

# Complete 2 x Siemens SGT-400 Combined-Cycle Cogeneration (CHP) Plant

37.4 MW gross output | 50 Hz | Natural gas | Complete power island + balance of plant



|                |                           |                           |
|----------------|---------------------------|---------------------------|
| <b>37.4 MW</b> | <b>46%</b>                | <b>50 Hz</b>              |
| Gross output   | Combined-cycle efficiency | Natural-gas configuration |

**Offer basis:** Supply only, Ex-Works. Used equipment, as-is/where-is, subject to inspection, documentation review and final Sales & Purchase Agreement.

## Plant Overview

A complete matched cogeneration power island comprising two Siemens SGT-400 gas-turbine generator sets, two HRSGs, two extraction-condensing steam turbines, one supplementary gas-fired package boiler, and the principal electrical, fuel-gas, cooling-water, water-treatment, fire-protection and DCS balance-of-plant systems required for operation.

| Parameter                            | Value and location                                       |
|--------------------------------------|----------------------------------------------------------|
| Gas turbines                         | 2 x Siemens SGT-400, single-shaft, low-NOx               |
| GT gross output                      | 14.034 MW each / 28.1 MW total                           |
| Steam turbines                       | 2 x C4.78 extraction-condensing steam turbines           |
| ST output                            | 4.681 MW each condensing / 9.4 MW total                  |
| Plant gross output                   | 37.4 MW                                                  |
| Combined-cycle electrical efficiency | Approx. 46%                                              |
| Fuel / frequency                     | Natural gas / 50 Hz                                      |
| Generator voltage                    | 10.5 kV                                                  |
| Grid evacuation                      | 110 kV via 2 x 25 MVA transformers; double-busbar GIS    |
| Condition                            | Used, as-is/where-is; available for inspection           |
| Year of manufacture                  | To be confirmed from owner documentation / dossier       |
| Operating hours / starts             | To be confirmed from owner records and inspection        |
| Country / location                   | Available to qualified buyer under controlled disclosure |

## Technical Specifications

### Gas Turbine - SGT-400 (x2)

|                         |                                                       |
|-------------------------|-------------------------------------------------------|
| Type                    | Single-shaft gas turbine, simple-cycle                |
| Compressor              | 11-stage axial; low-NOx combustion                    |
| Gross output            | 14.034 MW each / 28.1 MW total                        |
| Heat rate               | 10,298 kJ/kWh                                         |
| Simple-cycle efficiency | 35%                                                   |
| Generator               | TFW15000-4, 10.5 kV                                   |
| Fuel / frequency        | Natural gas / 50 Hz                                   |
| Ancillaries             | CO2 fire suppression; turbine-hall lifting facilities |

### Steam Turbine - C4.78 (x2)

|                            |                                                                        |
|----------------------------|------------------------------------------------------------------------|
| Type                       | Extraction-condensing steam turbine                                    |
| Output - condensing        | 4.681 MW each / 9.4 MW total                                           |
| Output - cogeneration mode | 1.795 MW each                                                          |
| Generator                  | 5 MW, 10.5 kV                                                          |
| Surface condenser          | 560 m <sup>2</sup> each                                                |
| Auxiliaries                | Vacuum and condensate pumps, turning gear, seals and auxiliary cooling |

## Heat Recovery, Boiler & Balance of Plant

|                              |                                                                                                                                                                                                  |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HRSG (x2)                    | Single-pressure, unfired, natural-circulation; 20.9 t/h HP steam each (41.8 t/h total); 5.3 MPa / 450 C; 35 m stack; deNOx provision.                                                            |
| Supplementary package boiler | SZS20 gas-fired package boiler; 20 t/h; 1.45 MPa / 260 C; >=99% stated efficiency; approx. +1,420 Nm <sup>3</sup> /h additional gas demand.                                                      |
| Fuel-gas system              | Natural-gas pretreatment skid, filtration, metering, pressure regulation/heating, chromatograph and booster compressors; GT fuel demand stated at approx. 8,100 Nm <sup>3</sup> /h for both GTs. |
| Cooling-water system         | Mechanical-draft wet-recirculating cooling tower system with circulating-water pumps, cooling towers, travelling screens and forebay sump pump.                                                  |
| Electrical systems           | 110 kV double-busbar GIS; 2 x 25 MVA main transformers; 10 kV vacuum switchgear; station-service transformers; LV PCC/MCC; UPS and 220 V DC systems.                                             |
| Water treatment              | Ultrafiltration, two-stage RO and EDI train with demineralised-water storage, chemical dosing and membrane cleaning systems.                                                                     |
| Fire / auxiliary systems     | Fire-water pumps, hydrants, extinguishers, compressed air, lube-oil systems, boiler waste-heat hot-water systems and plant lifting facilities.                                                   |
| Control & instrumentation    | Redundant DCS / MIS architecture with operator/engineering/history stations, redundant controllers, industrial Ethernet, firewalls and isolation gateways.                                       |

# Scope of Supply

## INCLUDED

- Complete power island: 2 x SGT-400 GT + generators
- 2 x HRSG
- 2 x C4.78 steam turbines + generators
- Supplementary SZS20 gas-fired package boiler
- Fuel-gas pretreatment skid and booster compressors
- Cooling-water system - pumps, towers and screens
- Electrical package - 110 kV GIS, 2 x 25 MVA transformers, MV/LV switchgear, UPS/DC
- Water-treatment package - UF / RO / EDI and chemical dosing
- Fire protection, balance-of-water and auxiliary systems
- Redundant DCS and MIS control systems
- Available technical documentation and inspection opportunity

## EXCLUDED

- Transportation, freight, shipping and marine insurance
- Disconnection, removal and loading at current site unless separately agreed
- Import duties, customs clearance and in-country logistics
- Installation, commissioning, integration and re-erection
- Civil works, foundations and destination-site preparation
- Reconditioning, overhaul or refurbishment unless expressly stated
- Spare parts beyond those physically supplied with the plant
- Performance guarantees on used equipment / warranty beyond agreed OEM or seller scope
- Taxes and duties for purchaser account



## Commercial Offer

Complete 2 x SGT-400 combined-cycle CHP plant

|                        |                                                                                           |
|------------------------|-------------------------------------------------------------------------------------------|
| Currency               | USD                                                                                       |
| Price basis            | Supply only, Ex-Works                                                                     |
| Condition              | Used, as-is/where-is; subject to inspection                                               |
| Payment                | 30% deposit on SPA signing / 70% before shipment (indicative; subject to final SPA)       |
| Inspection             | Purchaser account; specialist/OEM support at cost if requested                            |
| Availability           | Subject to prior sale and receipt of cleared deposit                                      |
| Validity               | 7 calendar days from submission, unless extended in writing                               |
| Documentation          | Detailed dossier / owner records subject to buyer qualification and controlled disclosure |
| Year / operating hours | To be confirmed in the technical dossier and during inspection                            |
| Final terms            | Subject to satisfactory KYC, technical due diligence, owner approval and executed SPA     |

**Important:** This document is an indicative commercial offer prepared from information currently available. Year of manufacture, operating hours/starts, exact location, serial numbers, maintenance history and final owner documentation must be verified through the formal due-diligence and inspection process. No representation should be treated as a performance guarantee until incorporated into an executed SPA.