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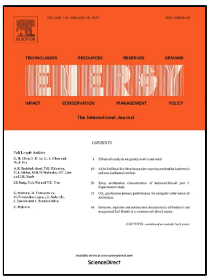

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A Novel Screening framework for Waste Heat Utilization Technologies

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HIGHLIGHTS

- Analysis considers deviation from ideal thermodynamic performance of technologies
- Five thermodynamic cycles screened for waste heat utilization
- Technology choice depends on the heat source temperature
- Screening tool presented to visualise results
- Screening tool guides technology selection

Nomenclature

AbC	Absorption chiller
ABS	Absorber
AHP	Absorption heat pump
AHT	Absorption heat transformer
BFW	Boiler feed water
COMP	Compressor
COND	Condenser
COP	Coefficient of performance
DHR	Direct heat recovery
Ex_D	Exergy degradation
EVAP	Evaporator
EXP	Expander
GEN	Generator
HW	Hot water
MHP	Mechanical heat pump
ORC	Organic Rankine Cycle
Q	Quantity of heat flow (kW)
T	Temperature (°C)
T_o	Ambient temperature (°C)
VCC	Vapour compression chiller
W	Electrical power (kW)
WHS	Waste heat source