



Demonstration of a Sustainable & Effective 2nd Generation Biofuels Application in an Urban Environment



BIOFUELS-2G

Abstract

This project involves the design, development and demonstration of new technology for the production of **2nd generation biofuels** from waste cooking oil. The project began on January 1st, 2010 and will last 3 years. The participants in this project include the Centre for Research and Technology Hellas (CERTH), the Aristotle University of Thessaloniki (AUTH), the Municipality of Thessaloniki and the Association of Restaurant Owners of Thessaloniki. The total budget of the project is 1.4 million € and it is funded from the **LIFE+ Programme** of the European Union by 50%.

Description

The environmental nature of this project aims at the mitigation of climate change and the promotion of a new sustainable technology for the production of biofuels from waste cooking oil, which also includes the use of solar hydrogen. This approach is implemented for the first time worldwide in Thessaloniki by the demonstration of biofuels production process and their use on municipal vehicles. This project promotes the use of 2nd generation biofuels, contributing to the reduction of carbon dioxide (CO₂) emissions from transport and the exploitation of waste cooking oil in the city of Thessaloniki.

The project mainly includes four actions:

1. Development of a network for used cooking oil collection by the Municipality of Thessaloniki and the Association of Restaurant Owners of Thessaloniki
2. Production of 2nd generation biofuels from used cooking oil using solar hydrogen, i.e. hydrogen produced by energy from photovoltaic (PV) systems, by the Centre for Research and Technology Hellas (CERTH)
3. Testing of the 2nd generation biofuel in engines by the Aristotle University of Thessaloniki (AUTH)
4. Demo utilization of biofuel in designated garbage truck of the Municipality of Thessaloniki, while recording results and measurements

The project is expected to have several benefits to the city of Thessaloniki, including:

- ✓ Reduction of total wastes' volume by the collection of waste cooking oils
- ✓ Production of useful products such as environmentally friendly fuels (2nd generation biofuels) from waste cooking oil
- ✓ Reduction of carbon dioxide (CO₂) emissions during the sustainable production of 2nd generation biofuels, using solar hydrogen
- ✓ Demonstration of the environmental benefits of 2nd generation biofuels by using them in a garbage truck operated by the Municipality of Thessaloniki
- ✓ Study of public-private partnership schemes to promote the proposed approach, while maximizing the environmental benefits and ensuring the continuation of the proposed scheme after the project execution

For more information please visit: www.biofuels2g.gr

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