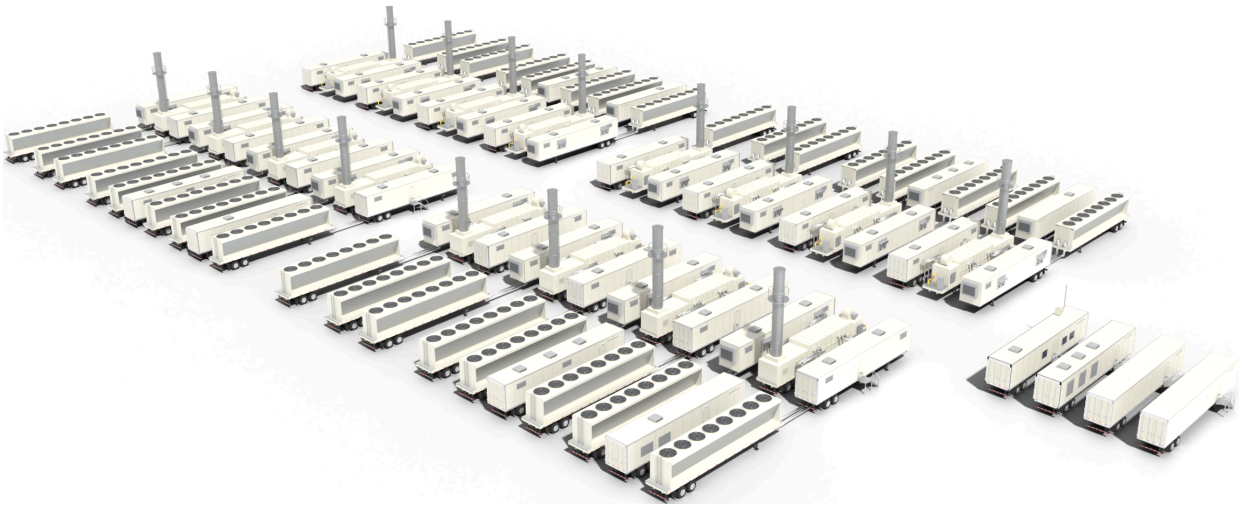
Infinity Turbine LLC Since 2008

NEW DATA CENTER PRIME POWER, ON WHEELS

SuperCO2 Mobile 30 MW Prime Power

The SuperCO2 30 MW natural gas plant, delivered on 92 standard 53 ft over-the-road trailers. 800 VDC to the racks. No water. No gas turbine queue.

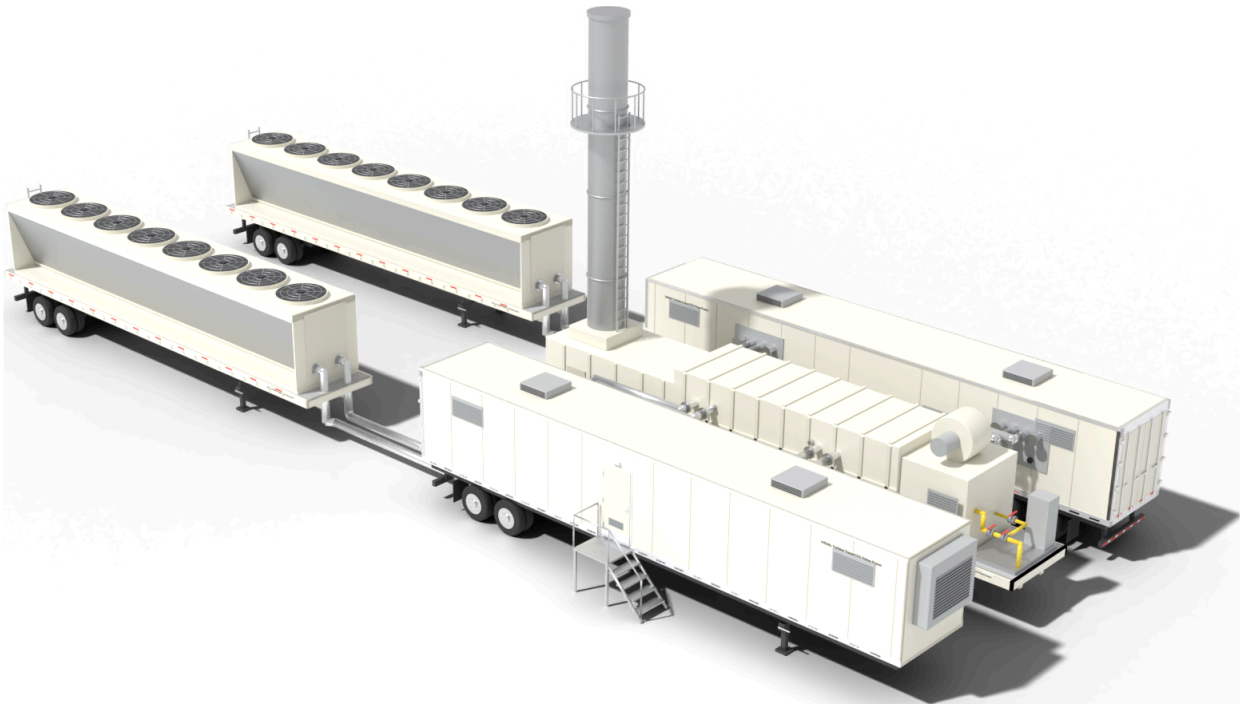


30.5 MW	40.5%	92	0
net at 800 VDC	fuel to DC, modelled (LHV)	53 ft trailers	water · N+4 redundant

WHY MOBILE

Power that travels like freight

Every part of the plant rides on a 53 ft trailer that any tractor and any CDL driver can move. No oversize loads, no heavy-lift cranes, no foundations. The mobile plant uses the same 64 HX-500 sCO_2 modules and 800 VDC power train as the fixed SuperCO2 30 MW plant. Only the packaging changes: insulated 53 ft trailers replace the 40 ft shipping containers.



One 2 MW power block: a fired-heater flatbed between two enclosed power trailers, with a dry-cooler flatbed behind each.

Where it fits

- Bridge power while the utility connection is built, then move to the next campus
- Remote or stranded gas sites with no water
- Phased build-out: one block, one pod, or all four pods
- Emergency and temporary capacity for AI training clusters

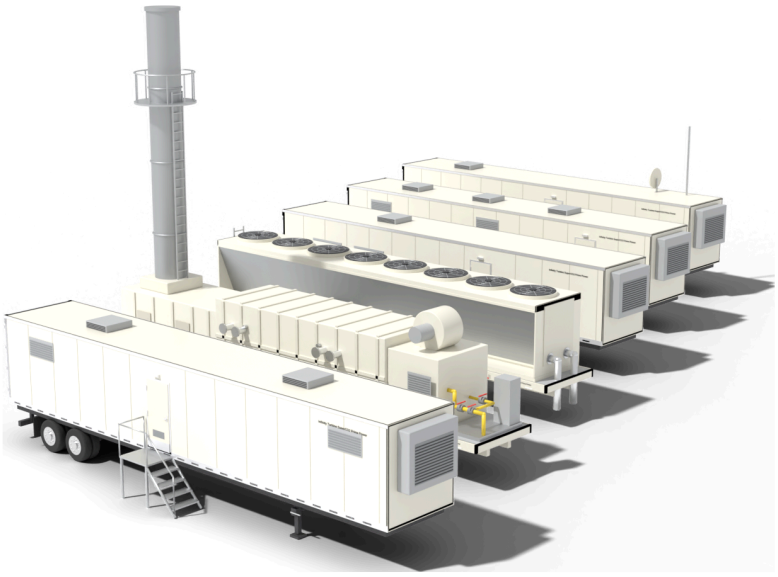
What the trailers add

- Insulated bodies keep modules and electronics clean, dry and quiet in any season
- Every trailer is a standard part: a damaged unit is swapped, not rebuilt
- Off-white bodies with small black *Infinity Turbine SuperCO2 Prime Power* lettering
- End doors for module exchange plus a side man-door for daily access

THE FLEET

92 trailers, eight kinds

Heaters and dry coolers ride open on flatbeds, where they get the airflow they need. Power modules and electrical gear ride in enclosed, insulated trailers.

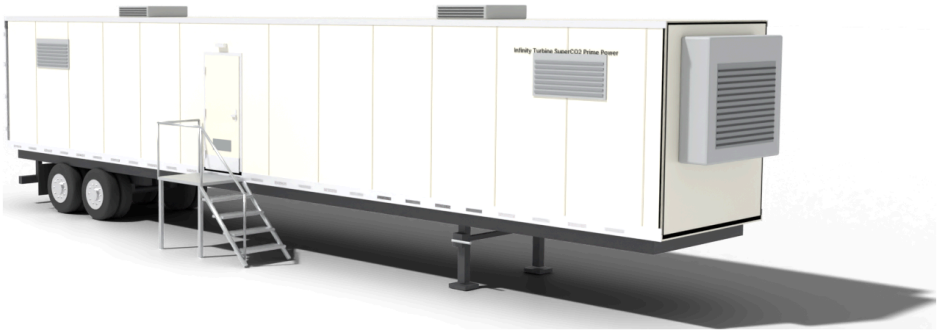


From front: power trailer, fired-heater flatbed, dry-cooler flatbed, DC bus trailer, battery trailer, control trailer.

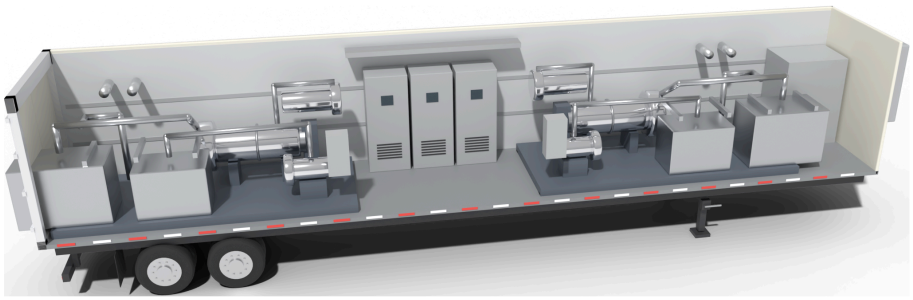
TRAILER	TYPE	QTY	WHAT IT CARRIES
Power trailer	Enclosed, insulated	32	Two HX-500 sCO_2 modules (534 kW gross each), two 550 kW SiC rectifiers, 800 VDC breaker, ventilation, controls
Fired-heater flatbed	Flatbed	16	5.0 MW low-NOx burner, radiant and convection coils with reheat, air preheater, SCR, hinged stack; feeds 4 modules
Dry-cooler flatbed	Flatbed	32	V-bank CO_2 dry cooler with eight fans; one per power trailer
DC bus trailer	Enclosed, insulated	4	Pod 800 VDC switchgear, solid-state DC breakers, feeders
Battery trailer	Enclosed, insulated	4	2 MWh pod bus battery for AI load steps
Control trailer	Enclosed, insulated	1	Control room, fleet dispatch, remote monitoring
Fuel gas trailer	Enclosed, insulated	1	Metering, filtration, pressure regulation, shut-off
CO_2 and spares trailers	Enclosed, insulated	2	CO_2 inventory and fill system; spare parts and tools
Total	**44 enclosed · 48 flatbed**	**92**	**30.5 MW net at 800 VDC**

POWER TRAILER

Two HX-500 modules in a 53 ft insulated body



Each power trailer carries two HX-500 recompression Brayton modules on roll-out rails, with a service bay between them. The bay holds the two SiC rectifiers and the 800 VDC breaker, and it opens to the side man-door.



Cutaway: two HX-500 modules (recuperators, turbine-generator, compressor spools) with the rectifier bay between them.

- Insulated 53 ft body, 102 in wide, 13 ft 6 in travel height
- Rear swing doors for module exchange
- Side man-door with galvanized stair and landing
- Front ventilation unit, roof vents and side louvers
- Flanged CO_2 and DC connection panels on the heater side
- Two 550 kW SiC rectifiers, 98.5%, no transformer

HEAT IN, HEAT OUT

Fired heaters and dry coolers ride open

Combustion and heat rejection need air, so both ride on flatbeds. Combustion gas never touches the CO_2: the burner heats sealed coils, and the closed CO_2 loop rejects its heat through air-cooled dry coolers.



Fired-heater flatbed with the stack raised. The stack hinges down for travel.



Dry-cooler flatbed: V-bank CO_2 coil with eight fans, 13 ft 4 in high.

5.0 MW low-NOx burner

Staged fuel on 485 °C preheated air. ≤ 9 ppm NOx at the burner, ≤ 2.5 ppm after the SCR.

650 °C coils with reheat

Radiant and convection coils heat CO_2 to 650 °C at 275 bar, with reheat before the power turbine.

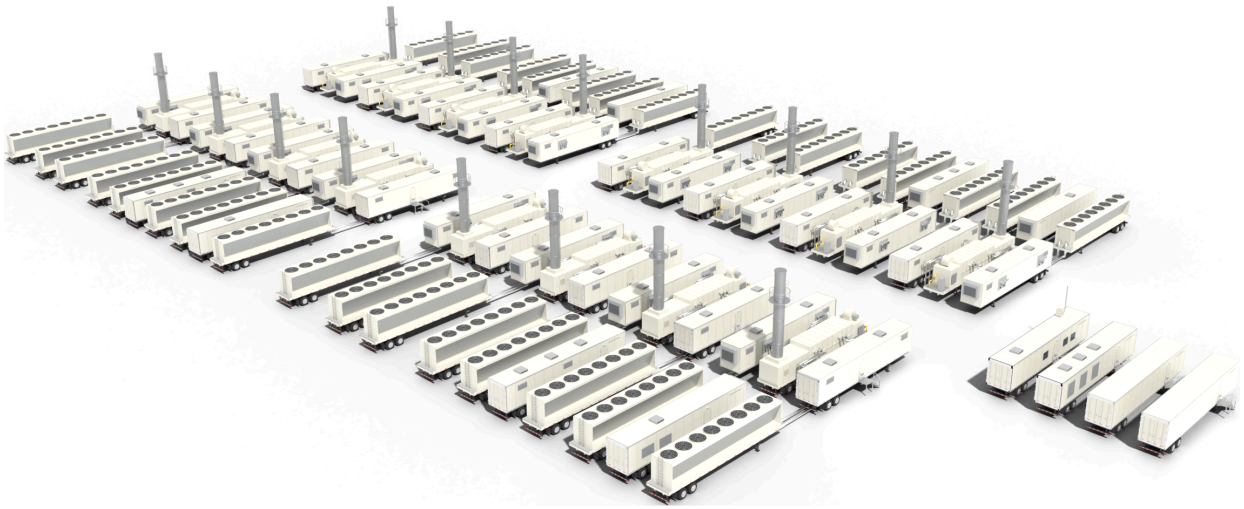
Water-free cooling

One dry-cooler flatbed per power trailer. Adiabatic pre-cooling is an option for hot sites.

SITE AND DEPLOYMENT

Four pods on about three acres

A pod is four power blocks: 8 power trailers, 4 heater flatbeds, 8 dry-cooler flatbeds, a DC bus trailer and a battery trailer, about 7.6 MW. Four pods plus the control, fuel gas, CO_2 and spares trailers make the 30 MW plant. Heaters sit between their two power trailers, so the hot CO_2 spools are short. With one pod out of service, the plant keeps about 75% of its output.



30 MW site: four pods, 92 trailers, central service road with the control, fuel gas, CO_2 and spares trailers.

Deployment sequence

01
Pad and gas
Compacted gravel pad, gas tap, DC feeders to the data hall.

02
Spot trailers
Drop trailers in marked slots; level on landing gear and stands.

03
Connect
Bolt in insulated CO_2 spools and DC cables; raise the stacks.

04
Fill and test
Fill CO_2 from the inventory trailer, leak test, commission pod by pod.

05
Run and move
Dispatch to load. When the job ends, reverse and roll out.

SPECIFICATION

SuperCO2 Mobile 30 MW at a glance

Same HX-500 modules and performance basis as the fixed SuperCO2 30 MW plant. Preliminary ISO estimates from a Rev A concept design.

Net output	30.5 MW at 800 VDC (±400 V), about 40,800 hp
Fuel-to-DC efficiency	40.5% LHV, modelled (ISO 15 °C, sea level)
Heat rate	9,338 Btu/kWh (HHV)
Natural gas	284 MMBtu/h HHV · 6.58 MMscf/d · 7,347 Nm^3/h
Power modules	64 HX-500 recompression Brayton (60 running + 4 spare), 534 kW gross each
Turbine inlet	650 °C (1,202 °F), 275 bar (3,990 psia), with reheat
Power conversion	550 kW SiC active rectifier per module, 98.5%; no transformer or inverter
Storage	4 × 2 MWh battery, one per pod bus
Cooling and water	Closed CO_2 loop, dry-cooled; no water (adiabatic assist optional)
Emissions	NOx ≤ 2.5 ppm with SCR · CO_2 ≈ 0.50 t/MWh (≈ 1,100 lb/MWh)
Redundancy	N+4 modules; about 75% output with one pod out
Trailers	92 × 53 ft: 44 enclosed insulated, 48 flatbed; off-white
Trailer envelope	53 ft long, 102 in wide, ≤ 13 ft 6 in travel height
Site	About 3 acres (1.2 ha) including service roads

Performance by turbine inlet temperature (60 modules running)

TURBINE INLET	NET MW (DC)	FUEL → DC	HEAT RATE, BTU/KWH HHV	GAS, MMSCF/D
500 °C	24.6	33.8%	11,183	6.37
550 °C	26.7	36.3%	10,424	6.44
600 °C	28.6	38.5%	9,825	6.51
650 °C (design)	**30.5**	**40.5%**	**9,338**	**6.58**
700 °C	31.4	42.3%	8,933	6.49

Fuel cost at 650 °C, 8,000 h/yr

DELIVERED GAS PRICE	PER HOUR	PER YEAR	PER MWH DC
$3.37/MMBtu (EIA 2026 Henry Hub average)	$958	$7.7 M	$31
$4.50/MMBtu (typical industrial)	$1,280	$10.2 M	$42
$6.00/MMBtu (high-cost region)	$1,706	$13.6 M	$56

LOOKING FOR SITES, PARTNERS AND LICENSEES

Put a 30 MW plant on the road

Infinity Turbine is looking for data center developers, gas suppliers, trailer builders and manufacturing partners for the first mobile power block and pilot pod.



Power trailer with end doors open: modules roll out on rails for exchange.

Phase 0 · Assessment

A paid Preliminary Assessment for your site: gas, climate, load profile, layout and budget numbers.

Phase 1 · Power block

A 2 MW mobile power block: one heater flatbed, two power trailers, two dry coolers.

Phase 2 · Pod to plant

A 7.6 MW pilot pod, then the full 30 MW fleet. Designs available to license.

Infinity Turbine LLC

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CO_2 and ORC turbine-generator designs, plans, licensing and consulting since 2008.

Performance, emissions, fuel and site figures are preliminary ISO estimates from a Rev A concept design, to be confirmed by detailed design and testing. Trailer weights and road legality are design targets, to be confirmed per jurisdiction. Gas price cases use EIA's November 2026 Short-Term Energy Outlook and Infinity Turbine delivered-price assumptions. Images are concept renders. Stoughton Trailers or an equivalent builder is proposed for the 53 ft insulated bodies.

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