFA in respective phase. <b>In-principle sanction from MNRE for Phase-1 (5 TPD capacity) is received.</b>
<b>Total BG requirement</b>	<b>5.76</b>	<b>3.7</b>	<b>2.1</b>	
<b>WC requirement (Rs. Crore)</b>	<b>5.50</b>	<b>2.25</b>	<b>3.25</b>	

**To summarize following Facilities are requested from SBI to fund Phase-II project of the company:**

<b>Total Limits requirement</b>	Amount in Rs. Cr.
Term Loan	35.34
BG Limits	2.10
WC Limits	3.25
<b>Total</b>	<b>40.69</b>

### *Key highlights of the Project:*

- 1st CBG project registered with UPNEDA for development and operation of 10 TPD Capacity.
- In-principal Central Financial Assistance (CFA) approval received for from MNRE for Phase-I.
- Commercial operations started with the reputed stakeholders associated to the project viz. GAIL, HPCL, SBI, PlanET, Kirloskar and BGEI.
- Project is supplying CBG with a very high purity (i.e. more than 96% methane in the gas against 90% required under the agreement).
- Proposed CGD pipeline is only 65 meters away from the project site.

### *Opportunity to the existing lender for investment in Phase-II:*



- ✓ Out of total capacity of the Project of 10 TPD, 5 TPD is already commercially operational.
- ✓ Entire common infrastructure and equipment for 10 TPD capacity are installed and operational except the Anaerobic Digesters its related pretreatment plant. Thus, it can be low-hanging fruit to double the capacity of the project and reduce the project risk significantly for the Lender as well as for the developer.
- ✓ Entire team who implemented the project successfully is in place and motivated to achieve ultimate capacity of 10 TPD.
- ✓ The Company is spearheaded by a seasoned entrepreneur, Mr. Guru Inder Mohan Singh in the renewable energy business and understand the energy market dynamics closely. With his vision, the Company will achieve 100 TPD Capacity by year 2027.
- ✓ Being a sole lender, SBI's exposure to the project remained limited to Rs. 29.95 Cr. Whereas the total expenses incurred on the project is about Rs. 63 Cr.
- ✓ The Grant/ Subsidy offered by GoI and UP State Govt. is project capacity based and therefore by adding 5 TPD at the same project site, total available Subsidy will be increased to Rs. 15.8 Crore. Thus, the Lender will have additional security cover within few months from the date of project commissioning.
- ✓ Security on the project including all present & future movable & immovable assets is created and perfected in favour of SBI along with pledge of shares, personal guarantee of the Promoter (Mr. Guru Inder Mohan Singh). Further, a CGTMSE guarantee cover is also in place for Cash Credit & Bank Guarantee facilities.
- ✓ The Company has a track of timely complying with all necessary conditions stipulated in the Facility Agreements.

**Considering above, CCPL hereby submits a request-cum-proposal to SBI to fund Phase-II 5 TPD CBG Project at Baheri, Bareilly, U.P.**



## Annexure-1

## COMMISSIONING CERTIFICATE

MNRE "In-Principle" approval date:	06.06.2024
Project name:	Carbon Circle Private Limited (Phase-1)
Details of Plants commissioned:	SATAT BioCNG Project
Project commissioned by :	Carbon Circle Private Ltd.
Commissioning Date:	01.08.2024
Commissioning witnessed by: (Attach Photographs of the plant's commissioning)	 

This is to certify that the commissioning of the plant (Phase-I) with installed capacity of 5 TPD has been successfully carried out on 1<sup>st</sup> August 2024 by Carbon Circle Private Limited under supervision of Shri P. Anand Victor, DGM- Projects, HPCL, Bareilly as per specification, drawings with acceptable quality.

<b>Developer's Name:</b> Company name: Carbon Circle Private Limited contact name: Ashutosh Kumar Sinha title: SVP- Business contact information: ashutosh.sinha@carboncircle.in Signature & Stamp:  Date: 01/08/2024	<b>Commissioning Authority:</b> Agency name: HPCL contact name: P. Anand Victor title: DGM- Projects contact information: pvictor@hpcl.in Signature & Stamp:  Date: 01/08/2024
--	--

**Methane Purity in the Product Gas:**

Air purging 1:10		SP2
CH4	97.20	
[%]		
CO2	1.75	
[%]		
H2S	0.8	
[ppm]		
O2	0.40	
[%]		
Balance N2	0.7	
[%]		
Net cal. val.	47.0	
[MJ/kg]		
change phase	storage	extras

**Google Earth image of the Project site:**





CARBON CIRCLE

CARBON CIRCLE PVT. LTD

## Actual Project Site Image<sup>2</sup>



## CBG Sale started from 1st Aug'24:



<sup>2</sup> Dated 24-July-24.

**CBG from CCPL's Phase-I project is being sold under HP BioCNG Brand by HPCL at its Retail Outlets:**

