



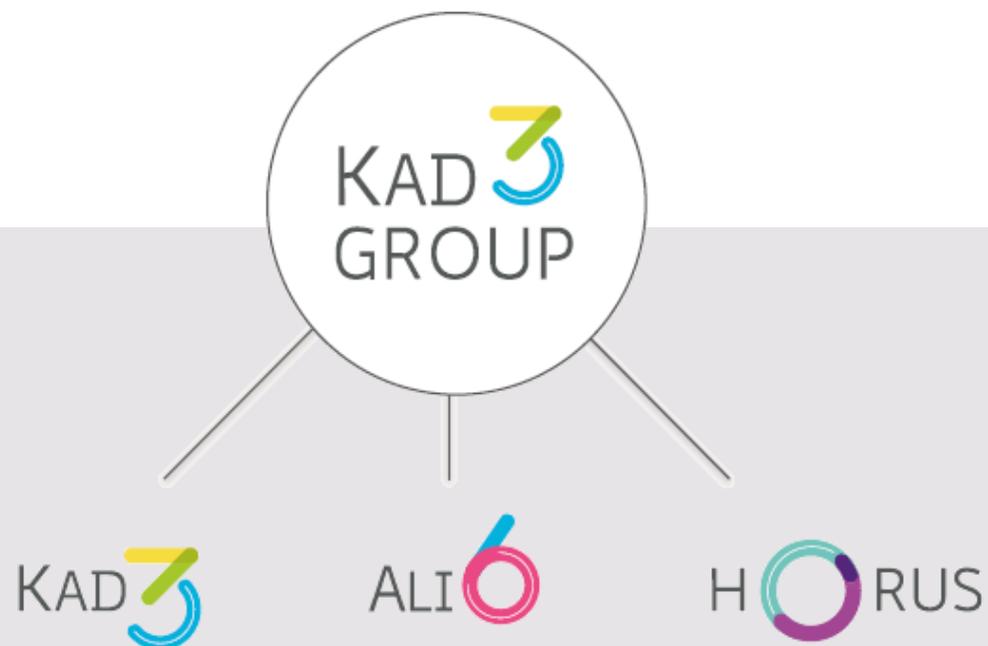
Beyond innovation.

# COMPANY PROFILE

## Energy efficiency and sustainability



## WHO WE ARE



Ali6 srl company born from the entrepreneurial desire and the skills acquired in the sector from the parent company Kad3 srl in order to make grow a manufacturer company dedicated to the translation of technological innovation in products available for all.



Ali6 philosophy is to carry out products for the rational use of energy, sustainable development and innovation for the improving of environment and life all over the world.

## WHERE WE ARE



ALI6 srl

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## CORE BUSINESS

Production of



### · **HYBRID POWER SOLUTIONS**

### · **SMART AND EFFICIENT CONVERTER HYREI**

[standard size from 0.5 to 1000kW and more]

### · **COGENERATORS AND TRIGENERATORS**

[standard size from 35 to 200kW and more]

### · **VRFB (Vanadium Redox Flux Battery) STORAGE**

### · **Biogas/Syngas Power Plants**

### · **Renewable Power Plants**

### · **Waste to Energy Power Plants**

### · **Hydrogen energy islands**

· ....



#### VISION

Make our customers satisfied with innovative solutions, best quality/price ratio customized offers with highest service level, quality and reliability.



#### MISSION

Create a business subject dedicated to transformation of technological developed innovation, by the group, in products for everyone.

## OUR VALUE



· Soft **SKILLS** and high profile professionals capable of managing even the most complex projects with responsibility and accountability.

· Our team works knowing that every action fielded will have an impact on the environment we live in and the future of all. **RESPONSIBILITY, COMMITMENT, PASSION, RELIABILITY AND PROFESSIONALISM** are the values that distinguish us and guide us.



· We are always searching for **INNOVATIVE SOLUTIONS** with a strong technology trying to translate it into useful products for all.

We deal with technologies and solutions that enable our customers to reduce consumption to **IMPROVE ENERGY EFFICIENCY AND GREEN ENERGY SOLUTIONS** for the benefit of competitiveness and the environment.





# H<sup>⚡</sup>REI

NEW ENERGY GENERATOR

## Smart and efficient Converter for Grid-connected and Off-grid applications



UP TO 90%  
CONSUMPTION  
SAVING



24H POWER  
AVAILABILITY



OPTIMIZED  
MANAGEMENT



TRANSITION FROM  
NATIONAL GRID TO BATTERIES  
WITH NO INTERRUPTION



VOLTAGE  
REGULATOR



MODULAR  
CASES



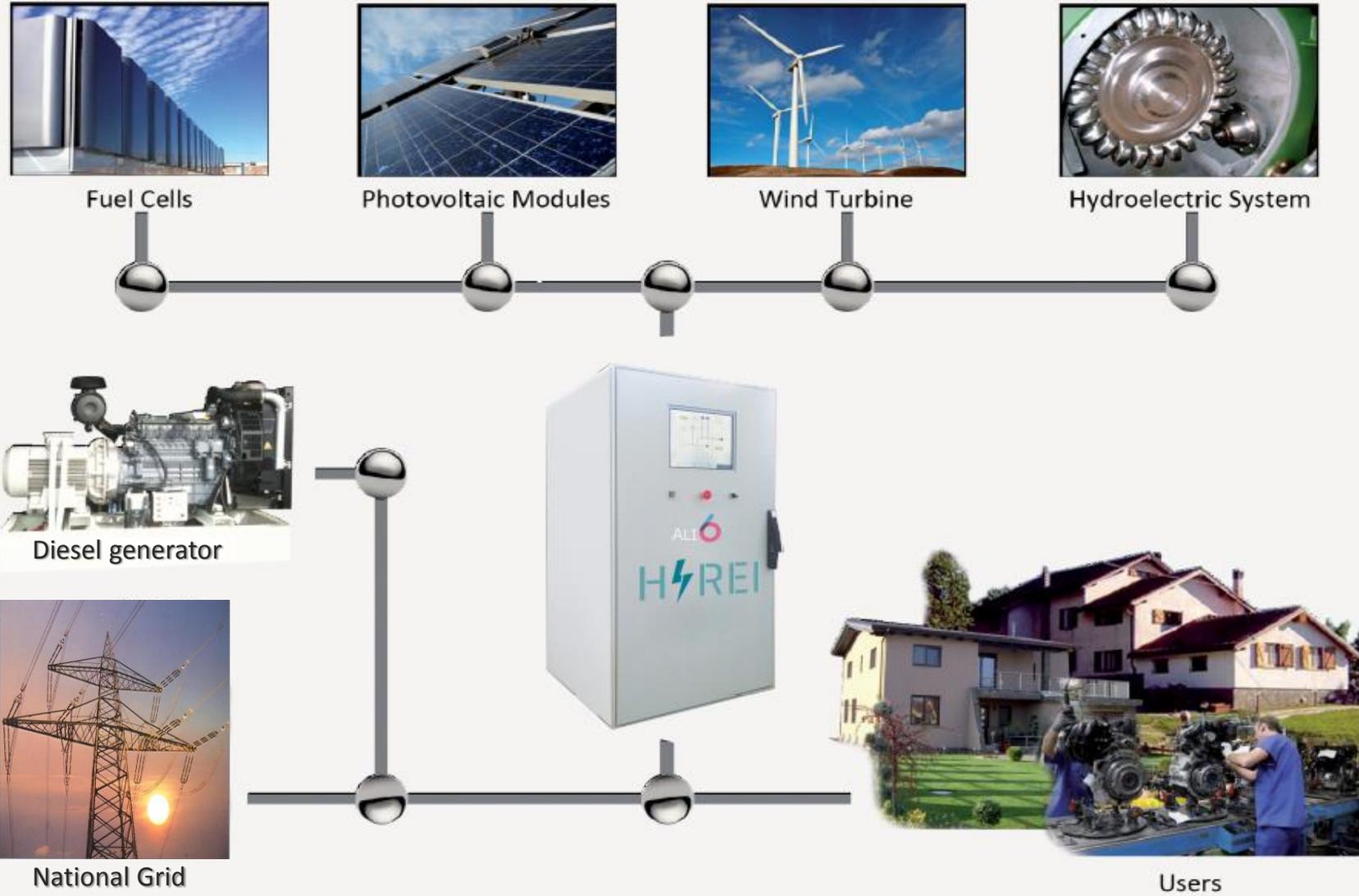
SELF-LEARNING  
SYSTEM



SIMULTANEOUS USE  
OF RENEWABLE ENERGY  
SOURCES



# HYREI YOUR SMART GRIDS



\*OPTIONAL CONNECTION TO NATIONAL GRID



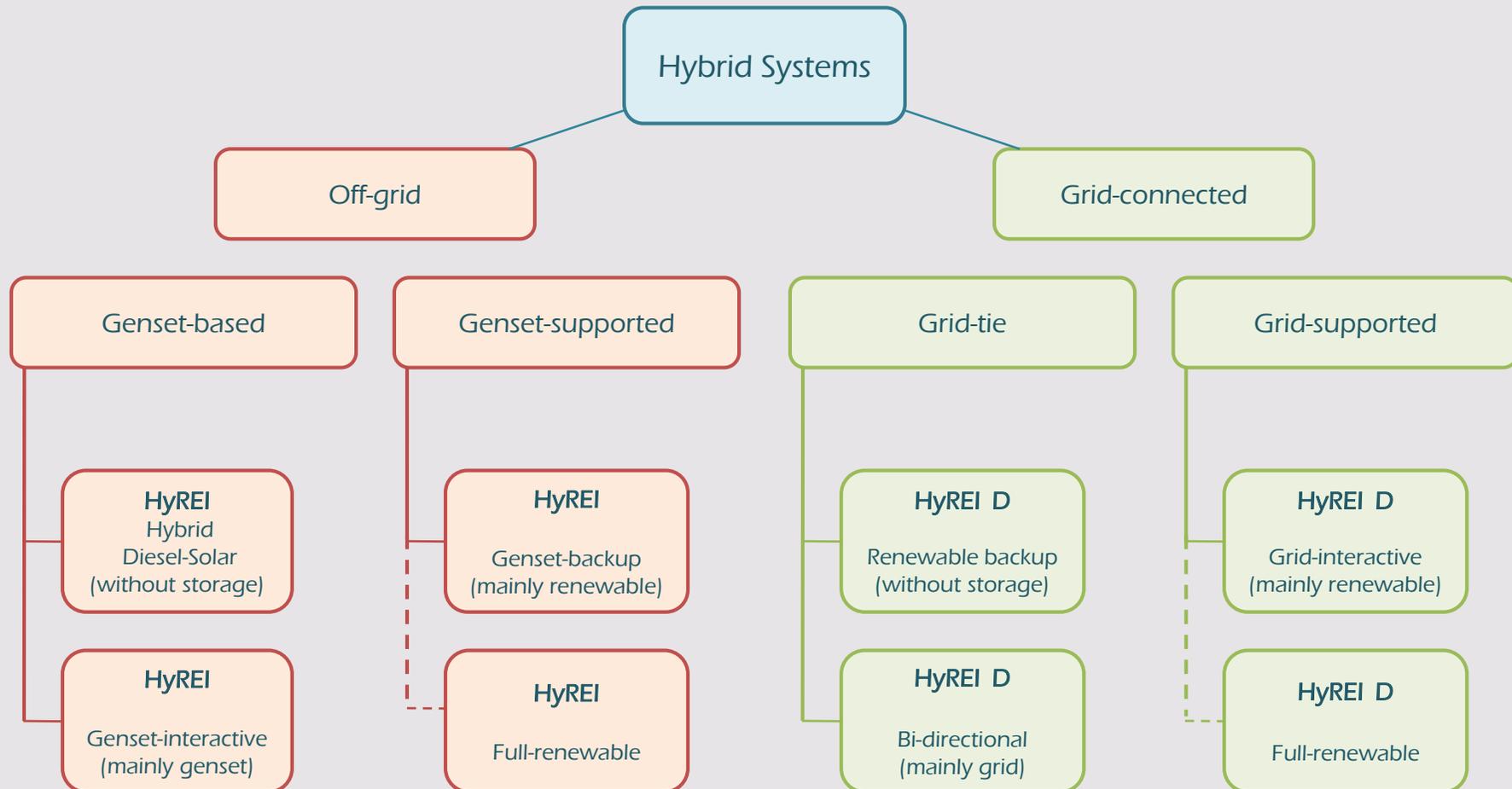
### HyREI small

- ✓ 1-10 kW off-grid and/or grid-supported solutions
- ✓ Storage - based applications
- ✓ Renewable stand-alone (genset off/grid off) mode\*
- ✓ Direct line conversion  
(Renewable/battery mode → genset backup mode without interruption)



### HyREI Dynamic

- ✓ 10-1000 kW (and more) off-grid and/or grid-connected solutions
- ✓ True Hybrid configuration (Genset + PV) WITHOUT battery storage
- ✓ Optional storage plug
- ✓ Renewable stand-alone (genset off/grid off) mode\*
- ✓ Bidirectional mode\*



# HYREI APPLICATIONS



HOUSING AND VILLAGE ELECTRIFICATION



PUMP AND WATER TREATMENT



STREET LIGHTING AND PUBLIC UTILITIES



RADIO DEVICES AND TELECOM SHELTER



LIGHTHOUSES

## WHY CHOOSE HYREI



- Off-grid / Grid-connected mode
- Genset-PV without storage
- Smart converter self power control
- Suitable for all renewable power generators
- Plug & Play
- New Hybrid solutions



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# NEW GENERATORS



## Genset - New Generation

✓ New genset fueled by:

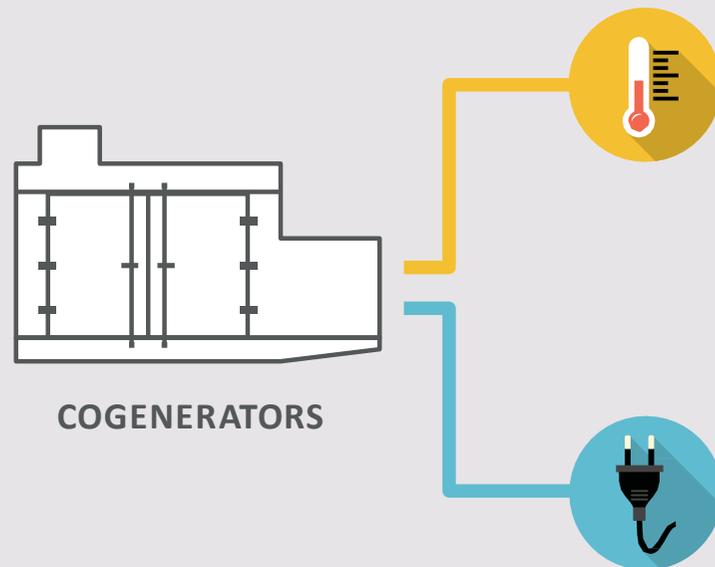
- Vegetable oils
- Biogas
- Syngas
- Dual Fuel



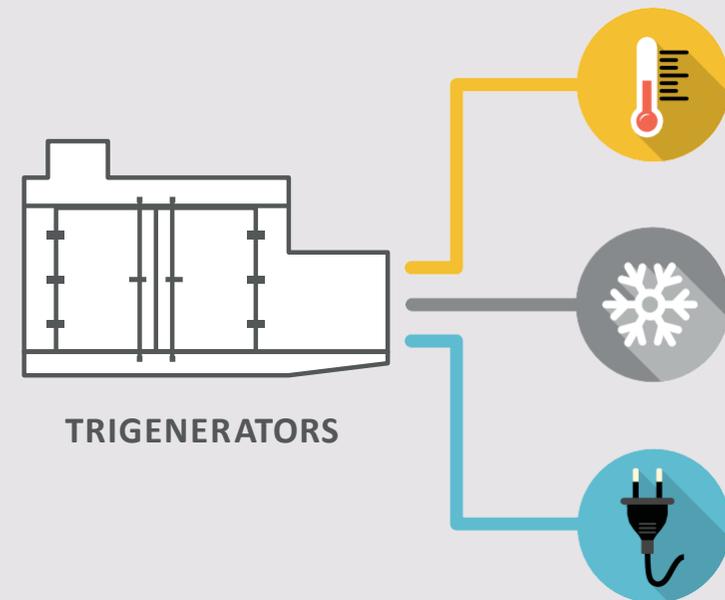
✓ Cogeneration (trigeneration) mode

## COGENERATION AND TRIGENERATION

·**COGENERATION** is the electricity and heat combined and contemporary production from a single energy source, implemented in a singular integrated system, with consequent economic and environmental benefits for the client, compared to detached production of electricity and heat.



·**TRIGENERATION** is the electricity, heat and cooling power simultaneous production.





Cogeneration is a mature technology, that can give an important contribution in terms of environmental benefits and energy savings, especially in view of the European targets for 2020.

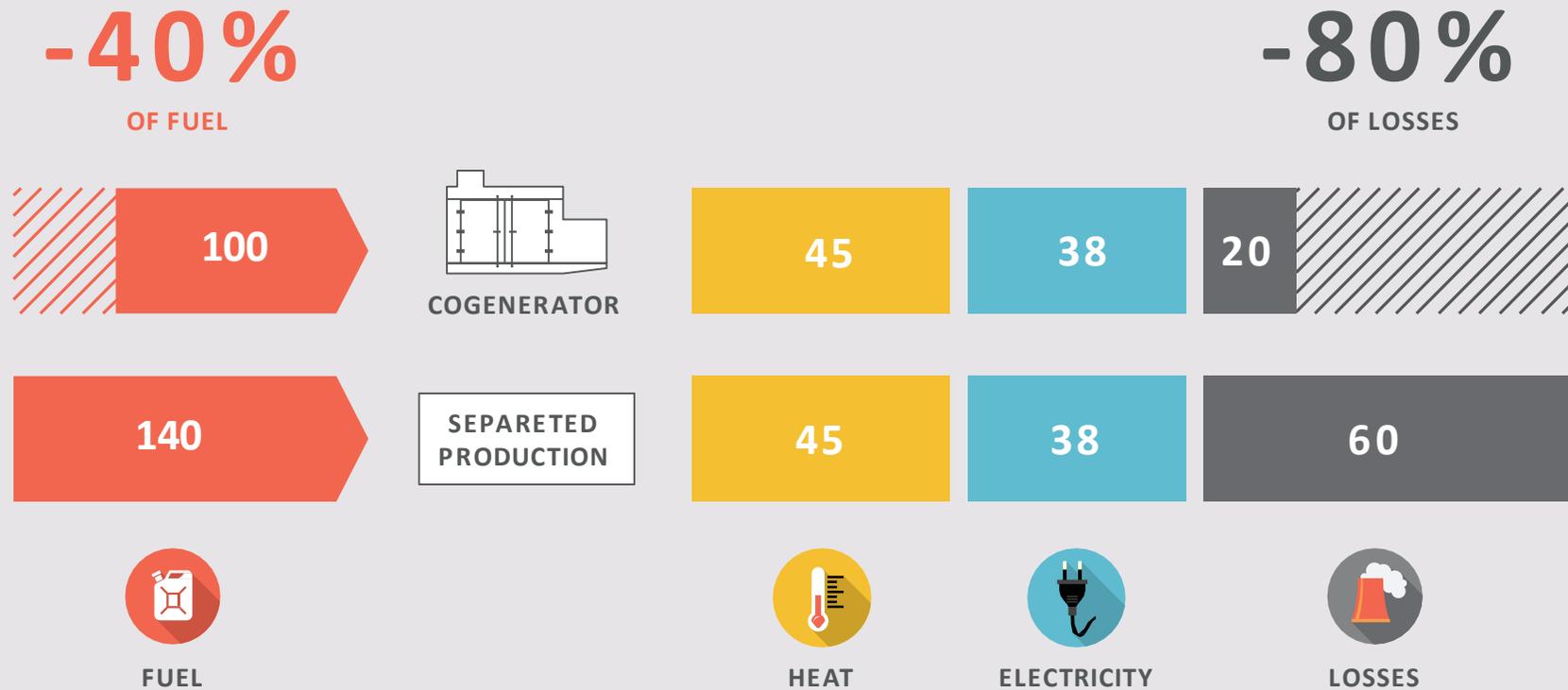
The European Parliament, with Directive 2004/8/EC, recognizes the energy efficiency and cogeneration potential and has linked the Community priorities to this technology promotion.

# COGENERATION BENEFITS



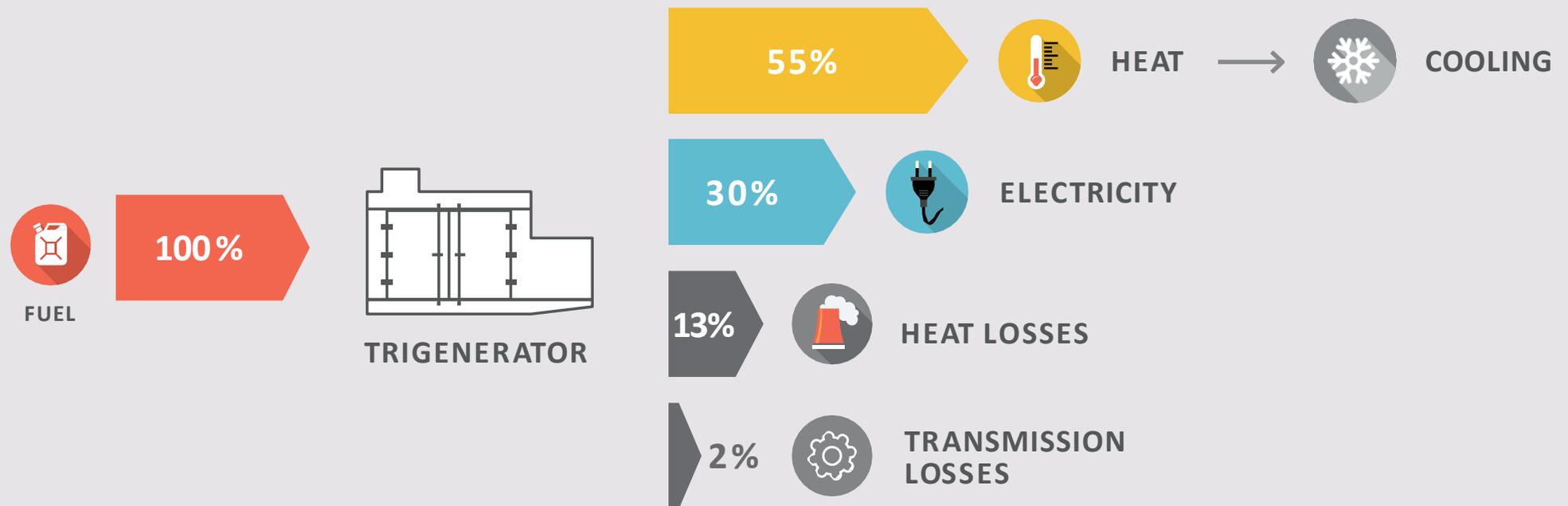
In terms of efficiency, a cogeneration plant has an average amount efficiency around 80-90%. Compared to separated production of heat and electricity, **efficiency increase is about 30-40%**.

Combined production can increase fossil fuel efficiency use **over and above 80%**; this corresponds to **lower costs and lower emissions** of pollutants and GHG, compared to electricity and heat separate production.



# TRIGENERATION

Trigeneration term, means a particular form of cogeneration that involves three energy forms simultaneous production, starting from a single fuel: electricity, thermal in the form of heat and thermal energy in the form of cold (CHCP= Cogeneration of Heat, Cooling and Power).



# COGENERATION APPLICATIONS



Cogeneration could be applied in all those fields in which there's demand for electricity and heat (and possibly cold). The three main markets target are:



## RESIDENTIAL SECTOR

Residential sector, which more properly falls within the micro and which has a large untapped potential.



## TERTIARY SECTOR

Tertiary sector, which has shown, in recent years, the highest growth rate for installed machines number.



## INDUSTRIAL SECTOR

Industrial sector, in which cogeneration plants are very common especially in large companies, but with unexplored market such as the vast network of small and medium-sized enterprises.

# COGENERATION APPLICATIONS



Tertiary sector is a very promising field for cogeneration applications, it can boast of numerous installations throughout the country in present day. Tertiary sector concerns different consumptions of a certain size, characterized by high electrical and thermal consumption, often with cooling demand (trigeneration). Among the most interesting applicants, there are:



**HOTELS**



**SHOPPING CENTERS**



**SUPERMARKETS**



**HOSPITALS**



**UNIVERSITIES**



**SPORT CENTERS**

## COGENERATION APPLICATIONS

Industrial cogeneration large size is a reality for a long time in Europe, with important amount in installed plants number and capacity. Many types of industries that require large amounts of heat and electricity in cogeneration, found the best way to halve their energy bills in cogeneration solutions.

Among most effected industrial sectors and fields in which CHP already has a certain distribution, we find:



**FOOD INDUSTRY**



**PAPER MILL**



**CERAMIC / BUILDING**



**CHEMICAL**



**ENGINEERING  
INDUSTRY**

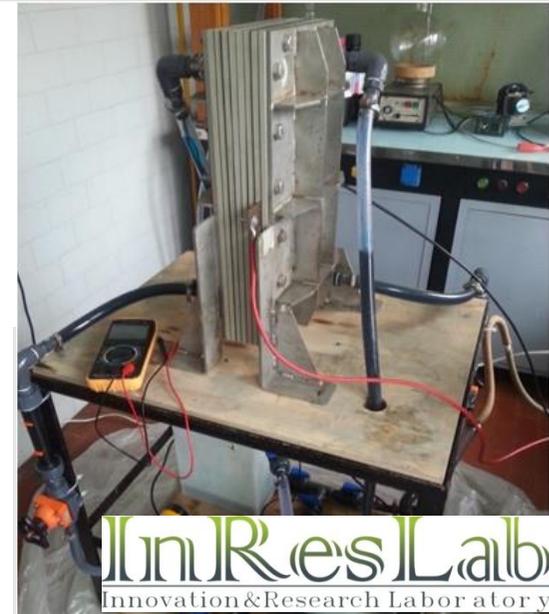
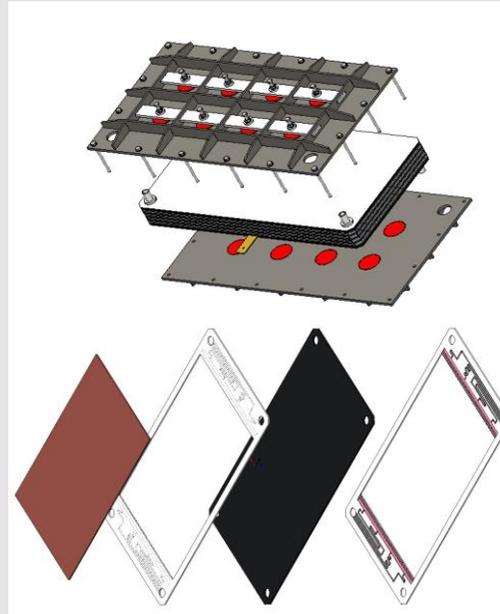
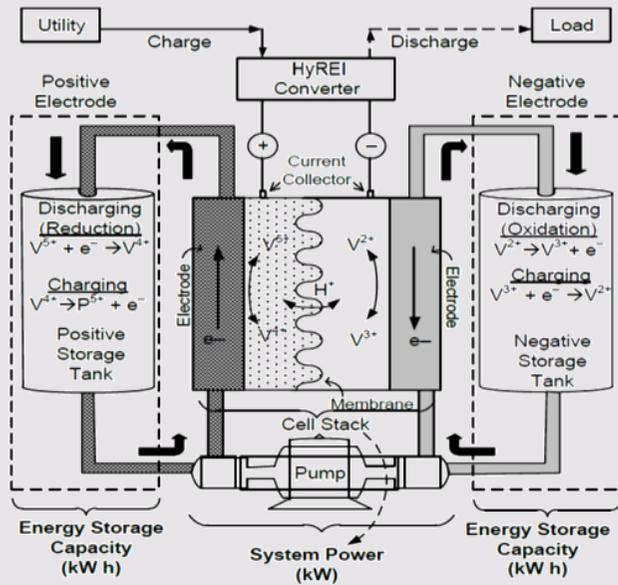


**TEXTILES**

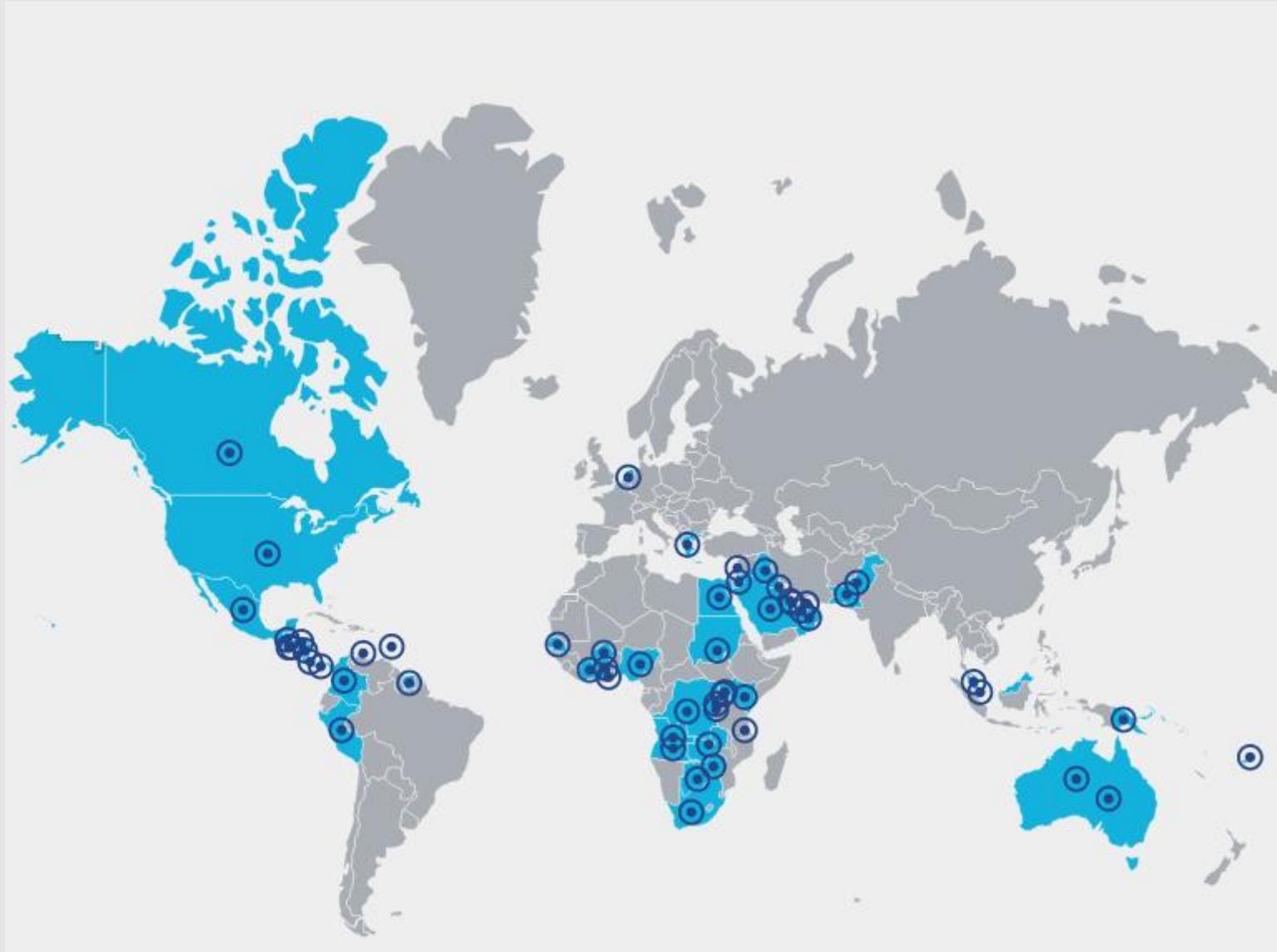
# New storage technology VRFB



# VRFB storage - New Technology



	VRFB	Lead acid
Life	>20 years	2-5 years
Power / Capacity	Indipendent	Dipendent
% Discharge (D.o.D.)	90% (20000 cycles, no self-discharge)	50% (700-1800 cycles @ D.o.D. = 80% )
Risks	High safety (water-electrolyte)	Explosion/fire
Life Cycle Assessment	Electrolyte inexhaustible* Recyclable Vanadium salts after filtration Low environmental impact	Lead is a heavy and toxic metal (2.9 - 3.5 times more energy in the production phase and recycling)





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