港華智慧能源有限公司
Towngas Smart Energy Company Limited

環保生活每一天
Go Green Every Day

Quality Creates Value

Towngas Smart Energy Sustainability-Linked Financing Framework

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Sustainability-Linked Financing Framework

1. Towngas Smart Energy Company Profile

Towngas Smart Energy Company Limited ("Towngas Smart Energy", the "Group" or the "Company") is a listed company on the Hong Kong Stock Exchange and a subsidiary of the Hong Kong and China Gas Company Limited. As a public utility enterprise, the Group's core businesses include the provision of piped gas, construction and operations of gas pipelines, operation of gas fuel[1] automobile refilling stations and sales of gas appliances. The Group has also been engaging in smart energy systems (including renewable energy generation), digitalized energy management services and carbon management services in the People's Republic of China ("PRC"). In particular, to be in line with the PRC's carbon peak and carbon neutrality goals, the Group has been promoting a "zero-carbon city" smart energy scheme based on the development of photovoltaic and energy storage projects and has been establishing extensive cooperation with sizeable energy companies in the PRC to build a smart energy ecosystem. In October 2021, the Group and Affinity Equity Partners jointly announced that the Affinity Asia Pacific Fund V will invest HKD 2.8 billion in the Group. The investment will strongly validate and attest the Group's transition to be a leading integrated clean energy provider, and provide core support to the roll-out of its distributed solar photovoltaics ("PV") as part of the smart energy solution. Meanwhile, the Group has changed the company name to "Towngas Smart Energy Company Limited" from "Towngas China Company Limited" to demonstrate its determination to become a leading integrated clean energy provider.

Towngas Smart Energy's Long-term Vision

Towngas Smart Energy strives to establish a solid platform to create long-term corporate and social values through pursuing sustainable development. The Group has been a constituent of the Hang Seng Corporate Sustainability Benchmark Index since 2011, reflecting the Group's stable operations and compliant governance while developing sustainable business and creating significant value for stakeholders. The Group's strategies are aligned with the United Nations' Sustainable Development Goals ("SDG") 7: Affordable and Clean Energy, 11: Sustainable Cities and Communities, and 13: Climate Action, which the Group considered the most pertinent to its businesses.

Towngas Smart Energy's long-term vision to create an integrated, sustainable and tangible smart energy business is built upon three core pillars: integration, digitalisation and decarbonisation.

- Integration: Towngas Smart Energy will offer solar energy to its commercial and industrial customers besides distributing natural gas. Solar energy will be integrated with its distributed energy system, power storage offering, microgrid management and live efficiency monitoring services
- Digitalisation: Towngas Smart Energy is expanding its digital capabilities through cloud computing technology, smart energy management systems, and partnerships with world-leading companies

[1] Compressed Natural Gas ("CNG") and some Liquefied Natural Gas ("LNG")

- Decarbonisation: Carbon is becoming an asset class in its own right and the Group will begin offering carbon auditing, asset management and trading capabilities for its commercial and industrial customers

Towngas Smart Energy's Transition Plan to be an Integrated Smart Energy Provider

A. Long-term Climate Commitment

Towngas Smart Energy has committed to reach carbon neutral in GHG emissions (Scope 1 & 2) by 2040. In 2021, the Group engaged a third-party consultant to commission a group-wide carbon audit and verification to identify potential GHG emission reduction opportunities. Recognizing that Scope 3 GHG emissions are relevant for the Group, despite limited guidance on defining Scope 3 parameters for the midstream and downstream sectors, the Group has already started the study to measure and collect the relevant data for its business in mainland China.

Over the past few years, Towngas Smart Energy strived to reduce its operational GHG emissions, through a wide range of efficiency improvement initiatives. Given that many of the energy efficient and GHG emission reduction measures have already been implemented, the strategy to further reduce Scope 1 and 2 GHG emission will focus more on increasingly advanced, creative and costly measures that go 'beyond business as usual'. In addition to further increasing the usage of renewable energy for its own business operations and replacing fleet vehicles with electric vehicles, Towngas Smart Energy will strive to implement innovative measures to cut down its absolute operational GHG emission.

In line with China's goal of striving to achieving carbon peak by 2030 and carbon neutrality by 2060, the Group will promote its investment into renewable energy projects, with focus on smart energy projects including solar photovoltaic, power storage and smart energy management projects. The growth in renewable energy business will outpace that of the city-gas business in the coming years.

B. Ambitious Distributed Photovoltaic Portfolio Development Plan

By actively supporting the transition from coal to gas in China, launching the distributed energy systems ("DES"), and now providing its clients with the choice of renewable energy, the Group strives to help its clients in their low carbon transition journey.

Towngas Smart Energy has formulated an ambitious distributed photovoltaic portfolio development plan, where the Group targets to reach 11 GW total distributed photovoltaic capacity by 2028. The 11 GW distributed photovoltaic portfolio construction plan is supported by an interim target of building 8 GW distributed photovoltaic portfolio by 2025.

The photovoltaic portfolio is expected to generate 4.2 million tons of carbon credits annually by 2025. In 2025, China's expected commercial & industrial ("C&I") distributed photovoltaic capacity is 120 GW. The Group would hence have approximately 6.7% market share based on its targeted total photovoltaic installed capacity of 8 GW by 2025. The Group's plan is to gradually increase the energy sales from solar in the Group's total energy sales. The initiative will help facilitate the Group's transition from a traditional natural gas distributor to a comprehensive smart energy provider and a distributed photovoltaic market leader.

C. Development of Zero-carbon Smart Industrial Parks

By 2025, the Group intends to invest in and operate 200 zero-carbon smart industrial parks under the five-year development plan. The newly built distributed photovoltaic power will be mainly used by the customers in the zero-carbon smart industrial parks. These zero-carbon industrial parks have the following general characteristics:

1. Runs on zero-carbon energy supply system
2. Purposed to promote the development and application of zero-carbon industries and technologies
3. Applies intelligent Internet of Things ("IoT") management systems

The Group has adopted a dual strategy focusing on both green smart energy development and smart energy cloud platform at its core to target the creation of a zero-carbon smart industrial park. Through source-grid-load-storage interaction and coordination as well as the in-depth synergy of energy production and consumption, Towngas Smart Energy has realized the decarbonisation and intelligentisation of the industrial park's energy supply and management to contribute towards the establishment of a green, low-carbon energy system.

The Group's zero-carbon smart industrial park is a 'smart energy + intelligent' integrated solution. The zero-carbon smart industrial park's smart energy platform targets the key challenges of carbon management and energy consumption assessment and supports the management, analysis, forecast and enhancement of smart energy source data to render a clear overview of carbon emissions and precise, efficient carbon management. Going forward, the platform will also expand with agility to offer applications in energy efficiency management, energy trading, carbon trading.

D. Readiness of Pipeline Network to Prevent Leakage and Blend in Lower Carbon Gases

Underground pipeline networks are critical arteries for city gas operations, crucial to the safe transmission of natural gas. The Group carried out underground pipe network transformation, replacing grey cast-iron pipes with anti-corrosion steel pipes and PE pipes with superior mechanical performance and corrosion resistance.

The gas distribution network of the Group is relatively new; and 99% of the Group's pipes in mainland China are using steel pipes and PE pipes, which has minimal leakage at relevant pressure level compared to other materials (over 90% less emission than cast-iron pipes). In addition, the Group is also working on minimizing gas venting during live gas operations and encourage the use of boil-off gas (evaporated vapor) from liquefied natural gas storage facilities for internal consumption and sending out to gas customers. The Group has also commissioned a group-wide project with local universities in Hong Kong to more precisely quantify underground pipeline leakages.

Pipes not meeting the requirements of current standards in terms of aspects, such as material quality, burial depth and spacing as well as those that are old or with potential risks, were modified on a timely basis. To address potential risks in the underground pipeline network related to elements such as moisture, corrosion and external damage, the Group made use of advanced equipment and monitoring technology to conduct regular pipeline inspections for timely elimination of potential threats in the pipeline network and effectively improve the reliability of pipeline network operation.

Leakage detection through "vehicle-canine partnership" is a new safety risk prevention measure taken by the Group. It pairs a laser gas leak detection vehicle with a gas sniffer dog to carry out rapid leak

detection. The laser gas leak detection vehicle system utilises the world's most advanced fourth-generation laser analysis technology, which is 1,000 times more sensitive than traditional detection equipment. It is capable of detecting a one part per billion ("ppb") change in the concentration of gas. Currently, the Group has carried out "vehicle-canine partnership" leak detection on approximately 320 km of pipelines in Jiangsu, Zhejiang, Anhui, Jiangxi, Southwest and South China. Compared with the traditional manual leak detection rate of three to five km per day, this method brings about a ten-fold increase in speed. This greatly improves the efficiency of leak detection while yielding more accurate detection results. It also covers a wider area and effectively improves the safety of the gas pipeline network operation.

Towngas Smart Energy is now studying the feasibility to blend up to 10% hydrogen[2] inside existing gas network, and currently 99% of its pipes in mainland China are already using steel pipes and PE pipes. The Group has a vast experience in handling hydrogen-blended gas piping systems. In particular, joint venture of Towngas Smart Energy in Foshan has been actively pushing forward hydrogen developments, through increasing investments on hydrogen production, storage, and transportation, and conducting pilot-tests on hydrogen compressors and solid-oxide-fuel-cell applications.

E. Development of Energy-Efficient Distributed Energy System

Towngas Smart Energy has invested a great deal of effort in exploring the distributed energy market in order to provide its industrial and commercial customers of all professions with more efficient energy services. As of the end of 2020, the Group has a total of 20 distributed energy systems ("DES") projects.

DES offers a decentralised energy supply for generating electricity as well as producing hot water, steam and chilled water using waste heat. The economies of scale available with DES have enabled us to extend these efficient, cost-saving systems into residential districts for space heating and industrial development zones for steam supply.

Governance and Risk Management System

The Group has established an ESG Committee, comprising the CEO and senior management, with the objective to integrate ESG principles into the Group's business and operations. The ESG Committee regularly reports directly to the Board of Directors.

In addition, the Group and its parent company commissioned a third-party consultant to conduct an assessment on the Group's business, with the purpose to understand and identify ESG risks, especially climate change related risks. Towngas Smart Energy is committed to building a robust risk management system to improve risk prevention capabilities in a comprehensive manner.

The Group has a multi-level risk management structure in place to establish relevant mechanisms for exercising authority, making decisions and implementing supervision. This enables effective identification, evaluation, mitigation, reporting and monitoring of various major risks faced by the Group and its project companies. Thus, the Group is able to formulate strategies and execute projects in a more prudent manner to achieve better business performance.

[2] Types of hydrogen will depend on the available types of hydrogen in the particular cities and regions. The Group intends to prioritize low-carbon hydrogen when feasible. With China's 2060 carbon neutrality goal, the Group is conducting feasibility research on the blending of the hydrogen in in natural gas pipeline so that the Group will be able to transmit hydrogen when it is readily available.

Towngas Smart Energy regards gas safety as its key responsibility. The Group adheres to Total Quality Management to implement safety management system, safety accountability framework and risk management audits (such as "ISO45001", "Safe Production Standardization Certification").

Sustainable Safety Culture

Safety is the cornerstone of business development. Ever since its foray into the mainland, Towngas Smart Energy has dedicated itself to introducing international standards for safe operation to the gas industry to create momentum for the development of mainland public utilities. The Group sees production safety as its priority, upholding innovation and implementing the philosophy of "the only way to do it is to do it safely" to maintain its industry-leading safety indicators while pursuing ever-greater excellence in safety performance.

A. Deepening Safety Management Practices

Towngas Smart Energy has always set "zero accidents" as its safety management goal. The Group continuously improves its production safety performance by establishing a sound safety responsibility structure and deepening safety management practices. In 2020, the Group invested over RMB 420 million in the improvement of technical safety measures, the renovation of dangerous and old facilities, the rectification of safety hazards, safety promotion and training as well as the purchase of protective equipment.

B. Safety and Risk Management Audit

Towngas Smart Energy put in place its current Safety and Risk Management Audit regime in 2006. Covering close to 1,000 audit items across 10 categories, namely occupational safety, fire safety, pipeline network safety, customer safety, production facility safety, crisis management, security management, transport safety and environmental protection, a comprehensive audit is done for all project companies every two years.

Supporting the Community

Over the years, Towngas Smart Energy has adhered to the philosophy of "benefitting society, contributing to the community", leveraging its own professional knowledge and corporate resource platforms to contribute to community construction according to the respective local situation. The Group seeks to bring "convenience, benefits and welfare" to the people, encouraging project companies and employees to participate in various forms of community welfare activities to enhance residents' well-being and facilitate community development.

A. Subsidizing Education

In order to improve the conditions of rural schools and to encourage students to excel, Towngas Smart Energy established the "Gentle Breeze Movement" charity brand in 2013 to coordinate the Group's various charitable and educational activities for standardization and economics of scale.

B. Targeted Poverty Alleviation

Based on the country's strategic idea of "targeted poverty alleviation", the government's target is to lift the rural poor out of poverty, relieving all poor counties from poverty and resolving overall regional poverty

by 2020. Towngas Smart Energy has actively responded to the national policies, providing support in poverty alleviation and infrastructure construction to help win the battle against poverty.

2. Scope of the Sustainability-Linked Financing Framework

Towngas Smart Energy has established this Sustainability-Linked Financing Framework ("Framework") as the basis for its potential issuance of Sustainability-Linked Bond ("SLBs") and Sustainability-Linked Loans ("SLLs"), collectively referred to as "SL Instruments".

This Framework aims to provide transparency about Towngas Smart Energy's SL Instruments to investors, lenders or other relevant stakeholders by highlighting the choice of core Sustainability Key Performance Indicators ("SKPIs") and the rationale on the target setting.

By linking its sustainability, particularly climate-related commitments to its financing, Towngas Smart Energy aims to demonstrate its recognition of its role in the much-needed energy transition in China, and its dedication to proactively address the business risks and opportunities brought by climate change as a leading market player in natural gas sector in China.

The Group may add or amend on the SKPIs and respective targets from time to time to reflect industry and market developments, and depending on the Group's evolving sustainability ambitions and progress on implementing its ESG strategy.

The SL Instruments issued by Towngas Smart Energy will be aligned to the core recommendations of the ICMA Sustainability-Linked Bond Principles[3] (the "SLBP") or the LSTA Sustainability-Linked Loan Principles[4] (the "SLLP"), whichever applicable.

3. Alignment with the Sustainability-Linked Bond and Sustainability-Linked Loan Principles

Towngas Smart Energy's SLBs or SLLs will be aligned to the SLBP or SLLP' five key pillars: Selection of Sustainability Key Performance Indicators; Calibration of Sustainability Performance Targets; Bond/ Loan Characteristics; Reporting and Verification.

3.1 Selection of Sustainability Key Performance Indicators

Towngas Smart Energy has selected the following two SKPIs which are core, relevant, and material to its business operations and to measure progress against its sustainability commitments. The Group believes that they are perfectly aligned with its low carbon energy transition goal which could be achieved by: (i) increasing the total photovoltaic installed capacity (SKPI 1) and; (ii) increasing solar energy sales to total energy sales ratio (SKPI 2).

One or more of the following SKPIs will be selected for each Towngas Smart Energy SLB or SLL issuance, as indicated in the relevant transaction documentation.

[3] https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2020/Sustainability-Linked-Bond-Principles-June-2020-171120.pdf

[4] https://www.lsta.org/content/sustainability-linked-loan-principles-sllp/

SKPI 1: Total Photovoltaic Installed Capacity

SKPI Definition:

Total photovoltaic installed capacity (expressed in GW), measured as the total amount of the power generation capacity of photovoltaics systems, owned by Towngas Smart Energy through its subsidiaries or joint ventures. The capacity is considered "Installed" once the power plants are in operation or the mechanical completion phase has been reached.

Intermediate and long-term goals:

Towngas Smart Energy is committed to reach 8 GW and 11 GW of total photovoltaic Installed capacity by 2025 and 2028 respectively.

Towngas Smart Energy's historical performance	2018	2019	2020
Total photovoltaic installed capacity (GW)	0	0	0

Strategy and rationale:

Towngas Smart Energy deeply understands its role to help its clients in their low carbon transition journey and provide them with cleaner energy supply, especially in renewable energy.

In 2025, China's expected commercial & industrial ("C&I") distributed photovoltaic capacity is 120 GW. The Group would hence have approximately 6.7% market share based on its targeted total photovoltaic installed capacity of 8 GW by 2025. The initiative will help facilitate the Group's transition from a traditional natural gas distributor to a comprehensive smart energy provider and a distributed photovoltaic market leader.

In addition to supplying more renewable energy to its customers, the Group is also studying and looking to provide more services, products and solutions to help its customer to switch to clean fuel (e.g. renewable energy) in the future.

SKPI 2: Solar Energy Sales to Total Energy Sales Ratio

SKPI Definition:

Ratio between solar energy sales sold by Towngas Smart Energy through its subsidiaries and total energy sales sold by Towngas Smart Energy through its subsidiaries (expressed as a percentage).

Gas energy sales are the actual gas sales in cubic meter (m3) sold by Towngas Smart Energy through its subsidiaries, converted to energy sales in terajoules (TJ).[5] Solar energy sales are the actual solar energy generation sold from Towngas Smart Energy in gigawatt hours (GWh), converted to energy sales in terajoules (TJ).[6]

[5] Conversion factor: 1 million gas sales in cubic meter (m3) = 35 gas energy sales in terajoules (TJ)
[6] Conversion factor: 1 solar energy generation sales in gigawatt hours (GWh) = 3.6 solar energy sales in terajoules (TJ)

Total energy sales include energy sales from solar and gas. Both solar energy sales and gas energy sales units will be measured in terajoules (TJ).

Towngas Smart Energy recognizes that a unit (TJ) of gas and unit (TJ) of electricity are not perfectly fungible, as they do not necessarily have the same utility to the end user. However, the intention of this SKPI is to measure and track the progress of the Company in transitioning to a more sustainable form of energy supply.

Intermediate and long-term goals:

Towngas Smart Energy is committed to gradually increase its solar energy sales to total energy sales.

Towngas Smart Energy's historical performance	2018	2019	2020
Solar energy sales to total energy sales ratio	0%	0%	0%

Strategy and rationale:

In line with China's carbon neutrality and renewable energy goal, Towngas Smart Energy plans to gradually increase the Group's renewable energy sales compared to traditional gas energy sales. In particular, the Group will focus on the expansion of solar energy sales with its cooperation with various zero-emission smart industrial parks.

This SKPI measures the results of Towngas Smart Energy's efforts to increase its solar energy sales compared to its traditional gas energy sales and acts as a result-based KPI to track its low-carbon energy transition progress towards that target.

3.2 Calibration of Sustainability Performance Targets ("SPTs")

The SPT(s) for any specific SLB or SLL will vary based on the maturity of the instrument but will be set in line with Towngas Smart Energy's roadmap to carbon neutrality outlined at the beginning of this Framework and the below parameters. The applicable SKPI(s), SPT(s) and related observation date(s) for a given SLB or SLL will be specified in the relevant documentation of the specific transaction (e.g. final terms of any SLB or any SLL).

<table>
<tr><td>SPTs for SKPI 1</td><td>Sustainability Performance Indicator: Total photovoltaic installed capacity (expressed in GW), measured as the total amount of the power generation capacity of photovoltaics systems, owned by Towngas Smart Energy through its subsidiaries or joint ventures

Sustainability Performance Target:
<table>
<tr><td>Year
(as of year-end)</td><td>2025</td><td>2028</td></tr>
<tr><td>SPT</td><td>8 GW</td><td>11 GW</td></tr>
</table>
2020 Baseline: 0 GW installed
Observation Date: December 31st, 2025, December 31st, 2028</td></tr>
</table>

<table>
<tr><td>SPTs for SKPI 2</td><td>Sustainability Key Performance Indicator: Solar energy sales to total energy sales ratio of Towngas Smart Energy through its subsidiaries (expressed as a percentage)
Sustainability Performance Target:<table><tr><td>Year
(as of year-end)</td><td>2025</td><td>2028</td></tr><tr><td>SPT</td><td>7%</td><td>8%</td></tr></table>2020 Baseline: 0%
Observation Date: December 31st ,2025, December 31st, 2028</td></tr>
</table>

3.3 Bond/ Loan Characteristics

The failure and/or achievement by Towngas Smart Energy to satisfy the predefined SPT(s), on the reference date(s), will trigger a coupon / margin step-up or step-down bringing to an increase or decrease in the coupon / margin applicable to coupon / margin periods following such reference date(s). The pricing adjustment mechanism will vary from SL Instrument to SL Instrument, and will be specified in the legal documentations of the SL Instrument, in the form of pricing supplement for SLBs, or loan agreement for SLLs.

The Group is committed to reviewing the targets and consider upward adjustment of such, in the case of over-achievement during the tenor of the instrument.

3.4 Reporting

<u>For SLBs:</u>

Following any SLB issuance, Towngas Smart Energy shall disclose its performance of the selected SKPI(s) in a dedicated section of its annual Environmental, Social and Governance report ("ESG Report"). Such report will be available on Towngas Smart Energy's website. The report shall include the following information:

- Up-to-date information on the performance of the selected SKPI(s), including the baseline and calculation methodology where relevant and available
- For the year(s) to assess the SPT performance leading to a potential adjustment of the SLB's financial characteristics, a verification assurance report confirming whether the performance of the SKPI(s) meet the relevant SPT(s) following the relevant target observation date(s)
- Any other relevant information enabling investors to monitor the progress of the SKPI(s)

<u>For SLLs:</u>

Reporting content will mirror the ones listed above for SLBs, it is expected that Towngas Smart Energy may disclose such information publicly depending on the agreement of the institutions participating in the SLL(s).

<u>Applied for both SLBs and SLLs:</u>

Shall there be any changes in the calculation methodology for the SKPI(s), Towngas Smart Energy will report the changes and rationale in the annual reporting.

3.5 Verification

Towngas Smart Energy's Sustainability-Linked Financing Framework has been reviewed by DNV which provided a Second Party Opinion on the alignment of the Framework with the SLBP and SLLP.

Towngas Smart Energy's annual ESG Report will contain a dedicated section with the values of the SKPIs of the year, and will be verified by an independent third party.

For the year(s) to assess the SPT performance leading to a potential adjustment of the SL Instruments' financial characteristics, Towngas Smart Energy will provide an additional transaction-based verification / assurance report confirming whether the performance of the SKPI(s) meet the relevant SPT(s) following the relevant target observation date(s).

For SLBs, all external review reports will be available on Towngas Smart Energy's website; for SLLs, the external review reports will be disclosed publicly depending on the agreement of the institutions participating in the SLL(s).