SIEMENS energy

Hydrogen Power Plants

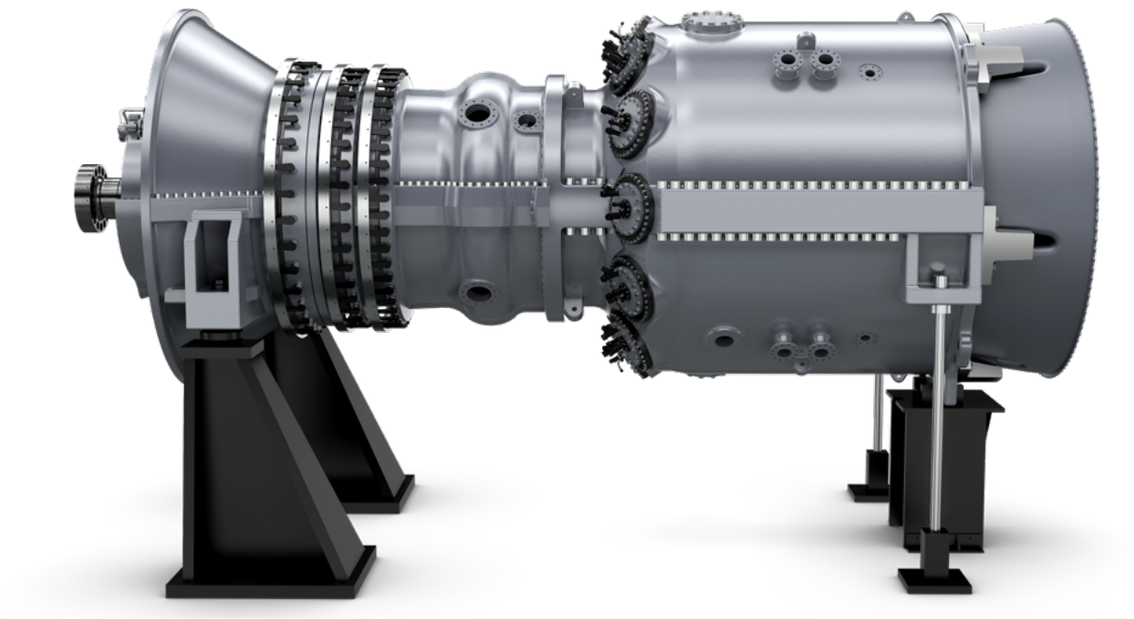
Technical data



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SCC5-9000HL 1×1 (50 Hz)

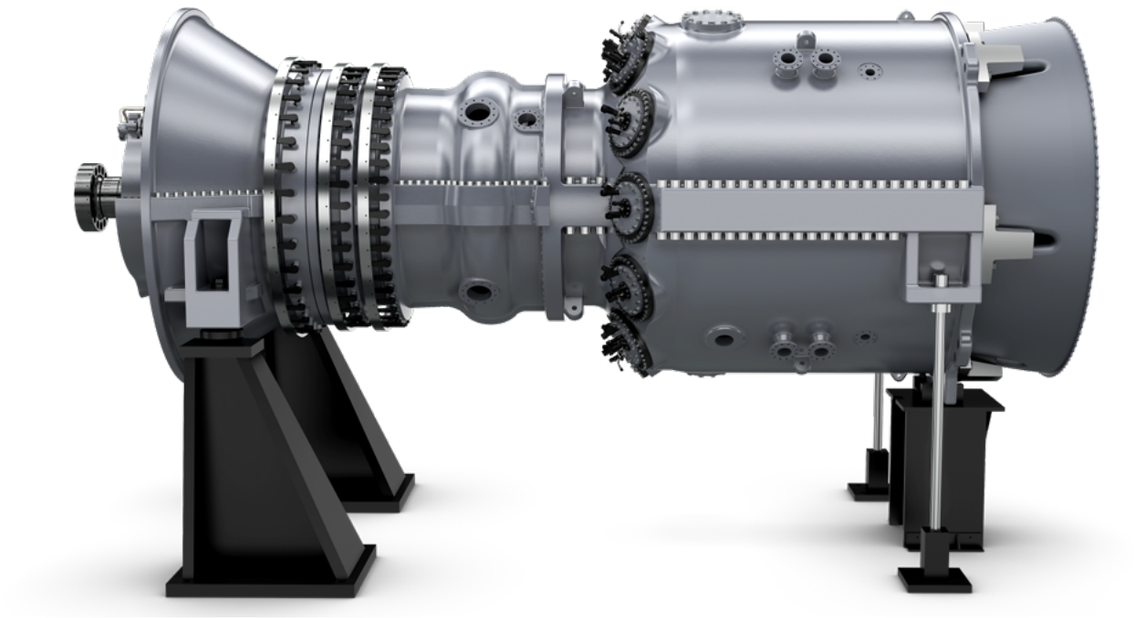


Baseline operations ~ 880 MWe @ 64% efficiency (Combined Cycle)

	Baseline operation (pure methane)	Hydrogen Operational Case (Methane +30% vol H_2)	Hydrogen Operational Case (Methane +50% vol H_2)	Hydrogen Operational Case (100% H_2, planned development)*
CO_2 Saving g/kWh	-	-36 g/kWh	-72 g/kWh	-311 g/kWh
CO_2 Output g/kWh	311 g/kWh	275 g/kWh	239 g/kWh	0 g/kWh
CO_2 Saving % kWh base	-	-11%	-23%	-100%
H_2 flow tons/hr	-	ca. 4.7 t/hr	ca. 9.5 t/hr	ca. 41.3 t/hr
Methane flow tons/hr	ca. 99 t/hr	ca. 87.7 t/hr	ca. 76.1 t/hr	0 t/hr

*The results presented are only estimates for general information purposes and do not intend to provide legal, tax or accounting advice. The information and tools provided in this document are not designed to replace a professional project specific assessment. For an exact calculation the boundary conditions for the specific site should be considered. Expected capabilities or benefits may not apply or be realized in all cases. Information used to calculate results is subject to change without notice. Nothing on this document, including the results, shall be deemed or construed to be a warranty or guarantee of the information, product(s) or component(s) described herein.

SCC6-9000HL 1S (60 Hz)

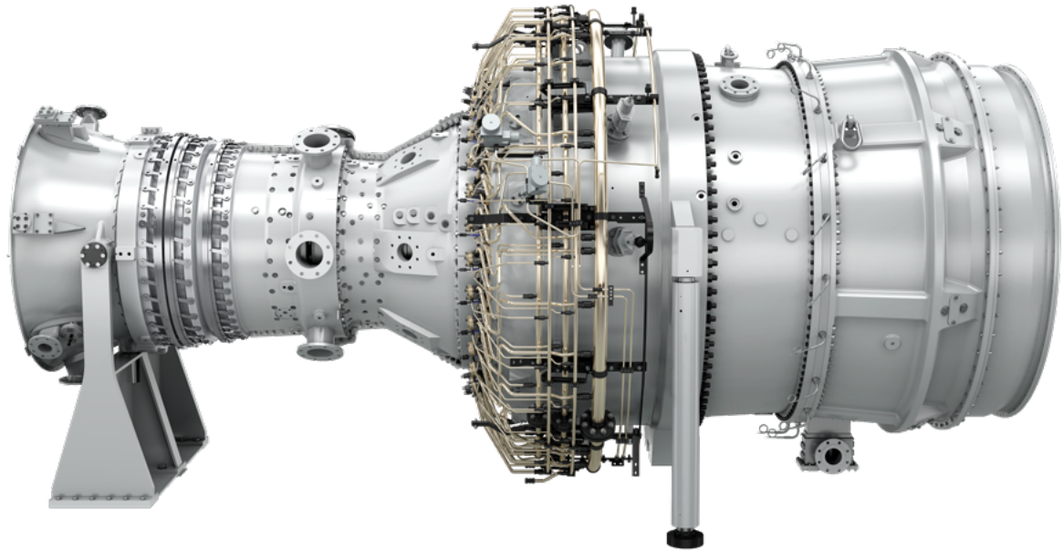


Baseline operations ~ 655 MWe @ 64% efficiency (Combined Cycle)

	Baseline operation (pure methane)	Hydrogen Operational Case (Methane +30% vol H_2)	Hydrogen Operational Case (Methane +50% vol H_2)	Hydrogen Operational Case (100% H_2, planned development)*
CO_2 Saving g/kWh	-	-36 g/kWh	-72 g/kWh	-311 g/kWh
CO_2 Output g/kWh	311 g/kWh	275 g/kWh	239 g/kWh	0 g/kWh
CO_2 Saving % kWh base	-	-11%	-23%	-100%
H_2 flow tons/hr	-	ca. 3.5 t/hr	ca. 7.1 t/hr	ca. 30.7 t/hr
Methane flow tons/hr	ca. 73.7 t/hr	ca. 65.3 t/hr	ca. 56.7 t/hr	0 t/hr

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SCC-800 2×1 (50/60 Hz)

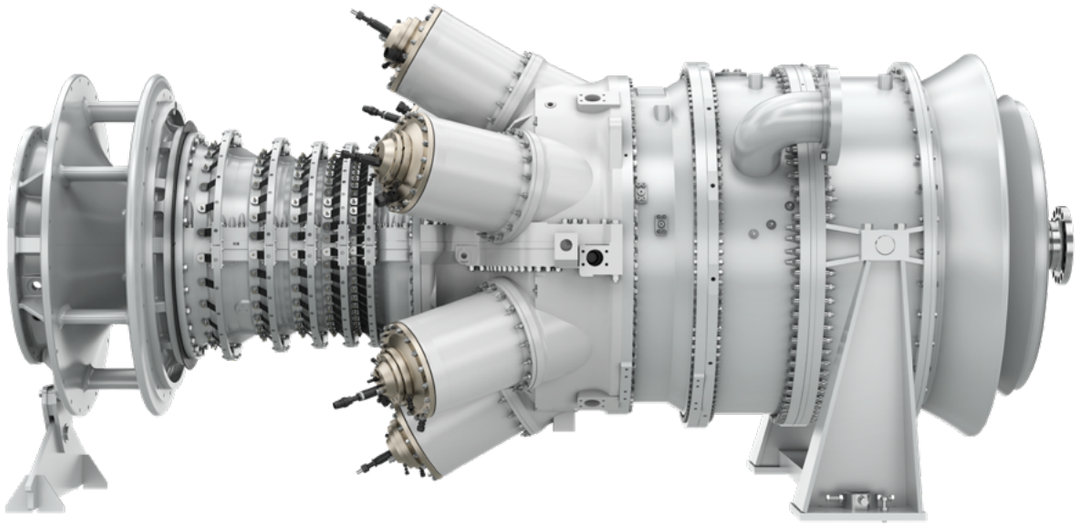


Baseline operations ~182 MWe @ 60.6 % efficiency (Combined Cycle)

	Baseline operation (pure methane)	Hydrogen Operational Case (Methane +30 % vol H_2)	Hydrogen Operational Case (Methane +75 % vol H_2)	Hydrogen Operational Case (100% H_2, planned development)*
CO_2 Saving g/kWh	-	-37 g/kWh	-155 g/kWh	-328 g/kWh
CO_2 Output g/kWh	328 g/kWh	291 g/kWh	173 g/kWh	0 g/kWh
CO_2 Saving % kWh base	-	-11%	-47%	-100%
H_2 flow tons/hr	-	ca. 1 t/hr	ca. 4.3 t/hr	ca. 9 t/hr
Methane flow tons/hr	ca. 21.6 t/hr	ca. 19.2 t/hr	ca. 11.4 t/hr	0 t/hr

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SGT-400 (50/60 Hz)

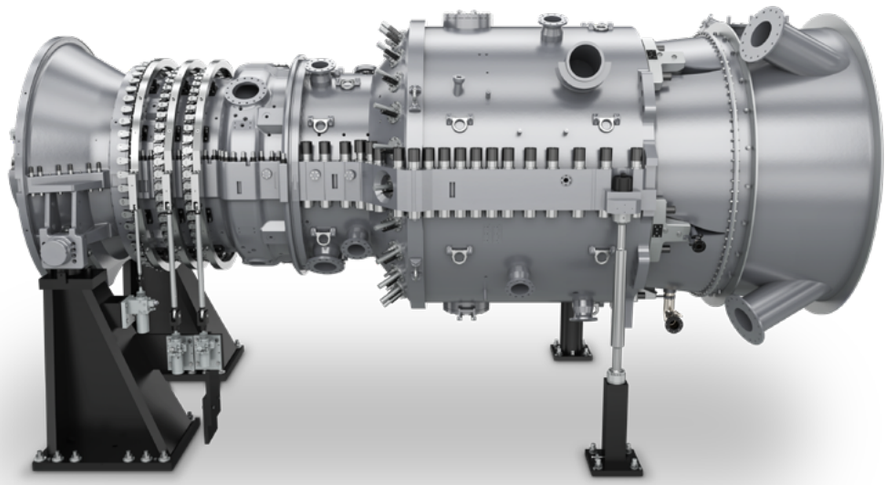


Baseline operations ~14 MWe @ 35.6 % efficiency (Combined Cycle)

	Baseline operation (pure methane)	Hydrogen Operational Case (Methane +30 % vol H_2)	Hydrogen Operational Case (100% H_2, planned development)*
CO_2 Saving g/kWh	-	-64 g/kWh	-559 g/kWh
CO_2 Output g/kWh	559 g/kWh	495 g/kWh	0 g/kWh
CO_2 Saving % kWh base	-	-11%	-100%
H_2 flow tons/hr	-	ca. 0.14 t/hr	ca. 1.2 t/hr
Methane flow tons/hr	ca. 2.9 t/hr	ca. 2.6 t/hr	0 t/hr

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SCC5-4000F 1S



Baseline operations ~445 MWe @ 59.4% efficiency (Combined Cycle)

	Baseline operation (pure methane)	Hydrogen Operational Case (Methane + 15%vol H_2; development ongoing)	Hydrogen Operational Case (Methane + 30 % vol H_2)	Hydrogen Operational Case (100% H_2, planned development)
CO_2 Saving g/kWh	-	-17 g/kWh	-37 g/kWh	-335 g/kWh
CO_2 Output g/kWh	335 g/kWh	318 g/kWh	298 g/kWh	0 g/kWh
CO_2 Saving % kWh base	-	-5%	-11%	-100%
H_2 flow tons/hr	-	ca. 1.1 t/hr	ca. 2.6 t/hr	ca. 22.5 t/hr
Methane flow tons/hr	Ca. 53.9 t/hr	ca. 51.3 t/hr	ca. 47.9 t/hr	0 t/hr

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For more information, please contact our
Siemens Energy Customer Support Center

Phone: +49 180 524 70 00
Fax: +49 180 524 24 71
(Charges depending on provider)

E–mail: gs.sales@siemens-energy.com
https://www.siemens-energy.com/gasturbines

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