

Wood gas CHP

- the innovation



ELECTRICAL AND THERMAL ENERGY
FROM WOOD

URBAS
energietechnik

URBAS Energietechnik develops and produces systems for generating electrical and thermal energy from biomass. With the planning and construction of heating plants and combined heat and power plants, in this area of technology, URBAS Energietechnik occupies a leading position throughout Europe.

We took up the idea of generating wood gas, which arose around 100 years ago, and continued to develop it through several years of research.

The result of this research work is a fully automatic wood-powered generation system.

With the development of compact wood gas CHP systems, URBAS highlights its technological leadership in the field of biomass energy systems.



Different starting material for biomass energy systems

Wood gas CHP

- the technology

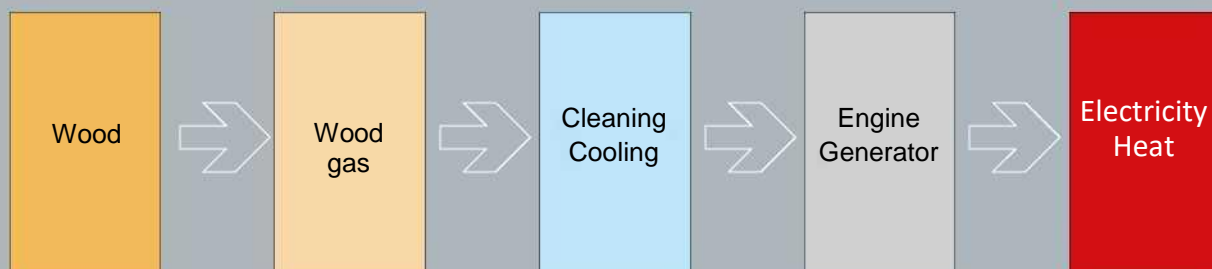
Through thermochemical processes in a reactor, a combustible gas - wood gas - is generated from wood.

The dust and tar components contained in the raw gas are separated using filter systems.

The cleaned wood gas is used for combined heat and power (gas engine + generator).

In contrast to other CHP technologies, which are based on the combustion of biomass and require a working medium (water for the steam turbine, thermal oil for the ORC process), wood gas CHP does not need an intermediate medium. This results in the increased electrical efficiency of the overall system and is highly economically feasible for systems < 1000 kW_el.

PROCESS CHAIN



Wood gas CHP

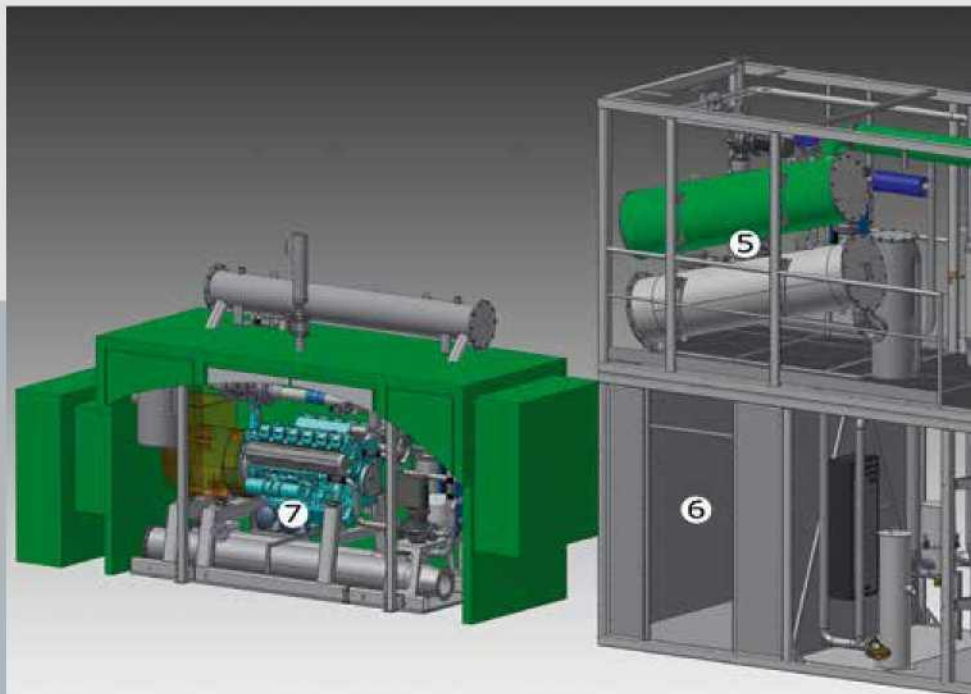
- the service package



Construction/Planning



Manufacturing



1 Lock 2 Reactor 3 Hot gas filter 4 Suck-blower 5 Heat exchanger

Our service package ranges from profitability calculations for the investment decision on the implementation of the wood gas CHP system to operator training. Each system is completed in the factory and delivered to the customer with a functionality check. We support the system operator safely and competently with efficient and sustainable service. The system components mounted in the container frame form a compact unit. Thanks to the modular structure, the on-site assembly times can be reduced to a minimum.

Input-Output

0.9 kg of wood fuel results, depending on the size of the system, in ca. 1 kWh_{electrical} + 2 kWh_{thermal}



6 Control room 7 CHP with noise protection hood 8 Ash discharge



Installation



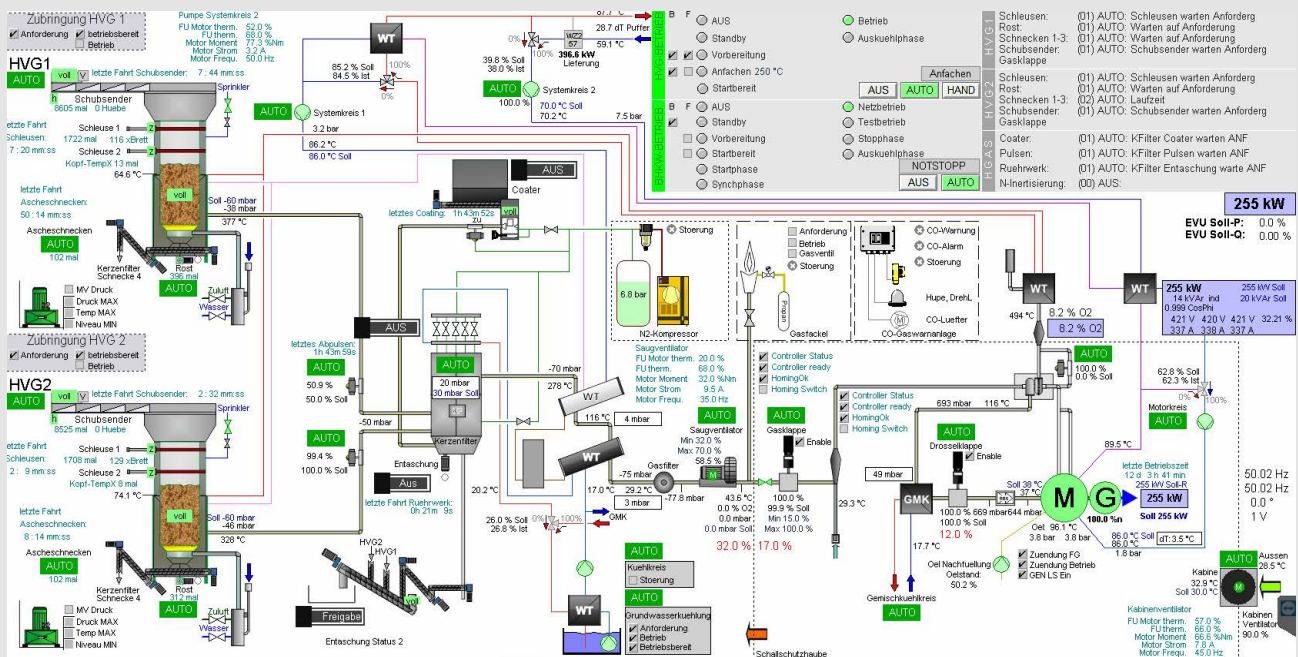
Commissioning

URBAS wood gas CHP systems:
as simple as possible, as complex as necessary, to
achieve high levels of efficiency.

-> efficient, economical, reliable ->

Wood gas CHP

- operation



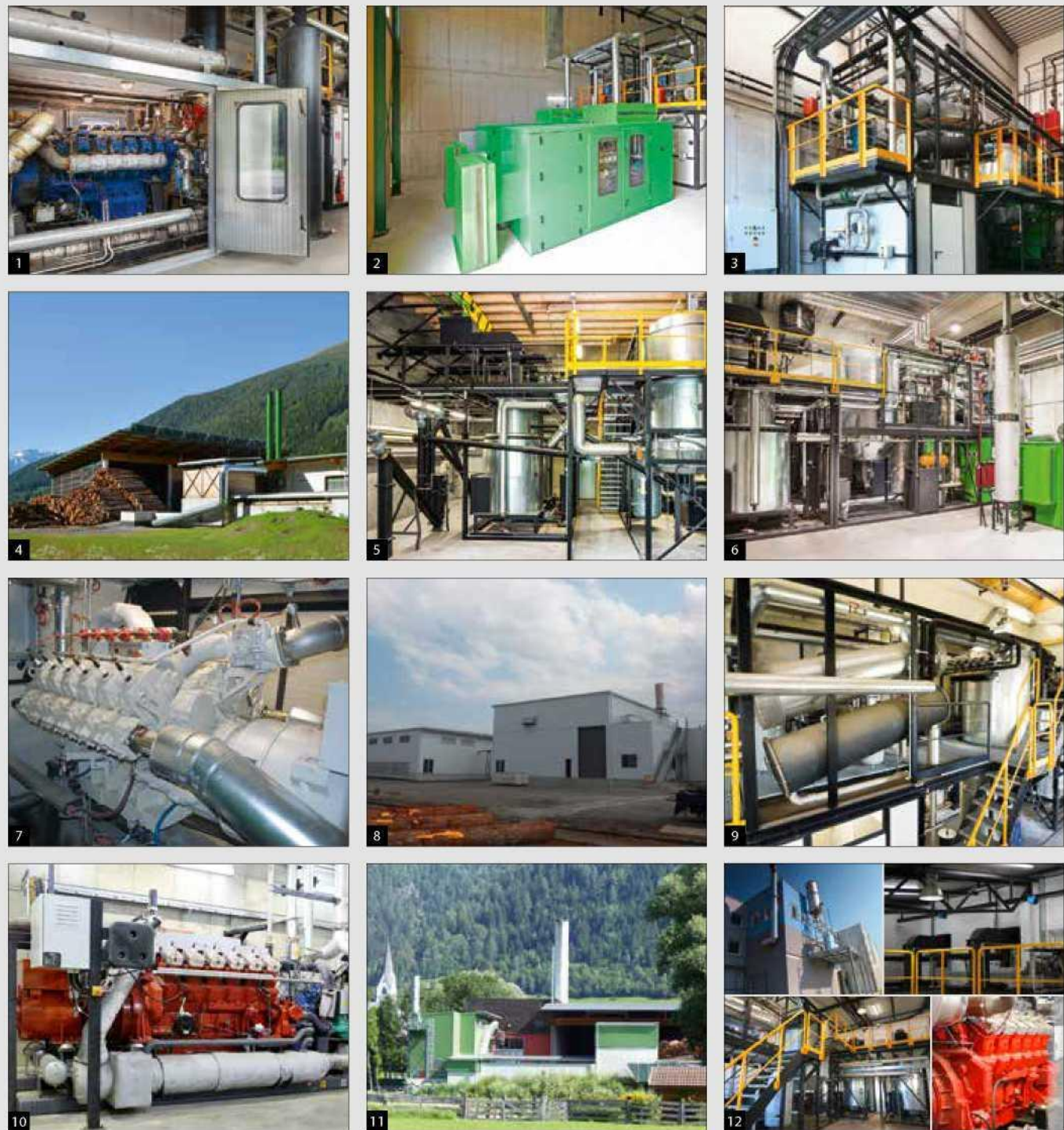
The CHP plant is largely operated automatically.

All the control parameters are continuously compared, displayed in a visualization and recorded.

An integrated monitoring system provides information on the current operating status of the system, and remote maintenance can be used to correct the process at any time.

URBAS wood gas CHP systems can be implemented as individual systems or can be operated in combination with existing heating plants and thus enable the decentralized energy supply (electricity and heat) from renewable energy sources.

Trust in **URBAS** technology



<div>1</div> <div>Pöllau - Austria</div> <div>180 kW_{el} 320 kW_{th}</div>	<div>5</div> <div>Kastelbell - Italy</div> <div>199 kW_{el} 320 kW_{th} 400 kW_{el} 650 kW_{th}</div>	<div>9</div> <div>Stubenberg - Austria</div> <div>250 kW_{el} 340 kW_{th}</div>
<div>2</div> <div>Neukirchen/Enknach - Austria</div> <div>2x150 kW_{el} 600 kW_{th}</div>	<div>6</div> <div>Mals - Italy</div> <div>2x149 kW_{el} 2x280 kW_{th}</div>	<div>10</div> <div>Prijedor - Bosnia and Herzegovina</div> <div>250 kW_{el} 540 kW_{th}</div>
<div>3</div> <div>URBAS demonstration plant, Ruden - Austria</div> <div>150 kW_{el} 300 kW_{th}</div>	<div>7</div> <div>Neumarkt - Austria</div> <div>3x 150 kW_{el} 3x 280 kW_{th}</div>	<div>11</div> <div>Obervellach - Austria</div> <div>250 kW_{el} 340 kW_{th}</div>
<div>4</div> <div>Mallnitz - Austria</div> <div>250 kW_{el} 520 kW_{th}</div>	<div>8</div> <div>Genboku - Japan</div> <div>250 kW_{el} 530 kW_{th}</div>	<div>12</div> <div>Croatia - 4 plants Virovitica Daruvar Grubisno Vocin</div> <div>450 kW_{el} 765 kW_{th}</div>

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