



Gravitational Energy System Hydro Power OSS

DUTCH TECHNOLOGY
Water & Energy





What is

OSS

DUTCH TECHNOLOGY
Water & Energy

Technology based on gravitational pull & upward buoyancy movement to generate Clean Energy using a Synchronous Alternator working at 1,800 rpm using reinforced containers, transforming Gravity into Mechanical Torque using the Arquímedes Principle.



Clean Energy with small space usage & no climate dependency.

**Gravitational Energy System
Hydro Power OSS**

Gravitational Energy System Hydro Power OSS

Energy systems include:

- Gravitational to torque converter.
- AC synchronous alternators.
- Air transfer module.
- Off grid system start and control.
- Industrial control and system monitoring.
- Remote process monitoring.
- Modular system housing.
- 10 Year full GES system warranty.
- Clean
- Cost Effective



Energy modules, benefits:

- Fixed cost energy savings.
- On demand energy 24/7.
- System ownership.
- Modular system can be expanded as your demand changes.
- Energy saving clean generator.
- Carbon free generation of energy.
- Supervision and tech support.
- 10 Year full GES system warranty.



Modular Energy Features

DANTRU 100kw - Clean, cost effective Energy systems include



- Gravitational to torque converter
- AC synchronous alternators
- Air transfer module
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- Industrial control and system monitoring
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Modular Energy Benefits

DANTRU 100kw, energy modules, benefits:

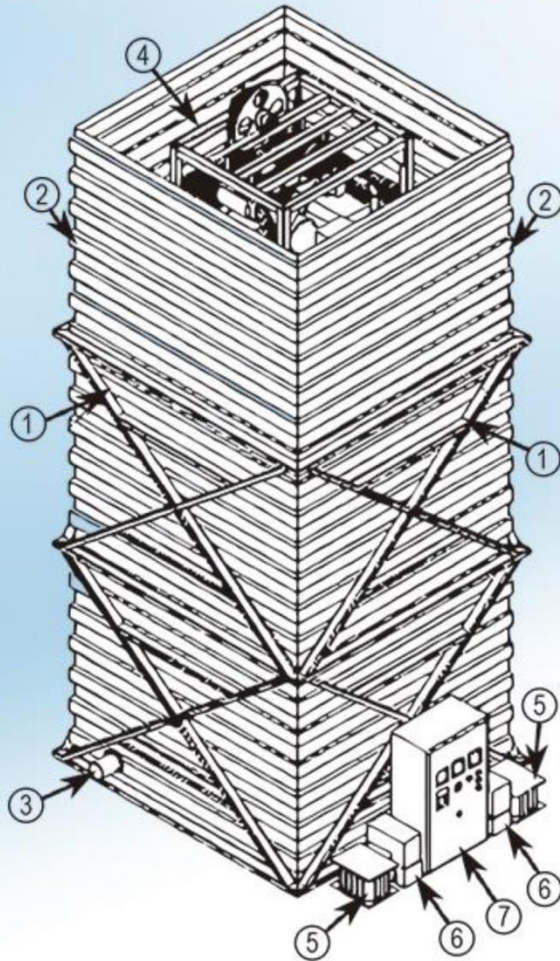


- Fixed cost energy savings
- On demand energy 24/7
- System ownership
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- Energy saving clean generator
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Gravitational Energy System

DANTRU OSS Clean Electric Generator System



- ① Generator housing
- ② Container structure
- ③ System drain
- ④ Generator mount
- ⑤ Power inverter
- ⑥ Self starting module
- ⑦ Control Cabinet



Generation Equipment 100KW (Ver 2.0 2017)



Specification Sheet

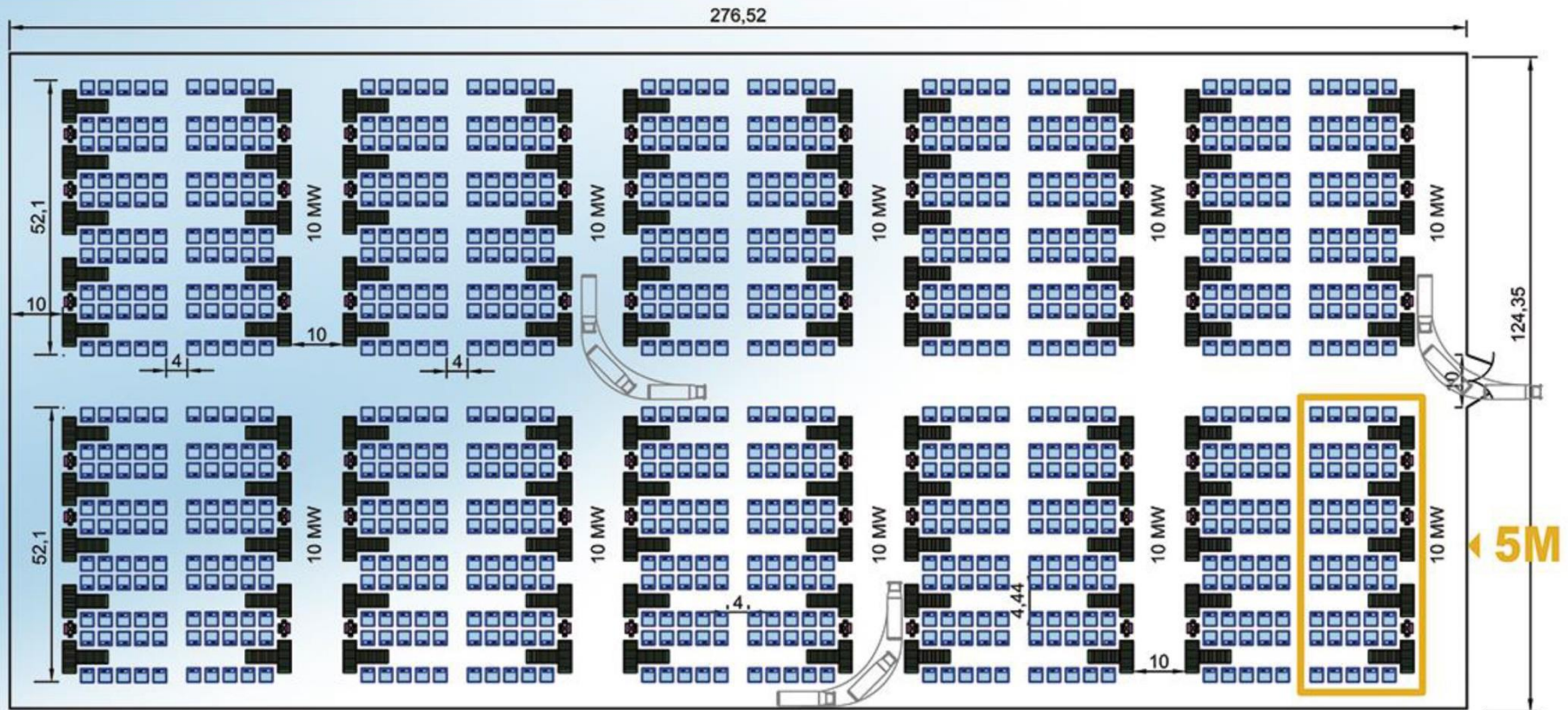
Electrical		Eléctrico		
Output Frequency Range	Frecuencia de Generación			50 - 60HZ
Starting Lap Time	Tiempo de Arranque			15 s.
Speed Control Accuracy	Exactitud de Control Velocidad			3-5%
Output Operating Voltage	Voltaje de Generación			220 - 460 V
KWh Generated per Unit	KWh Generados por Unidad Modular			100KWh
Operating Capacity - KVA	Capacidad de Generación Alternador WEG			141 KVA / 112.8 KW
Synchronous Alternator Type	Alternador Síncrono WEG - Tipo			12 terminals / 4 Poles
Alternator Certifications	Certificaciones del Alternador			CSA (Canada), CE (Europe), UL (USA)
Isolation Class	Clase de Aislamiento (Alternador)			Class H
Alternator Max Temperature	Máxima Temperatura en Alternador			125 Celsius
Minimum & Maximum Capacity	Capacidad Mínima & Máxima GES			100KWh - 100MW
Physical		Físico		Specifications
Water Contained per 100KW GES Unit	Agua Contenida por 100KW GES Unit			38,000 l.
Shipping Weight	Peso Neto en Seco - Embarque			7 Ton
Net Weight of Full System	Peso Neto en Operación			45 Ton
Max Height required for operation	Altura Máxima Requerida			7m.
Base Area for Operation	Area de Base Operativa			9 m2
Recommended Space per Unit	Area Recomendada por Unidad			12 m2
Color of Unit	Color Estándar de Unidad			Blue/Azul
Operation Requirement	Requerimiento para Operar			Fill up with Clean Water / Llenar con Agua
Environmental		Ambiental		Specifications
Environment Temperature	Temperatura Ambiental Requerida			-5 to 45 °Celsius
Humidity	Humedad Ambiental			0 - 80%
Storage Temperature	Temperatura Almacenamiento			-20 to 85 °Celsius
Noise (dB)	Nivel de Ruido			72 dB
Height Over Sea Level Range	Altura sobre el Nivel Medio del Mar - Rango			1 - 3000 m.
Water Disposal every 3 yrs	Tratamiento del Agua cada 3 años.			Non Hazardous Water / Tratamiento de Efluente no Contaminante
Water in Storage Cycle	Ciclo del Agua Almacenada			5 yr / 5 años
Makeup of Evaporated Water	Recuperación de Agua Evaporada			Approximately 3% Monthly / Aproximadamente 3% Mensual
Operation & Maintenance		Operación & Mantenimiento		Specifications
Operation Requirement	Requerimiento Operativo			Only during Startup / Solo en Arranque
Maintenance	Mantenimiento			Yearly Preventive Maintenance / Mantenimiento Anual
Re-Start	Arranque			Instantaneous power loss restart / Re-arranque inmediato
Air Pumping Pressure	Presión de Aire en Bombeo			2 Bar
Energy Storage	Almacenamiento de Energía			10KWh - Battery / Batería
Yearly Operating Hours	Horas de Generación Anual			8590 hr.
Maximum Down Time per Yr.	Tiempo Máximo de paro de Mantenimiento			7 days / 7 días
Equipment Factory Guarantee	Garantía de Fábrica Total			10 yers / 10 Años



100 MWh

AREA = 34.385.26 M²

LAYOUT PLANT GENERATION



Project Phases:



Site Survey

STS will develop a site survey and pre-engineering effort to validate our proposal on project site. Civil & Electrical considerations are key for project execution.



Project Specifications

Based on the site survey we develop the Project Specifications to comply with local & national standards on civil and electrical works and installations.



Construction

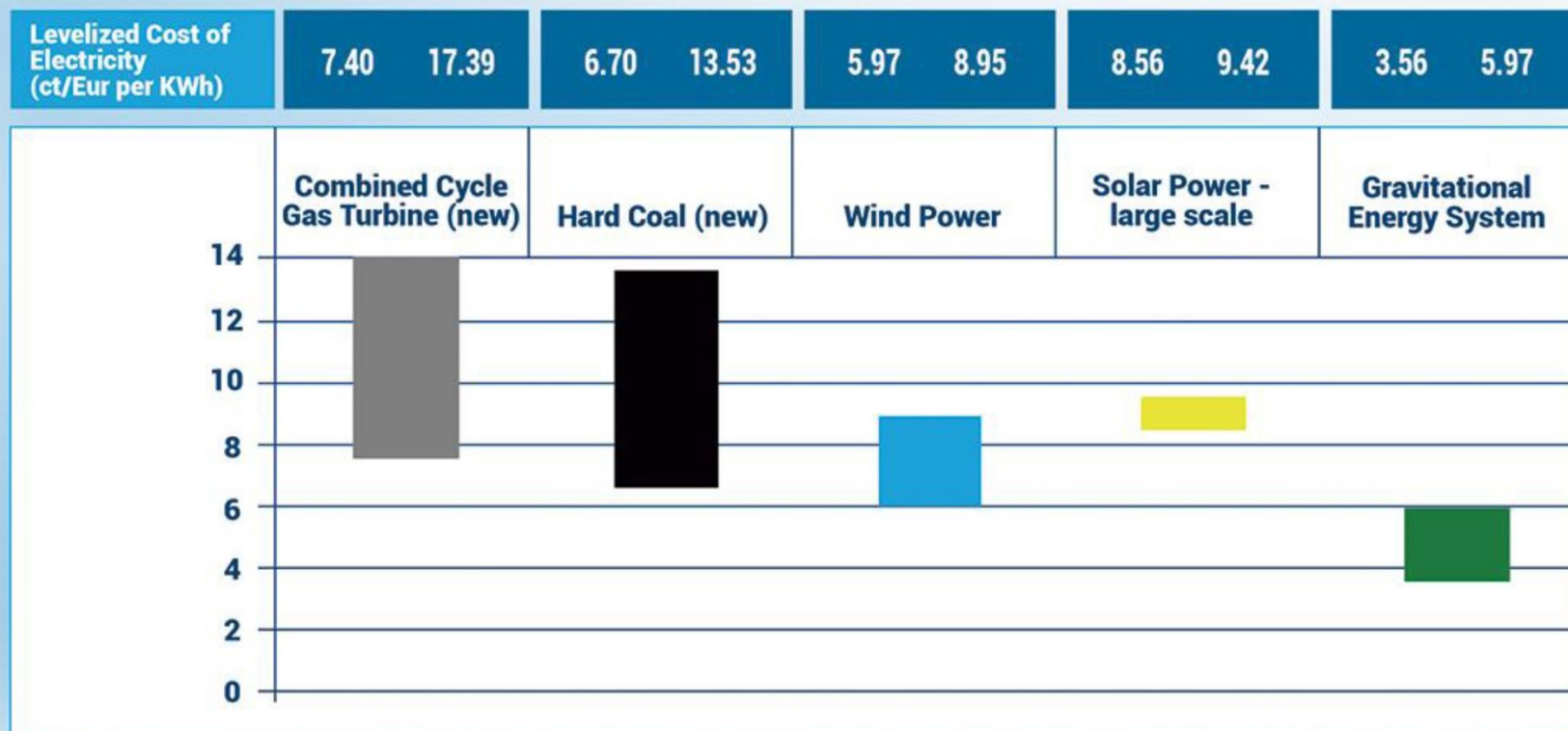
The new site construction will use local approved contractors to comply with local standards & develop the preparation infrastructure to receive GES Units on time.



Contract

Our contract will state all the required works, engineering effort & equipment features that comprise your project needs and energy requirements to be delivered on site.

Levelized Cost of Electricity (Cents/Eur per KWh)



Source: EWI, Trendstudie 2022, Appendix
Valores proyectados vigentes al 2022



GENERATION DATA for 3 & 5 MW

SPECIFICATIONS

Nominal Voltage	440 – 480 V	220 – 240 V
Requirement Coverage	100 % energy & peak demand	
Nominal Power per Unit	100 KWh	
Yearly Generation per System 3MW & 5MW	257,760,000 KWh	429,600,000 KWh
Recommended Area for the Installation	500 m2	800 m2
Interconnection to the Grid	<p>Our Electrical Scope of Work considers the interconnection of the System to the existing Distribution panel up to 50 meters for the Installation site.</p> <p>The Interconnection to the Grid Scope of Work is not Included and will be quoted based on client's requirements & specifications for proper funding & execution on site.</p>	



Commercial Conditions:

Type of Project

Turn Key Project

Equipment Ready to be Shipped

Equipment Installation, Commissioning, Debugging & Startup

Equipment Generating the required Electric Power

Commercial Conditions:

70% Down Payment

20% Prior to Shipment

5% Prior to equipment Installation on site

5% for Project Completion

NOTES:

Feasibility study must be conducted to clarify Infrastructure Needs, Logistics Operation & Installation Tactics. Pre-Engineering Survey will confirm the Proposal Economics to ensure proper project deployment. The cost does not include equipment customs clearance, duties, fees & truck loading and transport to the site.



5MW System Area:



Reasons to Invest:

Reasons to Compete Worldwide:

- Best LCOE Available.
- AC synchronous alternators certified by UL, CE, CSA, etc.
- Disruptive Technology.
- Clean Energy with harmless effects to the Environment.
- Industrial control and remote system monitoring & operation.
- Modulating Capacity for Peak Demand Requirements.
- Modular system housing for long term projects.
- 10 Year full system warranty.
- Relocatable System to any type of Environment.



Capabilities:



System monitoring

- is constantly monitored & diagnosed to prevent failures.
- is operated remotely, to avoid overloads & hijacking.
- monitors all system variables to ensure a reliable Operation and Maintenance.



Equipment Design:

- was designed to operate continuously ensuring proper power delivery.
- uses an Energy Management System to ensure proper peak demand coverage.



Project Management:

- Systems are designed, constructed & delivered with a dedicated Project Management Plan to ensure the expected results are met complying with the Quality & Timely Project Delivery on Site.



Contractors:

Our Turn Key makes sure that all contractors, engineers & managers work for the same Mission & Project Goals Delivery. Our Goal is to exceed your expectations on Energy & Water Delivery on Time & Quality.

Technology Implementation requires a dedicated site Survey, Feasibility Study & Pre-Engineering Works. Such Diligence will confirm or add the required activities, Civil, Electrical & Infrastructure Works necessary for the proper project deployment.

We love to develop well planned projects that deliver & exceed client's expectations.

Consider our company as your best partner to develop clean energy projects for a better Future Worldwide.

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