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SDG7 Energy Compact of Copenhagen Infrastructure Partners ("CIP")
A next Decade Action Agenda to advance SDG7 on sustainable energy for all, in line with the goals of the Paris Agreement on Climate Change

SECTION 1: AMBITION

1.1. Ambitions to achieve SDG7 by 2030. *[Please select all that apply, and make sure to state the baseline of each target]*
(Member States targets could be based on their NDCs, energy policies, national five-year plans etc. targets for companies/organizations could be based on their corporate strategy)

☒ **7.1.** By 2030, ensure universal access to affordable, reliable and modern energy services.	Yes
☒ **7.2.** By 2030, increase substantially the share of renewable energy in the global energy mix.	**Target(s):** Energy infrastructure provides services that allow people to be economically productive (e.g. electricity) and enables development through job creation and economic activity. Consequently, large scale investments in energy infrastructure will be instrumental in meeting the UN Sustainable Development Goals. It is well-established that during operations, the investments across CIP's funds in offshore and onshore wind, solar PV, biomass and waste-to-energy assets are expected to deliver critical energy to communities and directly contribute to lowering the global greenhouse gas emissions trajectory. Today, CIP manages eight funds and has approximately EUR 16 billion under management. With the ultimate ambition of mitigating climate change's global impact, CIP aims to raise at least EUR 130 billion by 2030, solely dedicated to investment into greenfield renewable energy infrastructure. This will increase the share of renewable energy in global energy significantly. **Time frame:** In April 2021, CIP reached the final close of its fund flagship fund CI IV at the EUR 7 billion hard cap, making it the largest dedicated greenfield renewable energy fund globally with expected total CAPEX in excess of EUR 14 billion. The fund was off to a strong start with final investment decision on three investment projects the first six months of the fund's investment period and with ownership to more than 15 renewable energy projects with a potential investment amount exceeding fund size. Approximately 1/3 of the fund has already been committed to investments and the fund is expected to become fully committed within 2-3 years. One June 2021, CIP reached EUR 800 million first close on its Energy Transition Fund (CI ETF I). With a target fund size of EUR 2.25 billion, it is expected to reach final close during H1 2022.

	Prior to this, CIP reached USD 1 billion final close on its New Markets Fund (CI NMF) on December 2019. The fund has several renewable energy projects in pipeline and is expected to be fully committed by end of 2023. **Context for the ambition(s):** Copenhagen Infrastructure Partners (**CIP**) is a fund management company dedicated to greenfield renewable energy infrastructure including offshore/onshore wind, solar PV, Power-to-X, and other renewable energy assets. Since inception in 2012, CIP has established itself as a pioneer and market leader within the energy transition with ~250 employees, eight funds and EUR ~16 billion under management from ~100 international institutional investors. CIP's recent fund, the Energy Transition Fund[1] (**CI ETF I**), is focused on decarbonizing hard to abate sectors with next generation Power-to-X infrastructure that provide a zero-carbon alternative to fossil fuels in sectors where electrification is difficult or impossible. Specifically, CI ETF I is developing a pipeline of Power-to-X (primarily green hydrogen or green ammonia) facilities totaling 4-5 GW of electrolyser capacity across Western Europe, Australia and other markets based on the initial seed portfolio of the Fund. This includes the production of hydrogen-based fuels and feedstock which can be used to displace the use of grey or blue hydrogen in industry, agriculture or heavy transportation. Such projects will additionally contribute positively to SDG7, as renewable powered Power-to-X facilities increase the global use of clean fuels.
☒ **7.3.** By 2030, double the global rate of improvement in energy efficiency.	Yes
☐ **7.a.** By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.	Target(s): Time frame: Context for the ambition(s):
☐ **7.b.** By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programs of support.	Target(s): Time frame: Context for the ambition(s):

1.2. Other ambitions in support of SDG7 by 2030 and net-zero emissions by 2050. ***[Please describe below e.g., coal phase out or reforming fossil fuel subsidies etc.]***

Target(s): Time frame: Context for the ambition(s):

[1] 1. Copenhagen Infrastructure Energy Transition Fund I K/S

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SECTION 2: ACTIONS TO ACHIEVE THE AMBITION

2.1. Please add at least one key action for each of the elaborated ambition(s) from section 1. *[Please add rows as needed].*

Project Høst, Denmark Project HØST in Esbjerg, Denmark will be Europe's largest production facility of CO2-free green ammonia. The project will be located in the town of Esbjerg on the west coast of Denmark, where the Power-to-X facility will convert power from offshore wind turbines to green ammonia. This will be used by the agriculture sector as CO2-free green fertilizer and by the shipping industry as CO2-free green fuel. The excess heat will be used to provide heating for around one third of the local households in Esbjerg. The facility will consist of 1GW electrolysis. Ultimately, this is expected to produce 600,000 tpa of green ammonia and reduce CO2-emissions by about 1.5 million tons CO2 yearly – or the equivalent to removing 730,000 cars from the roads permanently. In support of the project vision, partnerships have been made with global market leaders within the agriculture and shipping industries.	▪ Development is already underway ▪ Final investment decision is expected in Q1 2023 ▪ Commercial operation is expected in 2026-2027
Murchison PtX project, Australia Murchison is a large-scale power-to-green ammonia project proposed to be located in Western Australia. The project will be located close to Kalbarri, Western Australia on 120,000 hectares of land. The project infrastructure will include in excess of 5GW of renewable power generation via a combination of onshore wind and solar of up to 5 GW. Power from the renewable generation capacity will be converted first to green hydrogen via 3 GW of electrolyzers, and then to green ammonia via an ammonia plant, with the potential to reduce 4.5m tonnes of CO2-emissions annually, relative to current technology. The plant will produce ~1.7m tonnes of green ammonia annually and is well-located for export of ammonia to Japan and Korea, where there is a strong demand to decarbonize hard to abate industries (e.g. co-firing existing coal plants). Opportunities to decarbonize the steel, agriculture and shipping industries are also likely.	▪ Development is already underway ▪ Final investment decision and start of construction is expected in 2025 ▪ Commercial operation is expected in 2029
Wind Island project, Denmark The world's first energy island in the Danish part of the North Sea offers a unique opportunity to demonstrate green hydrogen production at large scale offshore using electrolysis based on offshore wind. The energy island will host up to 10GW of offshore wind, a part of which could be used for hydrogen production on the island and then shipped or piped to offtakers onshore. This will allow a cost-efficient way of producing green hydrogen compared with onshore production: the cost of transporting hydrogen over long distances is only a fraction of the cost of transporting electricity. In other words: power transmission lines are much more expensive per unit of energy transported than hydrogen pipelines. Some estimates indicate a saving on the unit cost of offshore hydrogen production of up to 20% compared with onshore hydrogen production (based on the same offshore wind resource). The demonstration of large-scale offshore hydrogen production at the Danish energy island could have a global impact since the scale and cost effectiveness could make such facilities attractive in many markets across the North Sea and beyond. There is already an emerging interest in several Asian markets for energy islands and large-scale offshore hydrogen production. Besides the cost effectiveness, such facilities also feature other advantages, such as a lower visual impact in coastal areas, less disturbance of other activities and the potential of creating more biodiversity in the form of new artificial reefs. Beyond the cross-cutting challenges (e.g. related to overall political framework conditions, power transmission tariffs, commercialization of the electrolysis process), there are some specific challenges related to large scale offshore hydrogen production on energy islands: 1) Timeline: the process for tendering out the Danish energy island will decide how fast hydrogen production can be demonstrated on the island – hence speed is of essence in these processes, including a parallel tender for the offshore wind hosted by the island; 2) Island specific regulatory frameworks – e.g. clarity needed on bidding zone, island tariff regime etc.;	▪ Development is already underway ▪ Final investment decision and start of construction is expected in 2025 ▪ Commercial operation is expected in 2030

3) Island to shore infrastructure – frameworks for establishing hydrogen pipelines from the island will be required, including the possibility to establish private pipelines; 4) Private wires from offshore wind to island – this could help fast track the built out of both offshore wind around the island and hydrogen production on the island.	

SECTION 3: OUTCOMES

3.1. Please add at least one measurable and time-based outcome for **each** of the actions from section 2. *[Please add rows as needed].*

Outcome	*Date*
Esbjerg PtX project, Denmark	*Start of construction expected in 2023* *Start of commercial operations expected in 2026-7*
Murchison PtX project, Australia	*Start of construction expected in 2025* *Start of commercial operations expected in 2029*
Wind Island project, Denmark	*Start of construction expected in 2025* *Start of commercial operations expected in 2030*

SECTION 4: REQUIRED RESOURCES AND SUPPORT

4.1. Please specify required finance and investments for **each** of the actions in section 2.

***Esbjerg PtX project, Denmark**:* total project cost is expected to be in the vicinity of EUR 1bn.
***Murchison PtX project, Australia*:** total project cost is expected to be in the vicinity of USD 9bn.
Wind Island project, Denmark: total project cost is expected to be in the vicinity of EUR 25-30 bn. (o/w island construction is expected around EUR 1.5bn)

4.2. [For countries only] In case support is required for the actions in section 2, please select from below and describe the required support and specify for which action.

[Examples of support for Member States could include: Access to low-cost affordable debt through strategic de-risking instruments, capacity building in data collection; development of integrated energy plans and energy transition pathways; technical assistance, etc.]

☐ Financing	*Description*
☐ In-Kind contribution	*Description*
☐ Technical Support	*Description*
☐ Other/Please specify	*Description*

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SECTION 5: IMPACT

5.1. Countries planned for implementation including number of people potentially impacted.

Esbjerg PtX project, Denmark: The project is expected to generate approx. 200 jobs during operations, and approx. 300-500 during construction. In addition, one third of the local households in Esbjerg will receive heating from the plant's excess heat.
Murchison PtX project, Australia: Present estimates for employment expectations for the project at the construction stage are anticipated to be in the order of approximately ~ 1,000 – 1,250+ jobs during construction, and 250-300 jobs during operations. The project is located in a remote part of Australia. Socio-economic impacts are expected to be limited (or positive in terms of job creation and community contributions), and any environmental impacts mitigated in line with local law requirements.
Wind Island project, Denmark At this stage of development, the likely employment figures and socio-economic impact have not yet been determined.

5.2. Alignment with the 2030 Agenda for Sustainable Development – Please describe how **each** of the actions from section 2 impact advancing the SDGs by 2030.
[up to 500 words, please upload supporting strategy documents as needed]

CIP's development of and investment in green hydrogen / ammonia projects contributes to the achievement of SDG7: affordable and clean energy by enabling institutional investors to participate in the decarbonization of difficult to abate industries such as shipping, steel production, and agriculture through the use of green fuels and feedstock. The projects under development by CI ETF will provide a zero-carbon alternative to fossil fuels in sectors where electrification is difficult or impossible, and supporting the further integration of renewable power generation in the energy mix through grid balancing.

5.3. Alignment with Paris Agreement and net-zero by 2050 - Please describe how **each** of the actions from section 2 align with the Paris Agreement and national NDCs (if applicable) and support the net-zero emissions by 2050.
[up to 500 words, please upload supporting strategy documents as needed]

The Paris Agreement sets a target to keep global temperature increases below 2 degrees Celsius within this century. This is supported by various nationally determined contributions (NDCs), including Denmark's legally binding target to reduce Danish GHG emissions by 70% before 2030 and climate neutrality by 2050. Green hydrogen and ammonia, such as that produced by Høst, Murchison and Wind Island, will contribute to the reduction of global GHG emissions and climate neutrality in the offtake country, e.g. renewable electricity generated and converted to green ammonia in Australia will reduce GHG emissions in Korea and Japan where the green ammonia is expected to co-fire coal power stations in those countries.

SECTION 6: MONITORING AND REPORTING

6.1. Please describe how you intend to track the progress of the proposed outcomes in section 3. Please also describe if you intend to use other existing reporting frameworks to track progress on the proposed outcomes.

Project progression to targets is tracked at both fund and project level. At fund level, investors and fund management are kept informed on the performance of all development, construction and operational investments throughout the year via a high degree of reporting. At a project level, progress is closely monitored via strong governance structures deployed across all CIP projects. This includes monthly SteerCo meetings and Board meetings on a quarterly basis, as well as oversight via a Project Director appointed by CIP.

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SECTION 7: GUIDING PRINCIPLES CHECKLIST

Please use the checklist below to validate that the proposed Energy Compact is aligned with the guiding principles.

I. Stepping up ambition and accelerating action - Increase contribution of and accelerate the implementation of the SDG7 targets in support of the 2030 Agenda for Sustainable Development for Paris Agreement

I. 1. Does the Energy Compact strengthen and/or add a target, commitment, policy, action related to SDG7 and its linkages to the other SDGs that results in a higher cumulative impact compared to existing frameworks?

☐Yes ☐No

I.2. Does the Energy Compact increase the geographical and/or sectoral coverage of SDG7 related efforts? ☒Yes ☐No

I.3. Does the Energy Compact consider inclusion of key priority issues towards achieving SDG7 by 2030 and the net-zero emission goal of the Paris Agreement by 2050 - as defied by latest global analysis and data including the outcome of the Technical Working Groups? ☐Yes ☐No

II. Alignment with the 2030 agenda on Sustainable Development Goals – Ensure coherence and alignment with SDG implementation plans and strategies by 2030 as well as national development plans and priorities.

II.1. Has the Energy Compact considered enabling actions of SDG7 to reach the other sustainable development goals by 2030? ☒Yes ☐No

II.2. Does the Energy Compact align with national, sectoral, and/or sub-national sustainable development strategies/plans, including SDG implementation plans/roadmaps? ☒Yes ☐No

II.3. Has the Energy Compact considered a timeframe in line with the Decade of Action? ☒Yes ☐No

III. Alignment with Paris Agreement and net-zero by 2050 - Ensure coherence and alignment with the Nationally Determined Contributions, long term net zero emission strategies.

III.1. Has the Energy Compact considered a timeframe in line with the net-zero goal of the Paris Agreement by 2050? ☒Yes ☐No

III.2. Has the Energy Compact considered energy-related targets and information in the updated/enhanced NDCs? ☒Yes ☐No

III.3. Has the Energy Compact considered alignment with reaching the net-zero emissions goal set by many countries by 2050? ☒Yes ☐No

IV. Leaving no one behind, strengthening inclusion, interlinkages, and synergies - Enabling the achievement of SDGs and just transition by reflecting interlinkages with other SDGs.

IV.1. Does the Energy Compact include socio-economic impacts of measures being considered? ☒Yes ☐No

IV.2. Does the Energy Compact identify steps towards an inclusive, just energy transition? ☐Yes ☒No

IV.3. Does the Energy Compact consider measures that address the needs of the most vulnerable groups (e.g. those impacted the most by energy transitions, lack of energy access)? ☐Yes ☒No

V. Feasibility and Robustness - Commitments and measures are technically sound, feasible, and verifiable based a set of objectives with specific performance indicators, baselines, targets and data sources as needed.

V.1. Is the information included in the Energy Compact based on updated quality data and sectoral assessments, with clear and transparent methodologies related to the proposed measures? ☒Yes ☐No

V.2. Has the Energy Compact considered inclusion of a set of SMART (specific, measurable, achievable, resource-based and time based) objectives? ☒Yes ☐No

V.3. Has the Energy Compact considered issues related to means of implementation to ensure feasibility of measures proposed (e.g. cost and financing strategy, technical assistant needs and partnerships, policy and regulatory gaps, data and technology)? ☒Yes ☐No

SECTION 8: ENERGY COMPACT GENERAL INFORMATION

8.1. Title/name of the Energy Compact

Energy Compact – CIP

8.2. Lead entity name (for joint Energy Compacts please list all parties and include, in parenthesis, its entity type, using entity type from below)

Copenhagen Infrastructure Partners

8.3. Lead entity type

☐ Government ☐ Local/Regional Government ☐ Multilateral body /Intergovernmental Organization

☐ Non-Governmental Organization (NGO) ☐ Civil Society organization/Youth ☐ Academic Institution /Scientific Community

☒ Private Sector ☐ Philanthropic Organization ☐ Other relevant actor

8.4. Contact Information

Communication Officer - Julie Drewes – jdr@cip.dk

8.5. Please select the geographical coverage of the Energy Compact

☐ Africa ☒ Asia and Pacific ☒ Europe ☐ Latin America and Caribbean ☐ North America ☐ West Asia ☐ Global

8.6. Please select the Energy Compact thematic focus area(s)

☐ Energy Access ☒ Energy Transition ☐ Enabling SDGs through inclusive just Energy Transitions ☐ Innovation, Technology and Data ☒ Finance and Investment.

SECTION 9: ADDITIONAL INFORMATION (IF REQUIRED)

Please provide additional website link(s) on your Energy Compact, which may contain relevant key documents, photos, short video clips etc.