

Pure Technologies for Pure Nature

BY AEP ENG. & AEP TECH.



The Problems

❖ WASTE PLASTICS POLLUTION

❖ CARBON EMISSIONS

❖ ENERGY CRISIS

- ❑ Humans produce over 20 BLN mt of waste pa, plastic polymers share is 15-25%. Re-use, Re-fill, Re-purpose efforts do not work for Waste Plastics Pollution, wrecking oceans, lands, tourism.**
- ❑ Biosphere pollution/ Carbon emissions have reached critical point. Climate action is overdue. Talking awareness doesn't solve the problems. Very few green, efficient solutions available.**
- ❑ UN ESG & Govt policies led to the fossil fuels production halt, causing Energy Crisis worldwide. Renewable energy technologies like Solar/ Wind are inadequate, not reliable. Hydro-/ Nuclear are often complex, hard, slow to build. All customers are looking for new effective solutions.**

Our Solution

 **After 8 years of RnD our team HIT ALL THREE PROBLEMS above WITH ONE SOLUTION - WtE / EfW pyrolysis plant for the carbon emissions negative plastic waste disposal & recycling as decentralised, versatile 6-in-1 Utilities plant for the waste, energy, water services provision.**

An eco-friendly, efficient, decentralised utilities mini-plant to convert all plastics waste into renewable gas (CH₄, H₂), energy (electricity, heat/cold) and to harvest a fresh water from air through the advanced, carbon negative recycling, processing, filtration mechanisms to meet 11 UN SDGs for a maximum Environment, Social, Governance impact.

The Advantages

Future-Ready, Environment-Friendly, Efficient 3-in-1 Utility Plant

(Stand alone, Self-sufficient, Clean, Green, Safe and Profitable)

- **Eco-positive**: No exhaust pipestack, no environmental damage, no discharge, with Net negative carbon footprint able to earn the Carbon credits. Low maintenance (once a year).
- **Independence & Scalability**: decentralised Utilities plant combining Energy from Waste* & Fresh Water production from Air*, fast deployable, modular, self-sufficient, easily scalable.
- **Versatile Revenue**: Multiple commercial opportunities through diverse by-products in demand.
- **Advanced Automation**: Fully computerized, remotely controlled system, engaging a real time Cloud technology for a seamless and safe, continuous cycle operations 24/7.
- **Safety First**: Explosion-proof design with the integrated Fire extinguishing systems.
- **Economical Setup**: Modular design, No major construction costs, just a sturdy base required.
- **Green Innovation**: Cutting-edge conversion of waste* to green hydrogen through an energy-efficient liquid metal system (with lower energy consumption than electrolysis system).

The Solution Maturity / Traction

In 2018 AEP sold first WtE mini plant v1.0 to China, Xinjiang for old tyres recycling. 2020-2021 let us do a lot of RnD, with new versions of the Lego style modular Utility plant developed, designed and lab stand/ prototype built. Modern Oil Chemistry laboratory established.

In 2022 built one mini plant v2.0 for oil sludge recycling into energy for the oil exploration company with delivery to Lybia, to service the oil rig and workers camp. In Q3/2022 set up new up company AEP Engineering Zp OO in Wroclaw, Poland. In Q4/2023 set up AEP Technologies in Singapore for expansion to the Indo-Pacific and ASEAN markets.

In Q4/2022-Q1/2023 with conferences at Fraunhofer Institute in Germany and Ostrava Uni in Czech Rep., and after the 15 EU countries road show we signed new contracts in Bulgaria :

= Stage one – build large EU poultry farm manure blast drying plant, Stage two- build plant for poultry manure processing into electricity & heat, liquid fertiliser for immediate use, fresh water.

= Plant for German originated waste plastics mix processing to electricity for EU power grid.

= Bulgaria Oil Refinery waste gasoline/ oil sludge waste processing into electricity for EU grid.

In Q2/ 2023 new contract with Montenegro state power company for MSW to electricity, contract in RB for waste engine oil/ oil filters processing to energy. Negotiations underway in Indonesia, Fiji.

The best Team

- 1. The AEP Engineering CEO, AEPT Singapore Co-founder/Director/CTO Dr. Vitaliy SHABLOV has 20+ years experience in HVAC Eng., Thermo-dynamics, Boiler making, Heat exchangers, Oil refinery processing and Waste polygon management business, specialised in Innovations, Eng. Design and Environmental Safety. Astounding knowledge of the wide range of different sciences fundamentals, the Kaizen style endless pursuit of perfection and outstanding energy combined with people skills are the main drivers of our group success in the RnD & innovation breakthroughs. He is author and holder of several patents.**
- 2. The AEPT (Singapore) Co-Founder, Director/CEO, AEP Engineering regional Director for the Indo-Pacific Mr. Andrey KOLMOGOROV (BSc.Eng, MA Econ, MBA, DFS FP) has 30+years of work and business experience in Asia Pacific region, as Navy engineer, local Government officer in Russia & Japan, int'l trading business manager in Japan, commodity trader for the Fortune-100 company in Australia, int'l business and economics, import-export, property finance, NPO industry professional in ANZ. Andrey business acumen, wealth of contacts, combined with his business communications and language skills drive our growth in Asia.**
- 3. AEP and AEP Engineering Assistant director Mr. Vadim Mazur with 15 years of experience in manufacturing and production, management business has set of skills for supporting our group efforts in the global markets.**

Backed by AEP 30+ engineers, designers and laboratory technicians from industrial enterprises, hand picked by Dr. Shablov , many with M.Sc/ Ph.D degrees in wide spectrum of Chemistry, Physics, Thermo-dynamics, New & Nano-Materials, Engineering, Industrial Design, Automation, IT, Ultra-Sound technologies, etc., AEP TECH team has a cutting edge in the RnD and Engineering design on par with the top global engineering companies.

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CARBON NEGATIVE PLASTIC WASTE RECYCLING * ENERGY FROM WASTE * WATER EX AIR