

**iO-ENERGIES ITALIA SRL**

**PRESENTATION**





XXX

—

M M M

Z Z Z

— — —

S S S

— — —

S S S

— — —

O O O

Z Z Z

— — —

T T T

— — —

R R R

— — —

A A A

— — —

D D D

We offer you an innovative development  
from **iO-ENERGIES** - Emission Trap «FOREST».  
This unique product is designed for effective  
neutralization of pollutants that enter the atmosphere  
from vehicles, factories, farms and other industrial  
enterprises. Now they can act harmlessly for  
the environment and human well-being.

Global warming caused by increasing CO<sub>2</sub>  
emissions and ozone hole problems have become  
a serious challenge for our planet.

The specialists of **iO-ENERGIES**, have achieved  
impressive results in reducing harmful emissions.

X X X X X



Introducing 4 types of Emission Trap «FOREST» units, each with its own unique features. The most remarkable thing is that they purify ordinary emissions to an incredibly high level, guaranteeing perfect air quality:

**NOx** - 95%  
**CO** - 82%  
**CO<sub>2</sub>** - 78%  
**CH<sub>4</sub>** - 84%

Each of the four types of units has the ability to purify from **10 000 m<sup>3</sup>** to **70 000 m<sup>3</sup>** of air from contaminants per day. It is important to note that the purified air is enriched with ozone - 0.03 g of ozone is produced per each cubic meter. This means that when cleaning **1 000 m<sup>3</sup>** of air we add **30 g** of ozone to the atmosphere. The residual ozone will naturally volatilize and oxidize gas emissions, resulting in maximum efficiency of the plant and its technology for ozone layer recovery.



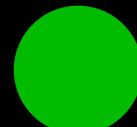
Emission Trap «FOREST» consists of 6 modules, each of which operates for 2 hours with a break of 4 hours.



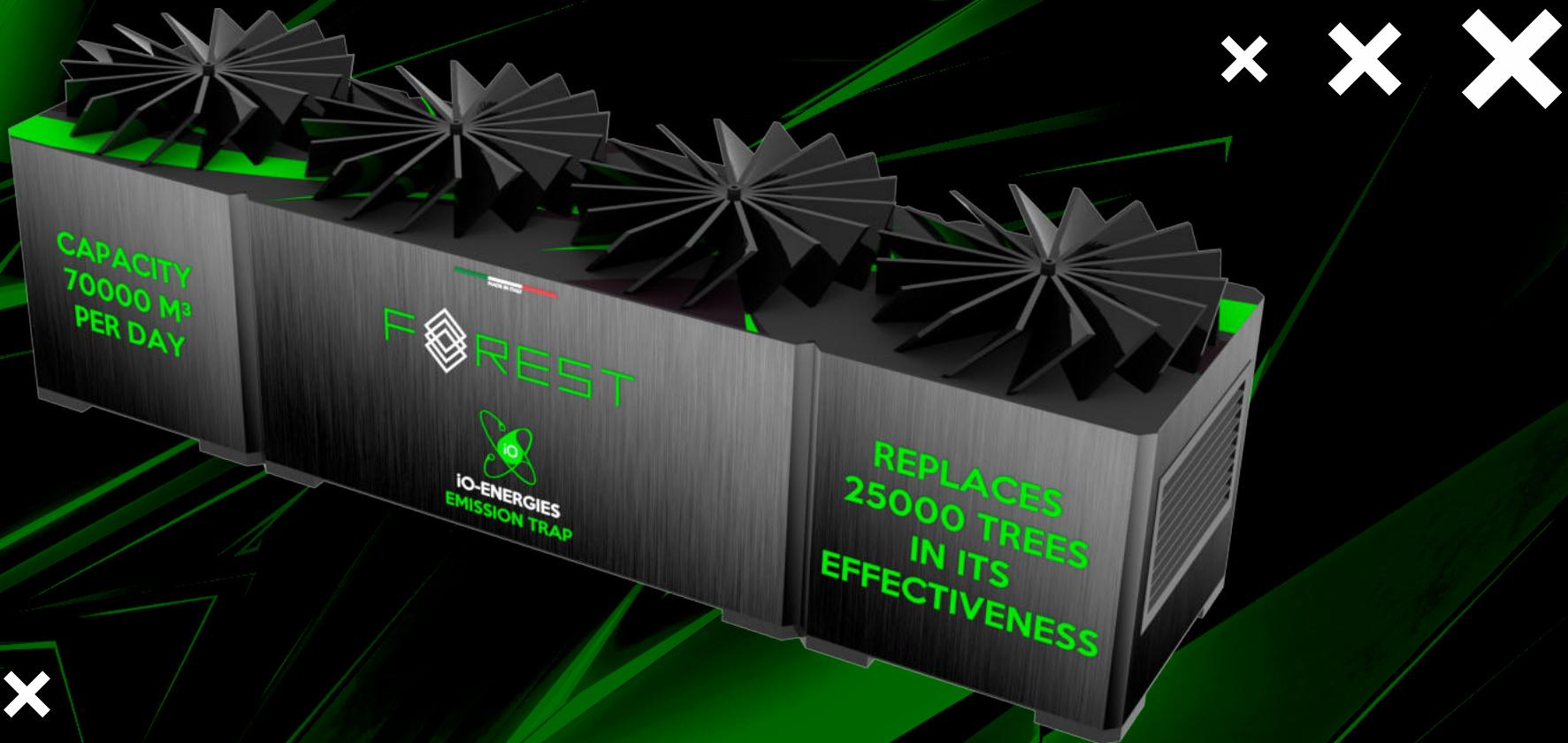
The main function of the system is to clean the air from various particles. For this purpose, a gas analyzer is installed, which controls the composition of the air flow both at its inlet and outlet. With the help of this analyzer, the level of various particles in the air is displayed on the monitor in real time.

Thanks to its mobility, the Emission Trap «FOREST» can be installed in any convenient and necessary place where harmful pollutants in the air are exceeded. It is ideal for installation on highways, underground parking lots, buildings and can also be integrated into the fairing of trucks, allowing air purification over a distance of up to 1 000 km with a volume of up to 100 000 m<sup>3</sup>.

One of the key advantages of the Emission Trap «FOREST» system is that there is no need to use filters and therefore no need to replace them. Moreover, the service life of this system is virtually unlimited, making it a long-lasting and effective air purification solution.



Based on this installation, it is possible to lay a pipeline and create a similar ventilation system over the road. By means of such receivers it is possible to install a cascade over each lane of the highway and to suck up the exhaust gases released by cars.



Each individual receiver is capable of covering an area of 1 000 m<sup>2</sup>.

The exhaust gas absorption probes can be manufactured and installed individually for each project.

The flow of vehicles is irrelevant.

**The exhaust gases of internal combustion engines of automobiles contain more than 200 different chemical compounds, many of which are harmful to both humans and the biosphere.**

**Among these toxic substances, carbon oxides, nitrogen oxides, sulfur compounds, unburned hydrocarbons, soot and other toxic and carcinogenic pollutants predominate.**

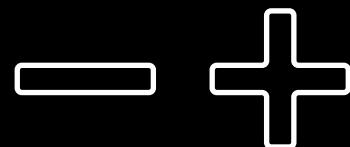
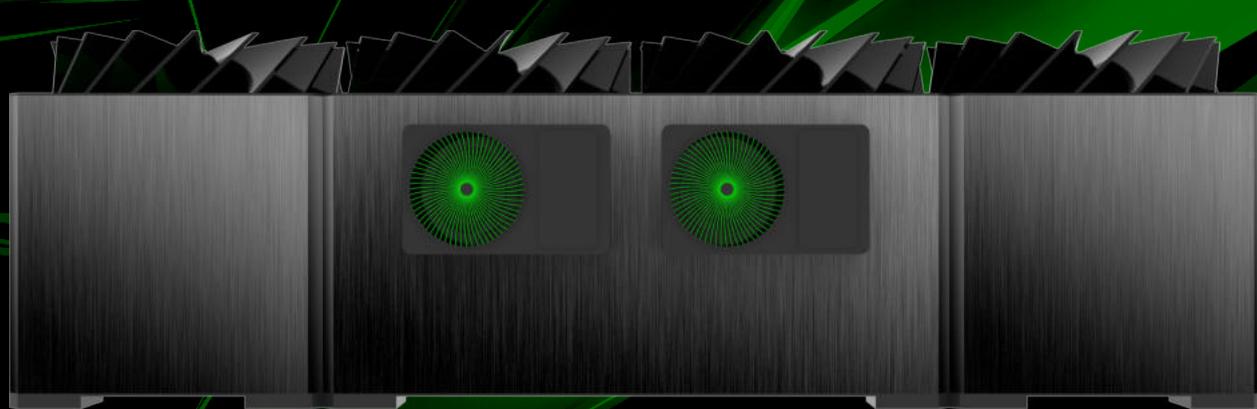
**Transportation remains a major source of pollution contributing to the greenhouse gas effect, with  $\text{CO}^2$ ,  $\text{N}_2\text{O}$  and  $\text{CH}_4$  being the main harmful components, with  $\text{CO}^2$  making the largest contribution to this negative process.**

**The main sources of  $\text{CO}^2$  greenhouse gas emissions are gasoline engine vehicles. Diesel engines, on the other hand, emit less  $\text{CO}^2$ , although they pollute the environment with oxides of nitrogen ( $\text{NO}_x$ ), which are harmful to the respiratory system.**

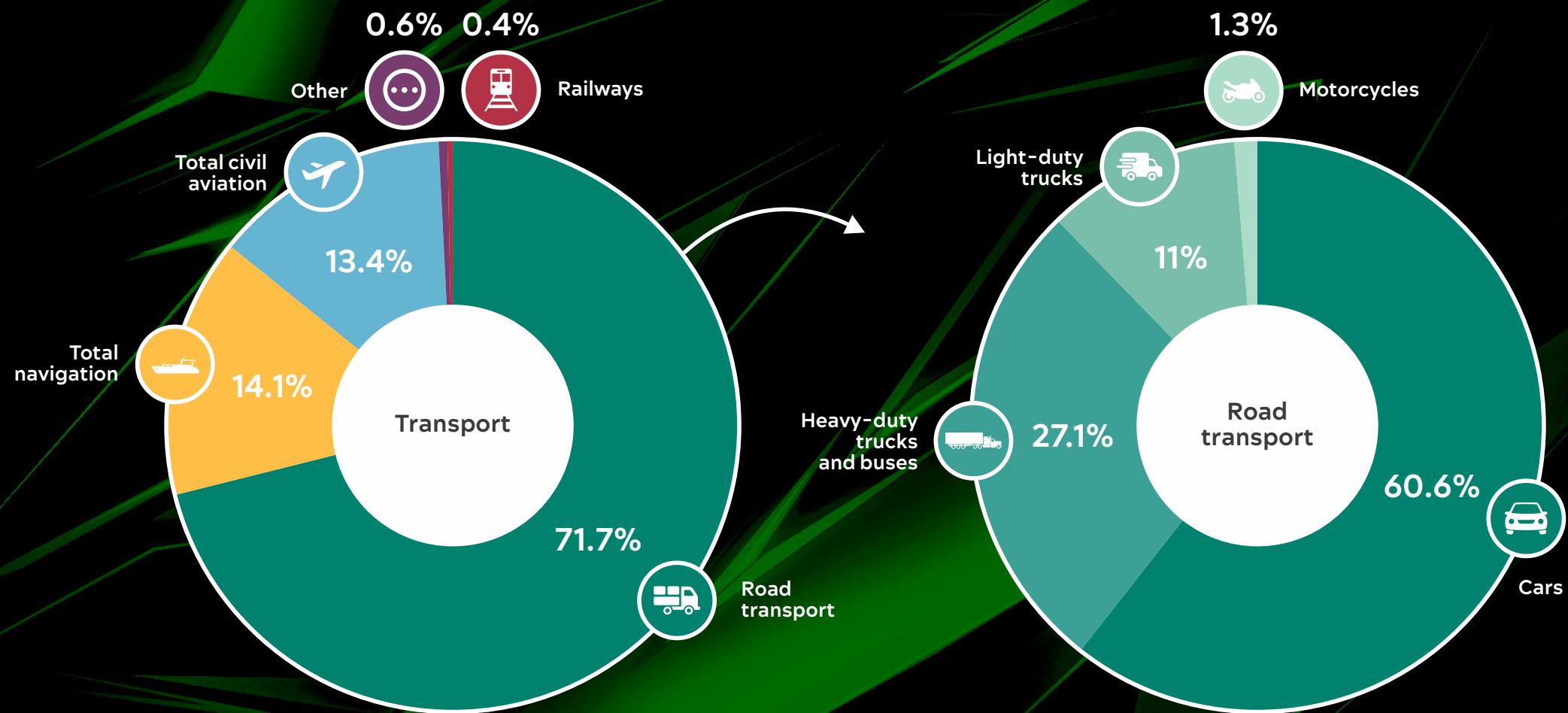
✗

✗

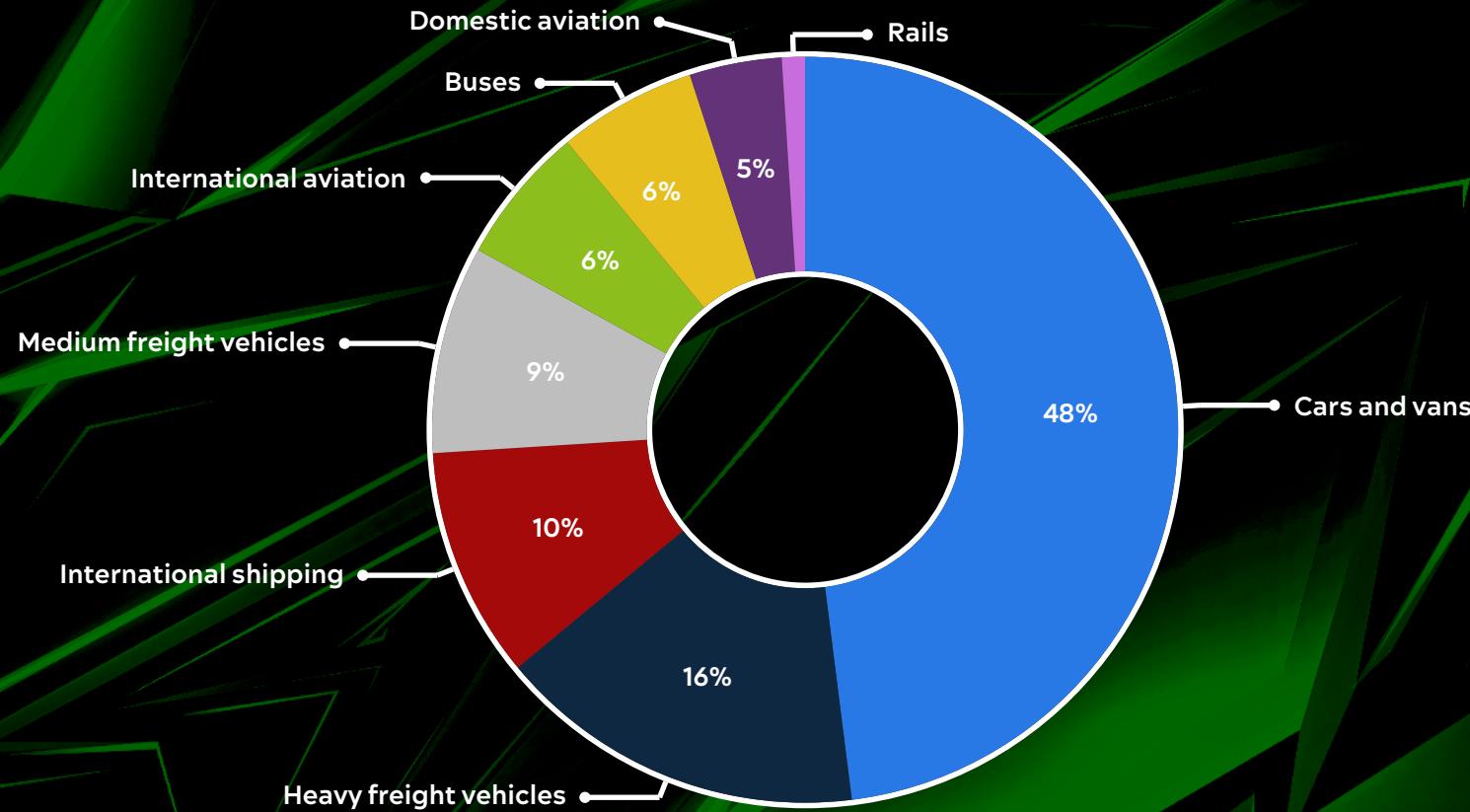
✗



# Greenhouse gas emissions from transportation in the EU



# CO<sub>2</sub> emissions from the world's transportation sector in 2022:



The European Commission (EC) plans to introduce a new environmental standard «Euro 7» in the field of transport from 2025. according to this standard, cars complying with it will not have to exceed a CO<sub>2</sub> emission limit of 30 g/km at the moment only few cars can adhere to such a limit, and pollution tax is paid if CO<sub>2</sub> emissions exceed 130 g/km.

## Hazardous components of toxic substances:



1. Critically harmful elements and compounds that are incapable of self-degradation.
2. Substances that destroy the ecosystem and take more than 30 years to decompose.
3. Wastes and components that take more than 10 years to decompose.  
Most of these mixtures are produced in chemical plants and laboratories.
4. Substances that have a mildly harmful effect on the biosphere.

Hg - Mercury	Cl <sub>2</sub> - Chlorine	Mn - Manganese	NH <sub>3</sub> - Ammonium
Se - Selenium	Cr - Chromium	Ba - Barium	C <sub>4</sub> H <sub>10</sub> - Butanum
CdO - Cadmium	NaOH - Sodium hydrate	C <sub>2</sub> H <sub>5</sub> OH - Ethylic	C <sub>6</sub> H <sub>14</sub> - Hexan
CrO <sub>3</sub> - A mixture of sulfuric acid and potassium dichromate	Cu - Copper	V - Vanadium	SO <sub>4</sub> <sup>2-</sup> - Sulphates
HF - Hydrofluoric acid	C <sub>6</sub> H <sub>5</sub> NH <sub>2</sub> - Aniline	Ag - Silver	Al - Alluminium
Zn - Zinc	Ni - Nickelous	W - Wolframium	C <sub>6</sub> H <sub>12</sub> - Hexalenethene
As <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> - Arsenic salts	H <sub>2</sub> SO <sub>4</sub> - Sulphuric acid	PO <sub>4</sub> <sup>3-</sup> - Phosphate	C <sub>2</sub> H <sub>6</sub> O - Ethanol
Pb(SO <sub>4</sub> ) <sub>2</sub> - Lead sulfate	C <sub>6</sub> H <sub>5</sub> O - Phenol	SrCO <sub>3</sub> - Strontium	CH <sub>4</sub> - Methane
Solutions with salts, mercury oxides	B - Borium	C <sub>3</sub> H <sub>6</sub> O - Acetogen	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub> - Ethyl acetate
HF - Fluorine hydride	H <sub>2</sub> S - Hydrogen sulphide	C <sub>8</sub> H <sub>10</sub> - Dimethylbenzene	C <sub>4</sub> H <sub>8</sub> - Butylene
	CS <sub>2</sub> - Carbon disulphide	C <sub>8</sub> H <sub>10</sub> - Ethyl benzene	C <sub>10</sub> H <sub>8</sub> - Naphthalene
	Co - Cobalt	CH <sub>3</sub> COOH - Vinegar acid	(C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub> O - Ethoxy ethane
	Mo - Molybdenum		Acetone
	Sb - Stibic		Petrol
	CH <sub>2</sub> O - Formaldehyde		Turpentine
	NO <sub>2</sub> - Nitrites		

The **FOREST** Emission Trap system also has its own potential for generating electrical energy.

The wind turbines are powered by two sources: external wind and channel air flow from air inlet and outlet fans. In this way, we noticeably reduce the energy consumption of the installation by **50-60%**.

The system is equipped with various components and devices that allow us to effectively utilize its capabilities. A special oxygen concentrator, a high-power ozonator, a fog generator and an air humidification system - all these elements contribute to the precipitation of heavy metals.



We also provided water purification systems, a cooling system for the unit, a waste collection system with magnesium anodes, a water tank heating system, a self-cleaning filter system and gas analyzer monitoring at the inlet and outlet of the system. All ambient air data are sent to the country or city control center.



**The system also has an emergency mode of operation for when the main network is down. We have also provided fire suppression and vandal protection systems.**

**The total volume of air treatment per day will range from 50 000 m<sup>2</sup> to 70 000 m<sup>2</sup>. Each order is customized depending on the need.**

**The warranty life of this system is 3 years and the annual service will last 8 hours.**

×

×

×



## In conclusion

We, the team of **iO-ENERGIES**, sincerely express our gratitude for your interest in our products, which are an integral part of modernity and are necessary to preserve the quality of life and balance of nature.

Our technology is aimed at solving the problem of global warming, which, unfortunately, continues to increase from year to year.



# TYPE 1



## TYPE 2

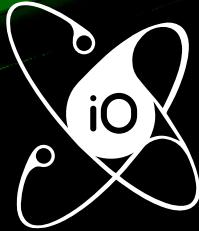


# TYPE 3



## TYPE 4





## **iO-ENERGIES ITALIA SRL**

---

**Website: [io-energies.eu](http://io-energies.eu)**

**E-mail: [info@io-energies.eu](mailto:info@io-energies.eu)**

**Tel.: +39 327 806 1880 | +39 329 818 4340**

**Legal address: Via Mazzini, 10, 22070, Appiano Gentile (CO), Italy**

---

**Thank you for your interest in iO-ENERGIES  
and we wish your business prosperity!**