



SHORT HISTORY

WIND+SOL, Ltd



The first engine Greek-origin **Mechanical Engineer Chris Vouros** had seen as a toddler, in a small village of Samos island and when electrical energy had yet to be invented, was the classic **Multiblade Windpump**.

Growing up in natural environment, he learned to observe **the work of the Creator of the earth**, the natural laws and their functions, the wind, the sun, the sea, the animals, the birds, like Newton, Aristotle and others. Then, there was no Google to give us everything ready ! **We had to observe and think !**

Later on, he studied Engineering in Italy and was specialized in the improvement of racing cars engine performance. He was professionally involved with this as well as with the representation and introduction of the sports cars named **PUMA**, while he had also obtained the license to manufacture them in Greece. Nevertheless, the idea of producing electricity from natural sources such as WIND, SUN, WATER always “tickled” him. In 1977, alongside **PUMA** cars, he began to design and construct low – power wind generators.

In the early 80’s, “Awake!” magazine coverpage (22.2.1980) caught his attention, featuring a drawing of a wind turbine and a photovoltaic panel. The related article was analyzing the advantages of the renewable sources of energy as compared to the environment non-friendly fossil fuel, also highly responsible for climate change.

In 1993 he established **ENERGOTECH SA** which was activated in the field of designing, manufacturing and getting the authorization of wind/photovoltaic parks. In 2008, in collaboration with ELETAEEN **he installed in Constitution square, in front of the parliament**, wind turbines in order to inform the public about the advantages of renewable energy sources.

This article urged him to progressively abandon puma cars and became the firelighter for further investigation on the design and construction of wind turbines by founding **Wind+Sol Ltd**. In order to measure and certify their performance, Chris Vouros collaborated with the National Technical University of Athens. The wind turbine runner rate of performance is 49%, according to the **NTUA Certificate dated 18/10/1983** and is still considered a very high performance in our days.



At the same time, Chris Vouros, who likes to observe and study natural phenomena, established the **AIR-ANTIFROST** technology, a non-frost protection of agricultural crops, based on the exploitation of a natural phenomenon called “**temperature inversion**”.



This **technology** received the certificates **1002506/15.1.1997** and **1002836/15.1.1998**. He has constructed and installed over 100 engines of this type, called **HAM**, of 7,5-75,0 KW power, for the protection of crops 5.000-40.000 s.m. (at that time, the Hellenic Organization of Agricultural Cultivation Insurance subsidized **HAM** 75%).

Considering that **fog** is a natural phenomenon “milder” than **ice**, he started investigating the damages caused by fog, mainly to **air and road transportation**. This research brought significant results to light, showing not only financial losses but also fatalities. Actually, **it was discovered that over 2,500 human lives have been lost in airplane accidents during the last 25 years, due to fog**. Therefore, he reached the conclusion that such casualties could be avoided, by adapting the existing expertise and **by adopting a proactive approach over a trouble shooting one**.

Proactiveness includes continuous tracking and analysis of the natural meteorological phenomena contributing to the creation of fog. The system is thus **proactively activated**, so that the phenomenon is eliminated. This technology was named “**AIR-ANTIFOG**” and was registered under the following trade mark:



It has received the Patent No. **1008545** of the Hellenic Industrial Property Organization (OBI), and the International Certificate EP3094784.

It is noted that **AIR-ANTIFOG** invention was presented at “iENA Nuremberg - International Trade Fair Ideas - Inventions - New Products” fair on 2-5/7/2017, where it **was awarded with the Honor Award, gold medal- as the world’s best invention of the year**.



All this long practical and scientific experience gained has led to the discovery of a known source of energy that remained untapped. This is the **displaced atmospheric mass of passing vehicles**, such as **underground and ground trains, cars**, etc. To exploit this untapped source of energy, he designed a **special type of wind turbine**, which can operate horizontally or vertically **at just 100 nominal power/ minute!**

The electricity produced can be returned to the existing electricity grid or used for autonomous street lighting, signage, advertising, etc. **When positioned horizontally, it can also operate as a water turbine by converting rain water into electricity.**

Measurements have shown that if installation is carried out in an underground tunnel or train tunnel, energy savings of 15% to 25% depending on the train speed and the density of the trains may result.

This technology was named **ShockWaveElectroTurbine (SWET)**, has received **OBI patent number 1008546** and issuance of the respective international certificate is expected. It's registered under the trade mark:



Recently, Chris Vouros renewed his old know – how in vehicles and designed and manufactured hybrid electric vehicle charging stations, which are registered by the following trade mark:

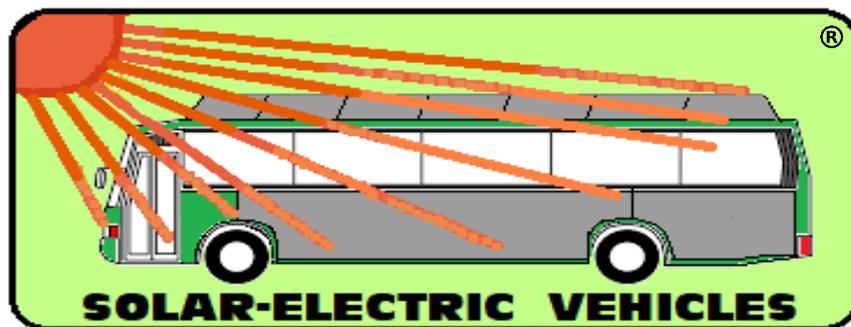


The issuance of the respective national certificate is expected. Number of title/application 2020-02134/12.6.2020

Sun Wind consist of a wind turbine with a vertical or horizontal axis that generates rated power, photovoltaic panels in circular or in series format as well as a digital kwh meter/p.o.s for energy purchase. They can operate concurrently with the existing electricity grid by storing the electricity produced in it or as stand – alone units installed in **parking lots, squares, gas stations, beaches** etc.



At the same time **Mechanical Engineer Chris Vouros** in his effort to further reduce the pollutants produced by all kinds of moving vehicles came up with the idea of placing flexible or fixed photovoltaics on the roof and on the sides of those vehicles that have sufficient surfaces such as buses etc. So in a country that is bathed all year round by sunlight either they are moving, or they are parked their batteries are being charged. This technology was registered under the name **SOLAR-ELECTRIC VEHICLES** and the patent issuance of OBI is expected with the number 246.0004418102.



In recent years, mistakes have been made in the management of arable land by installing photovoltaic parks in them and at the same time canceling their traditional agricultural purpose. It's **effective** to produce clean electricity from the sun, but on the other hand, it's **ineffective** to import domestic agricultural products from other countries. Chris Vouros focusing on the problem, with his far experience in the natural environment and renewable energy sources, came up with **a method which combines both activities**. The method is called **AGRO-SOLENERGY** and is registered under the trade mark:



The issuance of the national patent certificate is expected. Application number:
22-0003502398/27.8.2020..

WIND + SOL, Ltd
is looking for new collaborations
all over the world
for the above.

