

RENEWABLE ENERGY

THE STATE OF BATNA

1 Excess thermal energy emitted by ceramic firing

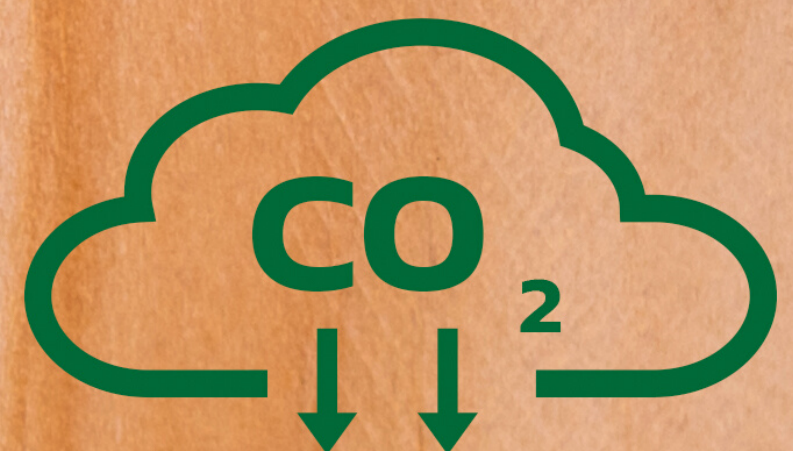
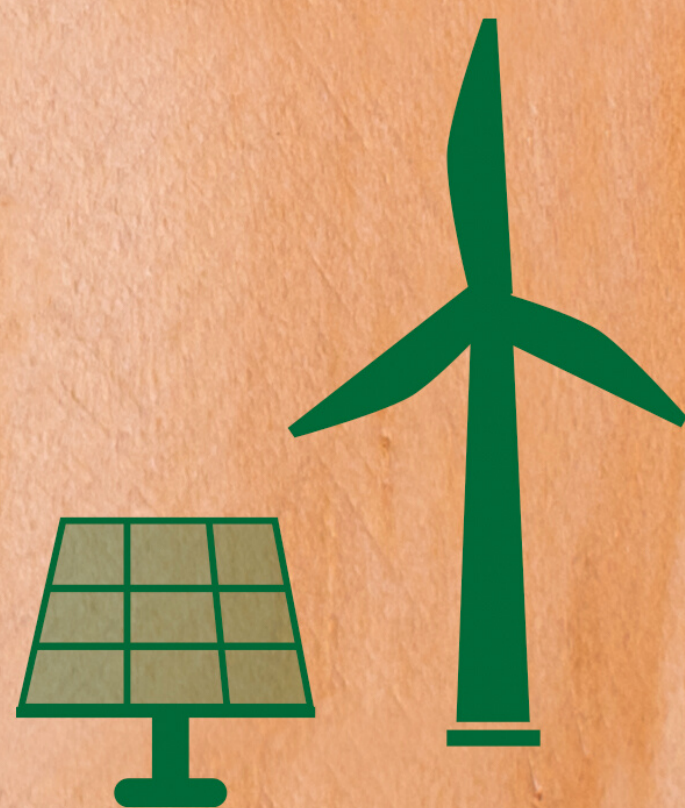
2 Converting heat emitted into electrical energy by steam turbines

3 Distribution of electrical power to neighboring states

It's time for

GREEN ENERGY

**ENERGY
RECOVERED
PROJECT**



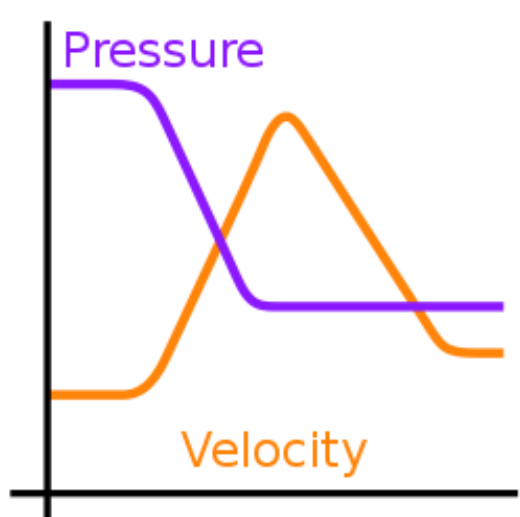
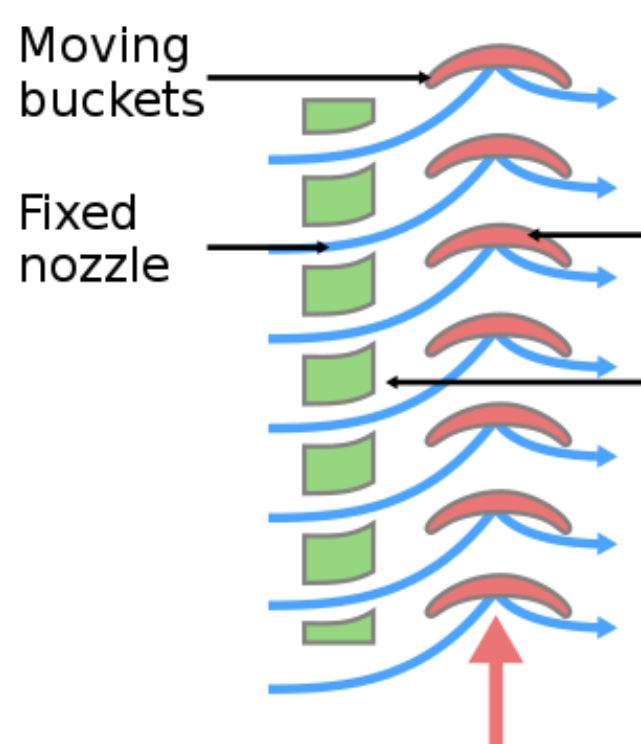
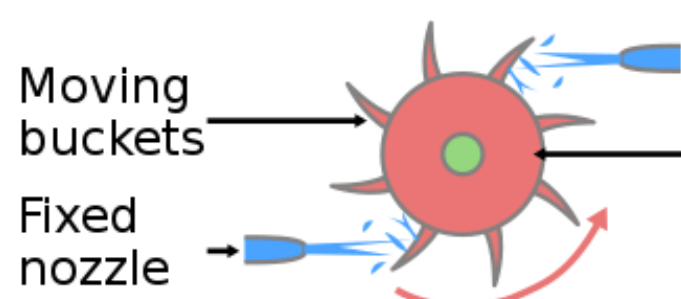
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Description

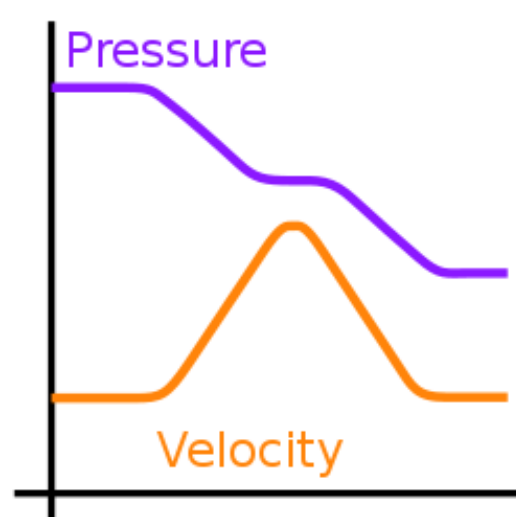
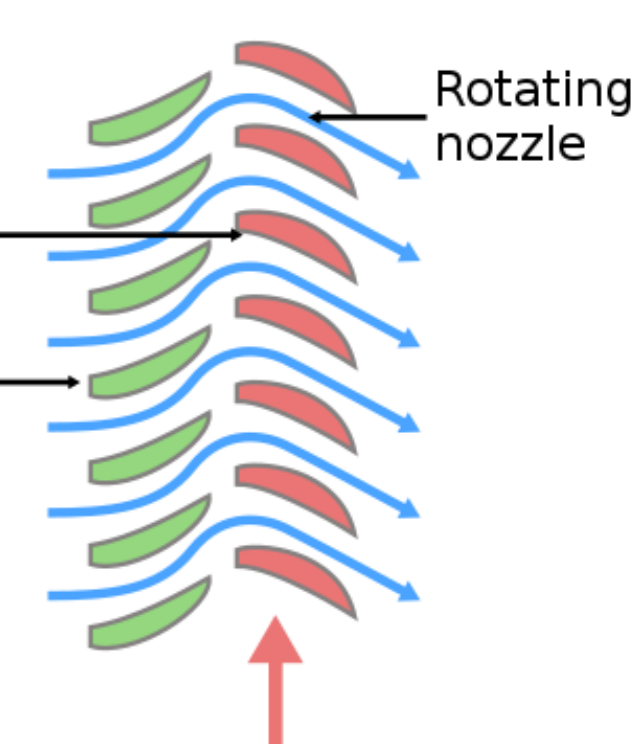
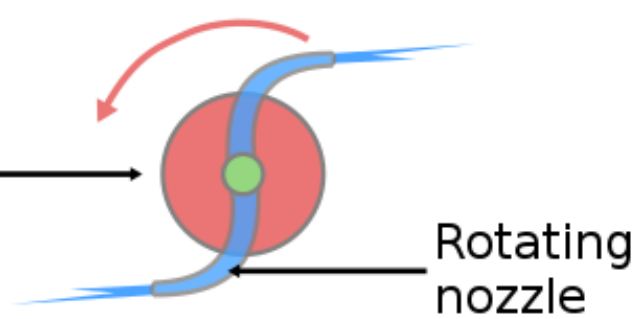


Blade and stage design

Impulse turbine



Reaction turbine



Steam turbine

A steam turbine is a machine that extracts thermal energy from pressurized steam and uses it to do mechanical work on a rotating output shaft. Its modern manifestation was invented by Charles Parsons in 1884.[1][2] Fabrication of a modern steam turbine involves advanced metalwork to form high-grade steel alloys into precision parts using technologies that first became available in the 20th century; continued advances in durability and efficiency of steam turbines remains central to the energy economics of the 21st century.



SKIKDA STEAM TURBINE POWER PLANT, ALGERIA

DEFINITION OF

Skikda Steam Turbine Power Plant is a 262MW gas fired power project. It is located in Skikda, Algeria. The project is currently active. It has been developed in single phase. Post completion of construction, the project got commissioned in July 1975.

The project is currently owned by Sonelgaz with a stake of 100%.

It is a Steam Turbine power plant. The power plant run on dual-fuel. The primary fuel being used to power the plant is natural gas. In case of shortage of natural gas the plant can also run on Fuel Oil.

Skoda Praha was selected as the turbine supplier for the Gas fired project. The company provided 2 steam turbines, each with 131MW nameplate capacity



JIJEL THERMAL POWER PLANT, ALGERIA

DEFINITION OF

Jijel Thermal Power Plant is a 630MW gas fired power project. It is located in Jijel, Algeria. The project is currently active. It has been developed in multiple phases. Post completion of construction, the project got commissioned in 1992.

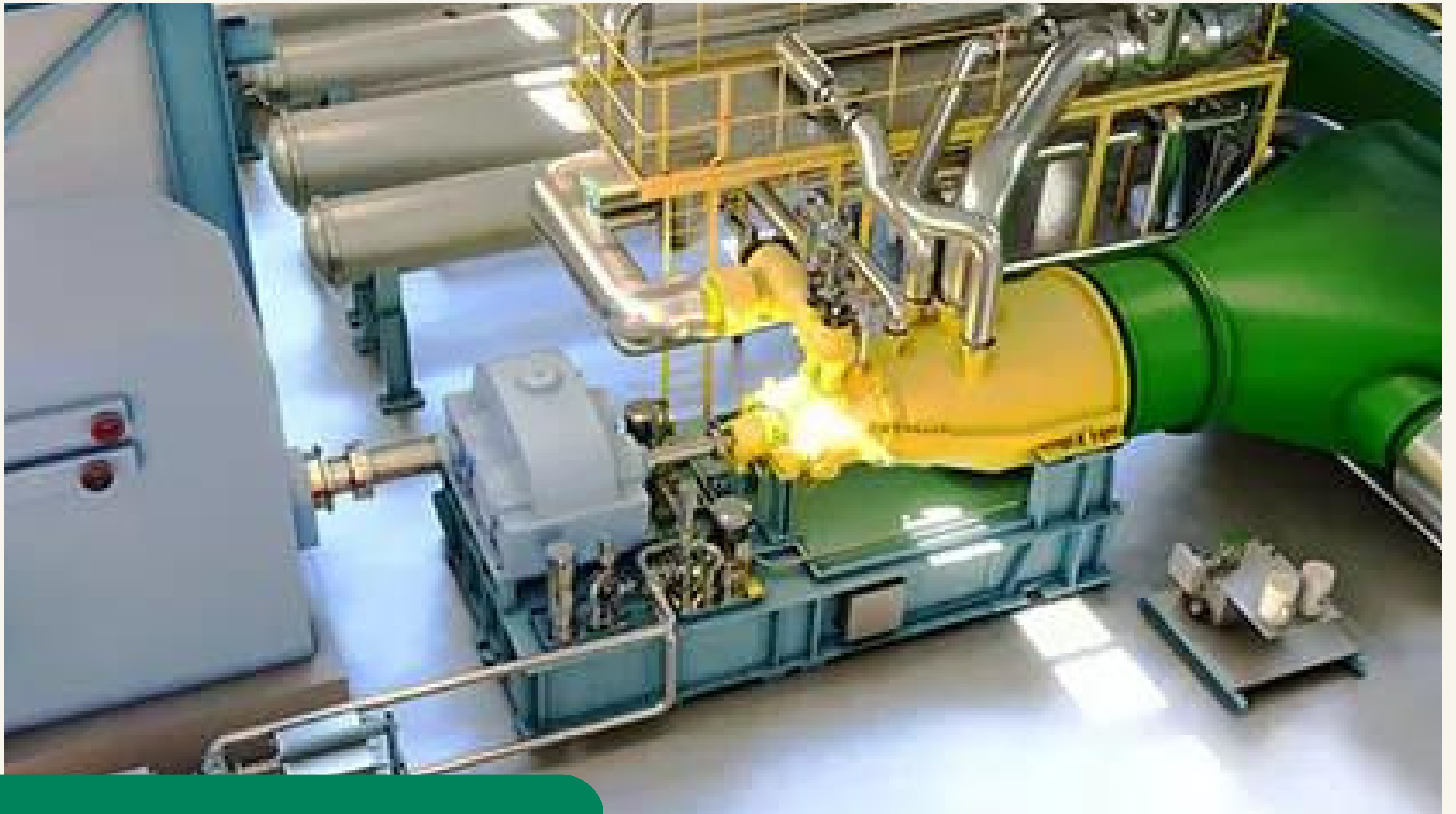
The project is currently owned by Sonelgaz with a stake of 100%.

It is a Steam Turbine power plant. The power plant run on dual-fuel. The primary fuel being used to power the plant is natural gas. In case of shortage of natural gas the plant can also run on Gas Oil.

Technopromexport was selected to render EPC services for the gas fired power project.

Leningradsky Metallichesky Zavod was selected as the turbine supplier for the Gas fired project. The company provided 3 steam turbines, each with 210MW nameplate capacity.

The electric generators for the project were procured from Electrotyazhmash and Technopromexport.

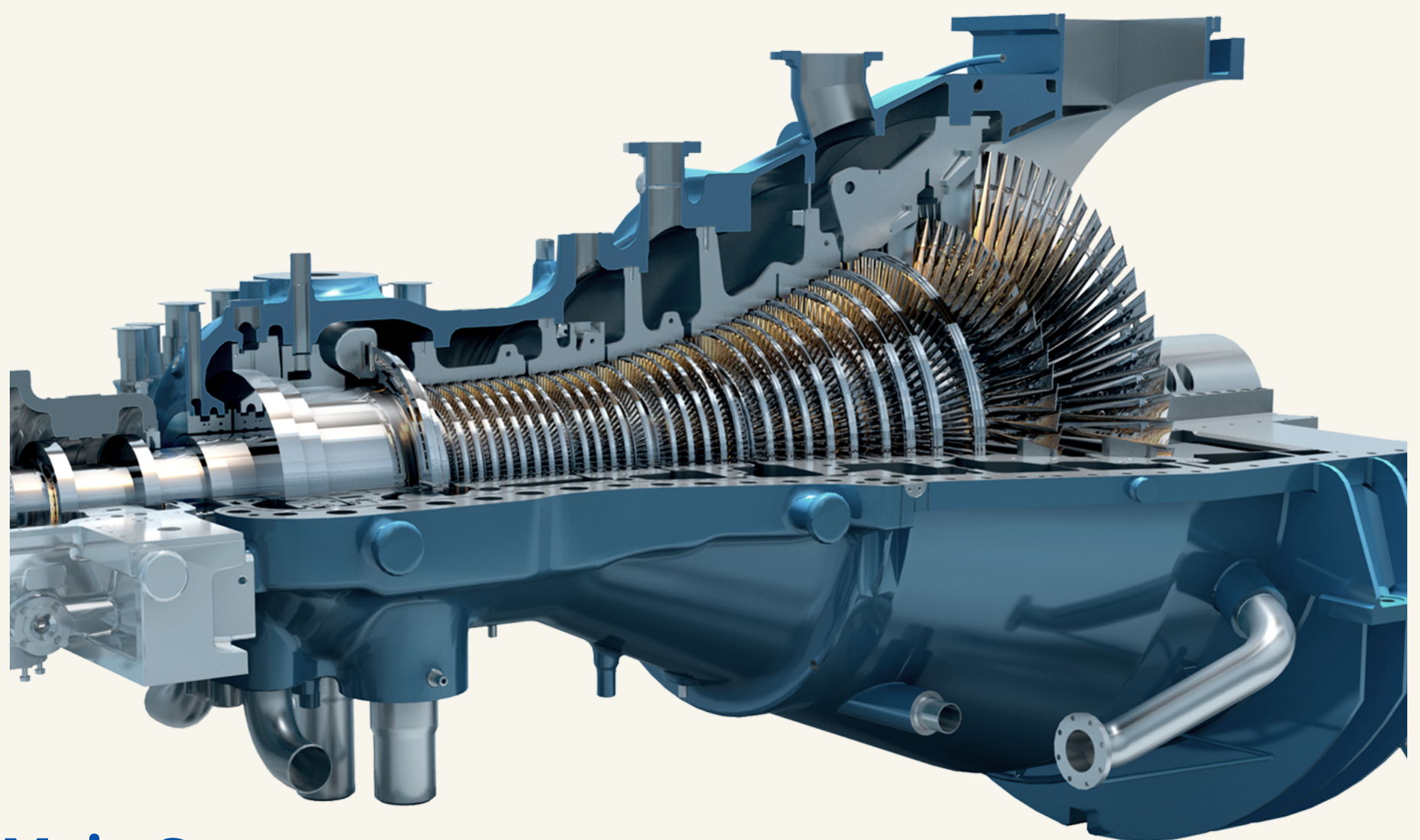


STF A100 (GRT/HRT) NON-REHEAT STEAM TURBINE

The high speed STF-A100 (GRT/HRT) non-reheat steam turbine family provides up to 135 MW of low-cost, flexible power for renewable steam plants like biomass, concentrated solar power, waste to energy, and industrial applications...

- A versatile platform suitable for biomass, waste-to-energy or other renewable steam power applications as well as for combined cycle steam tails or complex industrial co-generation application in either 50 or 60 Hz grids.
- Reduced lead time thanks to more than 70% of standardized, fixed geometry components, which also helps improving quality, reliability, and maintainability
- Best performance for both boiler and CCPP applications through dedicated inlet configurations for turbine nozzle control (GRT) or sliding pressure operation (HRT)
- Competitive performance realized by utilization of advanced 3D controlled diffusion HP/IP blading from GE's large industrial steam turbine portfolio
- High back pressure capability, exhaust wetness tolerance, and cycling capacity with GE's latest nub and sleeve/free tip rear stage design
- Significant savings of integration cost and construction time resulting from delivery of the STF-A100 steam turbine in four fully assembled and pre-tested modules optimized for floor level installation

STEAM TURBINES



Main Steam

125 bar (1,810 psig) 565 °C (1,050 °F)

Output

≤ 135 MW

Efficiency

≤ 42%

Maximum Backpressure

≤ 500 mbar (14.8 in. Hg)

Control Concept

Sliding pressure mode, Fixed pressure mode, Hybrid mode



INDUSTRIAL KILNS FOR FIRING STRUCTURAL CERAMICS

CONTINUOUS KILNS AND BATCH TYPE KILNS

In this process, the tile goes through a low-temperature firing called bisque firing before glazing. This step removes the volatiles from the material and most or all of the shrinkage. The body and glaze are then fired together in a process called glost firing.

Different kiln solutions to satisfy production needs, direct fuel fired kilns up to 1800°C.

ENERGY RECOVERED PROJECT

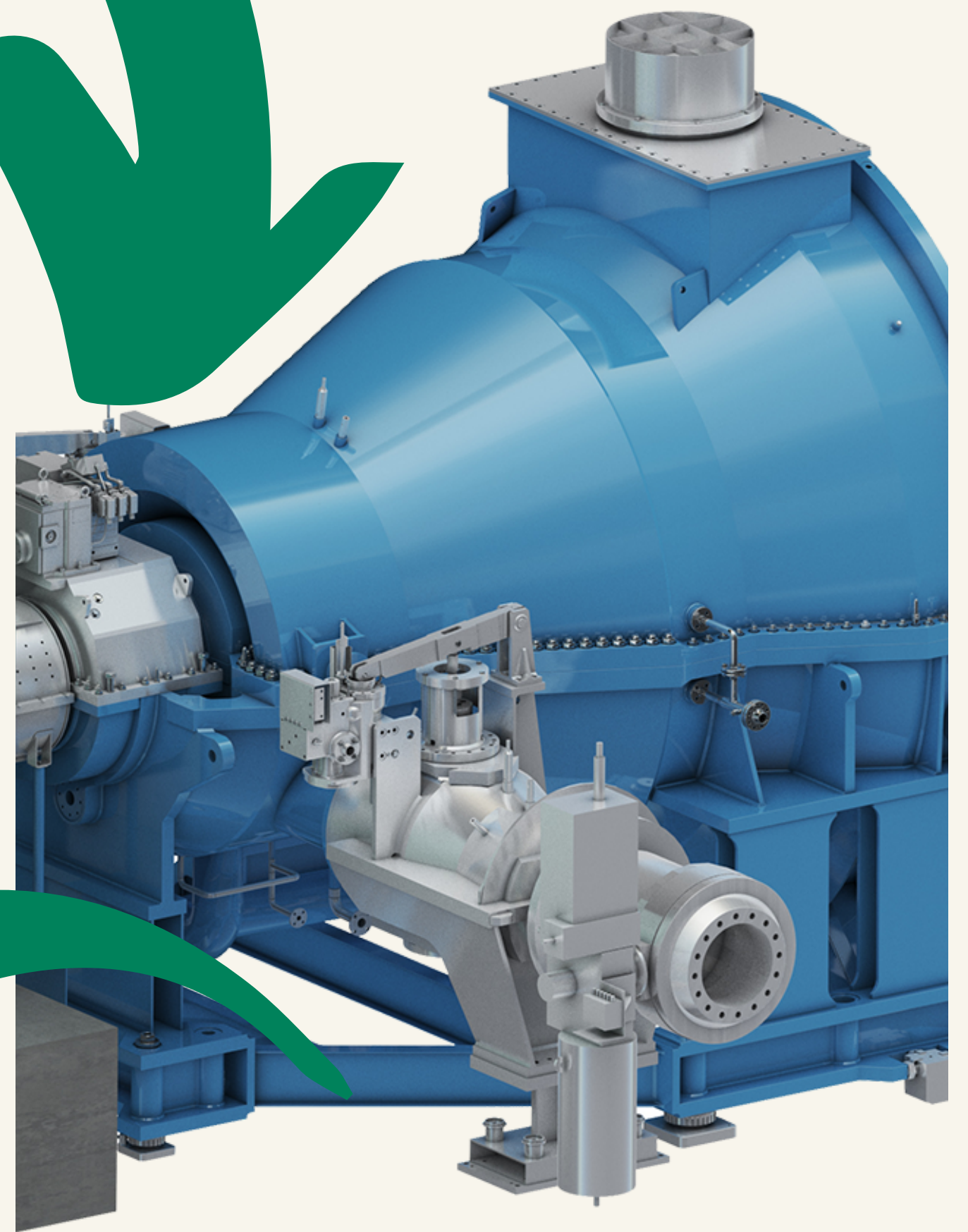


**EXCESS THERMAL ENERGY
EMITTED BY FURNACE
CHIMNEYS**

**IT CONTAINS 600 DEGREES
THAT EMIT THROUGH
LAMINATED PIPES TO
MAINTAIN**

**THE TEMPERATURE EMITTED
HEATS THE WATER TO THE
POINT OF EVAPORATION TO
CONTRIBUTE TO THE PROCESS
OF TURBINE ROTATION**

**THE TURBINE DEDICATED TO
THIS PROJECT NEEDS A
TEMPERATURE OF UP TO 565 C**



**ENERGY IS CONVERTED FROM
ENERGY TO ELECTRICITY AND
DISTRIBUTED TO NEARBY
REGIONS AND STATES.135MW**

THE STATE OF BATNA

TECHNOCERAM

Rte de Constantie, RN03, Fesdis



TIMGAD CERAM

RN N°A88, Timgad 05023



ROYAL CERAM

N88, Ouled Fadel



NAFCER

QCR7+GP, Aïn Yagout



CERAM DECOR

Périphérique de l'est Tazoult 5100



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