Partnerships for Transformation ~ Reflections from Oil and Gas

Worldsteel's Open Forum

October 2022
Agenda

1. Introduction to OGCI


3. Collaboration through Investment: With some examples including Boston Metal
The Oil and Gas Climate Initiative aims to accelerate the O&G industry response to climate change

OGCI aims to be the change agent, the catalyst to accelerate the industry transformation and accelerate its capacity to provide tangible, transparent and integrated contributions to climate change solutions.

THE INITIATIVE: LOWER CARBON VIA COLLECTIVE ACTION & PARTNERSHIPS

- CEO-led
- Voluntary
- Ambitious
- Additional
- Action oriented

Our Member Companies

PARIS2015 COP21-CMP11

CLIMATE INVESTMENTS: LOWER CARBON VIA INVESTMENTS

INVEST in innovative low carbon technologies and solutions

SUPPORT our portfolio companies with access to customers and deployment

COLLABORATE with OGCI members and other stakeholders to gain speed and global reach
OGCI renewed its strategy to help accelerate the energy transition through deep emissions reductions

The three pillars of the new OGCI strategy seeking collective impacts at scale in core areas.

1. **Getting to Net Zero Operations**
   - Methane, flaring, carbon intensity, reporting & overall transparency around short & long term progress (Scope 1 & 2).
   - Focus on operated & NOJVs.
   - \(~ 1 \text{ GTCO}_2\text{e/y}\)

2. **Influence the entire O&G industry towards Net Zero Operations**
   - Proactively engage rest of the industry to joint the net zero aspiration and journey: leadership, practices, data and support.
   - \(~ 3 \text{ GTCO}_2\text{e/y}\)

3. **Help society decarbonize faster through cooperation and solutions**
   - Collaborative efforts in key areas where OGCI can make a unique contribution at scale, leveraging also CI solutions: Partnerships, Technologies; Implementations, CCUS, Hydrogen, key sectors and removals.
   - \(~ \text{share of } 16 \text{ GTCO}_2\text{e}\)
What is the Aiming for Zero Methane Emissions Initiative?

The Aiming for Zero initiative establishes an all-in approach that treats methane emissions as seriously as the oil and gas industry already treats safety.

• It is a tangible, ambitious effort to eliminate the industry’s methane footprint by 2030.

• **Size of the prize:** 4 Gt CO2e / year

• **Global Methane Pledge:** 122 governments signed up
Why do we need another methane initiative?

Methane is responsible for around 30% of global warming.

- Reducing methane emissions from oil and gas operations is one of the best short-term opportunities to advance the goals of the Paris Agreement.
- Collectively, the industry can make a big difference.
- Aiming for Zero complements key initiatives such as the Methane Guiding Principles, the Oil and Gas Methane Partnership 2.0 and the Global Methane Alliance.

How stakeholders reacted:

Mark Brownstein
@MarkSBrownstein

With the twin crises of climate and energy security bearing down on all of us, it’s long past time for the oil and gas industry to embrace a zero tolerance approach to its methane problem. The @OGClnews announcement today points in the right direction.

“This is a positive initiative from OGCI. Next, we need to quickly see measurable signs of movement towards this goal. And I hope this can soon be turned into a new industry-wide benchmark.”

Tim Gould,
Chief Energy Economist, IEA

“I am very pleased to know that all the 12 OGCI member company Chief Executive Officers are signatories, and that you are working actively to engage non-OGCI companies. Congratulations for your leadership.”

Patricia Espinosa,
UN Climate Change Secretariat

Major oil companies aim for zero methane emission by 2030

Reuters
Close to 60 companies and organisations have joined the Initiative to date

Source: Aiming for Zero Methane Emissions Initiative (2022)
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Climate Investments ~ A $1b Fund Focussed on GHG reduction in intensives sectors

Global GHG Emissions by end-use sector and OGCI CI’s focus areas

- Energy Production, including oil & gas (12%)
- Industry (34%)
- Transport (15%)
- Buildings (16%)
- Agriculture, forestry and other land use

Reduce methane emissions in oil and gas and industrial sectors
Reduce carbon dioxide emissions in energy, industry, commercial transport and commercial buildings
Recycle and store carbon dioxide (CCUS) in energy & industrial sectors

Source: IPCC Sixth Assessment Report 2022

CLIMATE INVESTMENTS ($1B+)

CI internal data.
Reducing methane emissions

DETECT, MEASURE, MITIGATE
Reducing CO₂ emissions
TRANSPORT, BUILDINGS, INDUSTRY*

*steel, concrete, chemicals
Recycling CO₂ emissions (CCUS)

Capture, Utilize, Store

- CO₂
- Starwood Energy Elysian Ventures Carbon Capture Projects
- Enhanced Oil Recovery
- Chemicals
- Concrete
- Svante
- KeyState
- Storage
- Net Zero Teesside
- WR Resources
- NEXT DECADE
- Solidia
- Utilization
- Capture
The Northern Endurance Partnership (NEP), a partnership between BP (operator), National Grid, Equinor, Shell and Total, is working to deliver the UK’s East Coast Cluster. Storing CO₂ captured from projects in Teesside and Humberside, NEP has the potential to develop up to a billion barrels of CO₂ storage capacity.

Potential impact by 2030: Target 6MtCO₂ plus of industrial emissions per year by 2030, with potential to grow to 27MtCO₂ over the following decade.

Current status: In November HMG announced selection of the East Coast Cluster (Net Zero Teesside and ZEROCARBON Humber, both serviced by the Northern Endurance Partnership as CO₂ storer) as one of the UK’s Track-1 Clusters, along with HyNet.

Potential emitters: Gas power (including NZT Power), hydrogen, biomass power, fertilizers, petro-chemicals, CO₂ imports

OGCI’s role: The OGCI CI has now completed project transfer to the partner group. The OGCI played a key role in:
• Developing NZT Power and NEP as an anchor project with collective pipeline and storage
• Working with UK government on policies to create investable business models
• Engaging with other emitters and sharing knowledge with other hubs
Boston Metal: Zero CO₂ emission primary steel production

Boston Metal Technology

• Molten Oxide Electrolysis (MOE) technology **fully decarbonizes** primary steel production.

• MOE competes with traditional method cost; **eliminates need** for coke, iron ore processing, blast furnace reduction and basic oxygen furnace refinement.

• MOE **enables use of low and mid-grade iron ore fines**

Modular Solution

• Boston Metal to deliver commercial plant deployments in 2023 (ferroalloy production).

• Demonstration plant deployment by 2025 (steel production).

• Modular solution allows design for production targets and allows future scale-up.