

Siemens Energy · Decarbonized Energy Systems

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Unrestricted

Direct use of power is growing in the 2nd phase of the energy transition power-to-heat, heat pumps, battery powered electric vehicles



Source: achatech, Leopoldina, Akademieunion

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Who we are The leading pureplay energy company



Our offering	Along the value chain	Broad technology portfolio	
Products Solutions Services	Generation Transmission Storage	From Conventional to Renewables	
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Siemens Energy AG

Gas and Power ("GP")				Siemens Gamesa Renewable Energy ("SGRE")		
Generation		Industrial Applicatio oas	Transmission	New Energy	67% owned	
					Onshore	Offshøre
Central	Distributed				和个	

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The Design of Future proof Energy Systems is Core Element for Decarbonized Energy Systems

Technologies **Energy System Design Decarbonization Project** Types Heat pump Customer Challenge H2 capable gas turbine Hybrid Coal-to-gas Switch Heat Site AV Brownfield-Engine-Exchange **Specifics** 4 » { { } **CH**2 **Optimized Energy** 11 € Cost System Û m Х 17 CO₂ Carbon

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Combination of photovoltaics, hydrogen and combined cycle enables job creation and attraction of EU funding



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Coal to gas shift and hydrogen reduces carbon emissions and brings attractive technology to the region



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Siemens Hydrogen Gas Turbines for our sustainable future The mission is to burn 100% hydrogen

Gas turbine model Power Output¹ H₂ capabilities in vol. % SGT5-9000HL 593 MW Values shown are indicative 30 for new unit applications and SGT5-8000H 30 450 MW 50Hz depend on local conditions SGT5-4000F 329 MW 30 and requirements. Some SGT5-2000E 187 MW 30 operating restrictions/special SGT6-9000HL 30 405 MW hardware and package SGT6-8000H 30 310 MW modifications may apply. 60Hz SGT6-5000F 30 215 to 260 MW SGT6-2000E 30 117 MW SGT-A65 60 to 71/58 to 62 MW 15 100 SGT-800 48 to 62 MW 50 Higher H₂ contents SGT-A45 41 to 44 MW 100 to be discussed on SGT-750 40/34 to 41 MW 40 a project specific SGT-700 33/34 MW 50Hz or 55 SGT-A35 27 to 37/28 to 38 MW basis 100 60Hz SGT-600 24/25 MW 60 SGT-400 10 to 14/11 to 15 MW 10 65 SGT-300 8/8 to 9 MW 30 SGT-100 5/6 MW 65 SGT-A05 4 to 6 MW 15

DLE burner WLE burner

Diffusion burner with unabated NOx emissions

🛸 Industrial gas turbines 🛛 🍈 Aeroderivative gas turbines

1 ISO, Base Load, Natural Gas; Version 3.4, July 2020

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Multumesc pentru atentie!

Dr. ing. Petru Ruset Managing Director Siemens Energy Romania