

ACQUISITION OPPORTUNITY

US Patent 12,650,086 B1

Device for Conversion of Kinetic and Thermal Energies of Gas Flows to Work

**Complete sale and permanent assignment for an indicative one-off consideration of
US\$20,000,000**

The proposed transaction transfers the issued United States patent and the associated, engineering-development framework, documented know-how and assignable copyright. No continuing licence fee, royalty or revenue sharing is proposed.

Opportunity at a glance

Purchaser information	Position presented in the supplied materials
The patented device	A sensor-controlled turbine and evaporation system designed to recover kinetic, pressure and thermal energy from moving hot gas streams and convert it into additional mechanical work or electricity.
Industry	Industrial waste-heat recovery, targeting exhaust and process-gas energy that would otherwise be released unused to the atmosphere, including applications in chemicals, refining, metals, glass, cement, steel and industrial drying.
Transaction	Permanent assignment of the patent and know-how.
Consideration	Indicative one-off consideration of US\$20,000,000.
Continuing payments	No continuing licence fees, royalties or revenue sharing.
Favourable-input results	Mean and median net power increases of 13.30% and 13.18% within the defined favourable input window, to +19.27% net power increase at optimal input condition.
Selected global screening case	39.5 TWh/year of additional electricity and US\$3.95 billion/year of gross value under the mean and median net power increases and selected 25% compatibility case.

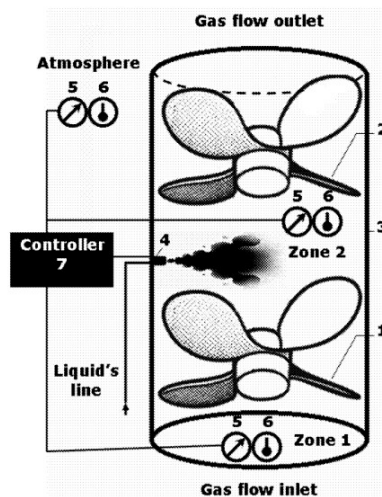


Figure 1. Patented system architecture.

1. Why the opportunity may be commercially important

Industrial processes release large quantities of energy in warm and hot gas streams. The patented concept is directed at recovering more useful work from suitable streams by changing the downstream thermodynamic and flow conditions after the primary turbine. For a purchaser, the patent and technical package may provide a platform for proprietary waste-heat and gas-flow energy-recovery development.

Complete ownership gives the purchaser the right to develop and commercialise the technology, deploy it in its own operations, license it to manufacturers or industrial users, resell or assign the patent and associated assets, form joint ventures, pursue improvement and derivative patents, control access to the technology, and prevent or restrict competitors.

2. Global screening opportunity

The supplied evidence review identifies 14.4 EJ/year of medium-temperature waste-heat exergy as the closest global proxy for the technology. Applying a 10-25% compatibility screen for gas form, temperature, dryness, pressure, velocity, operating continuity and practical deployment produces a preliminary patent-relevant candidate pool of 1.44-3.60 EJ/year, equivalent to approximately 400-1,000 TWh/year of exergy.

Under the stated central assumptions, the selected 25% compatibility case indicates 39.5 TWh/year of additional electricity and US\$3.95 billion/year of gross value.

3. Priority deployment sectors

The most relevant early opportunities are expected to be continuous or predictable industrial gas streams that can satisfy the required operating conditions. The supplied materials identify the following priority sectors:

- Chemicals and petrochemicals
- Petroleum refining
- Metals and glass
- Industrial drying
- Selected turbine exhausts
- Cement and steel