1PointFive awards Worley FEED contract for direct air capture project

1PointFive Inc. (1PointFive) has awarded Worley a front end engineering design (FEED) contract for its first direct air capture (DAC) unit for its DAC facility to be constructed in the U.S. Permian Basin. 1PointFive is a joint venture between Oxy Low Carbon Ventures (a subsidiary of Occidental Petroleum Corporation) and Rusheen Capital.

The DAC facility will be the first commercial-scale development using Carbon Engineering Ltd’s DAC technology. The technology involves the removal of carbon dioxide (CO₂) directly from the atmosphere. Each DAC unit has an expected design capacity to extract 1 million metric tons of atmospheric CO₂ annually.

Upon completion of the FEED, 1PointFive and Worley expect to form an alliance and move into the engineering, procurement and construction phase for DAC 1 with plans for DACs 2 to 4 to follow. The FEED services will be led by Worley’s Houston office, with support from Worley’s Global Integrated Delivery team in India.

“We are delighted to have been awarded the FEED contract and we are looking forward to forming the alliance with 1PointFive. This direct air capture project is a starting point for the deployment of commercial-scale DAC to help companies meet CO₂ emission reduction targets and aligns with Worley’s strategic focus of delivering a more sustainable world”, said Chris Ashton, Chief Executive Officer of Worley.

Authorized for release by Nuala O’Leary, Group Company Secretary.

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About Worley: Worley is a global company headquartered in Australia and our purpose is delivering a more sustainable world. Worley is a leading global provider of professional project and asset services in the energy, chemicals and resources sectors. As a knowledge-based service provider, we use our knowledge and capabilities to support our customers to reduce their emissions and move towards a low carbon future.

Worley Limited is listed on the Australian Securities Exchange (ASX: WOR).
Immediate and significant deployment of CO₂ removal infrastructure is needed to limit global warming to 1.5°C.

All pathways that limit global warming to 1.5°C project the use of carbon dioxide removal (CDR) in the order of 100-1000 gigatonnes of CO₂ over the 21st century. CDR would be used to compensate for residual emissions and, in most cases, achieve net-negative emissions to return global warming to 1.5°C following a peak.

Intergovernmental Panel on Climate Change (IPCC)

“It is forecast that the carbon removal industry will grow to the size of today’s oil & gas industry by 2050”

Swiss Re

IPCC: net-zero emissions required by 2050 to limit global warming to 1.5°C

~50% of CO₂ reduction needs to come from the atmosphere

Emissions abatement

Atmospheric CO₂ removal required to achieve Net Zero by 2050

1.5°C target

DAC+S: Direct Air Capture + Sequestration

BECCS: Bioenergy with Carbon Capture and Storage
**DAC+ sequestration – a technical solution for carbon removal**

**Driving towards stabilizing the climate**

**Direct Air Capture (DAC)**

- CO₂ in the atmosphere is very dilute, so direct air capture processes must contact large volumes of air cost-effectively.
- DAC uses large fans to pull ambient air through contactors where CO₂ binds to a liquid sorbent, which is further processed to precipitate the CO₂ as a solid.
- When heated, the solid state releases pure CO₂ that is then captured, compressed into a liquid, and sequestered by injection into a geologic formation.

**Benefits of DAC+Sequestration (DAC+S)**

- Geological sequestration storage.
- Mechanical/chemical DAC process for capturing CO₂ works faster than natural processes.
- DAC+S is scalable, with few location restrictions and land-use efficiency.
- Through progressive commercialization, industrial scale DAC+S facilities are expected to become more cost effective.

**How DAC+S works**

[Diagram showing the process of DAC and sequestration.]