



OUR EARTH IS THE BIGGEST RESOURCE

Exposé

-  *Waste oil is one of the biggest global environmental problems*
-  *Oil Waste to Energy - Sustainable and centralized treatment of used oil.*
-  *The project status*
-  *Realization of the project*

Name of the project:

FROMM JSC
Used oil recycling plant
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Used oil is one of the most important problems of global environment



According to the American Petroleum Institute up to one million liters of drinking water is contaminated by only one liter of waste /used oil. It represents a cube of water of 10 meters length. About 25 million tons of waste oil are produced every year. Up to 95% of them are burned, landfilled or end in nature. If the energy of the annually waste oil could be used, the 85 most weakest energetically countries in the world could be supplied permanently with energy in cheap and stable way.

At the very bottom of the political agenda is the problem of waste. The importance of recycling as the fundamental problem in disposal security for conservation and reducing resources is hardly recognized by developing countries especially with rapidly increasing economically growth.

At the same time, the (American Petroleum Institute) estimates the amount of water contaminated by a single liter of waste oil to be one million liters. So, if you supposed that two-thirds of the world's waste oil would be properly/correctly disposed and only one third would be released/get into nature and the water cycle –which is more than an optimistically estimation- 8 billion tons of water however would be still permanently contaminated. This roughly corresponds to the amount of drinking water consumed by the world's population a year!



While strict guidelines for the disposal of this hazmat exist in industrialized nations such as Germany the far most biggest part of the world doesn't have any. So, up to now this problem has not been resolved at all for the moment by the vast majority of the world.

Vietnam is using yearly 400.000 metric tons (m/t) of lube oil a year brought from abroad mainly. There are no recycling plants at all for used oil.

About 400 million liters of used oil are accumulated in a year in Vietnam. The biggest part of that oil is burnt but very often it is dumped illegally into the ground or water and ends up in rivers, in the sea and at least into the groundwater.

So the ecosystem is destroyed and even the human food chain is affected. human being lands. Without dramatizing, this can probably be adopted for most of the developing and emerging economies of that region, such as Laos and Cambodia.

Used oil would be a valuable raw material if the energy contained in it could be used again. Every liter of used oil, dirty diesel or heating oil contains more than 90 percent recyclable fuel. With the global amount of waste oil per year, the world's 85 least-energy countries could be permanently supplied with stable and cheap energy, which would have a direct positive impact on their industry and thus on the prosperity of the population.

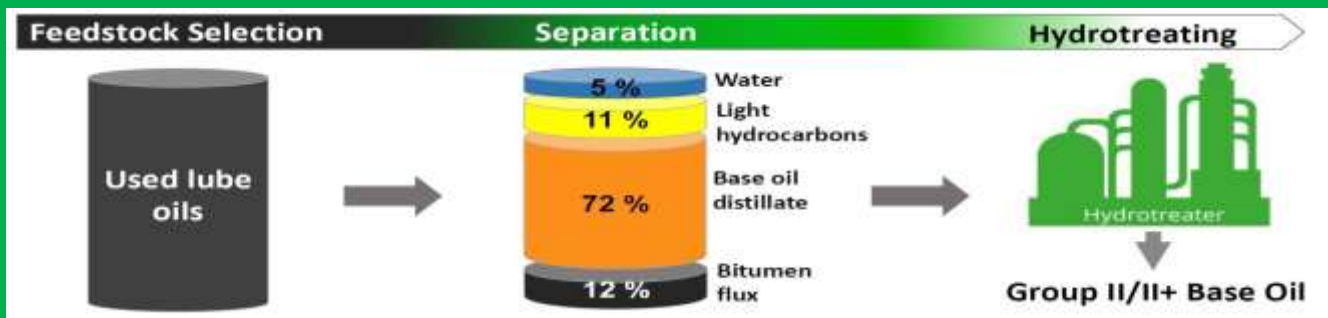
Waste Oil to Energy - Sustainable and centralized treatment of used oil



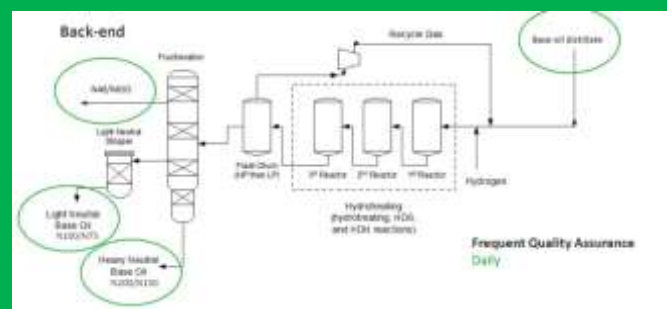
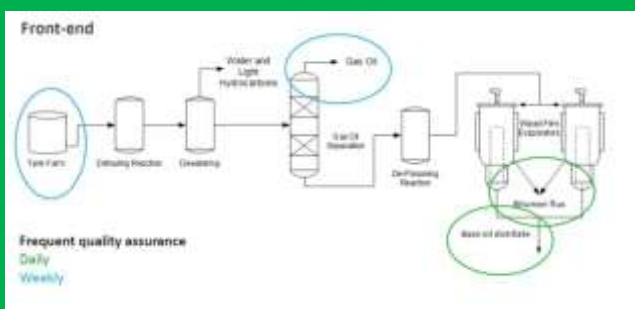
"FROMM German Oil & Lubricant Technology" Group has developed a solution for the processing of liquid oily waste such as waste oil, polluted diesel, fuel oil or marine oils, which not only solves sustainably one of the biggest environmental problems but also opens income sources for many people. An annoying waste product becomes a valuable material for industry and municipalities.

FROMM JSC has studied the Vietnamese market conditions for base oil and used oil since 2015 and comes to the conclusion that Vietnam needs an oil re-refinery for used oil.

The re-refinery with a capacity 50.000 tons of used oil, would be the first large (scale) recycling plant for used oils in Vietnam. Instead of being dumped to nature or burned in small burners without any combustion gas filters an effective used oil collection and re-refining to base oils and lubricants help to care environment.



Using advanced technology, the outcoming base oil CO₂ factor will be less than -350 kg CO₂/ton (Thesis "Efficient utilization of waste oil flows", Katri Leino/Aalto University, 2013), to say 17500t CO₂/a negative. Also, other environment indicators show similar values (acidification, toxicity, etc.). All this has a significant impact against the climate change in the region.



FROMM German Oil & Lubricant Technology Group is a network company that has already brought its experience to the European Union and implemented projects. This know-how is supported by a highly qualified team, as well as a continuous and close cooperation with scientific institutions to meet the high standards for sustainable, environmentally friendly handling of resources in the future also worldwide according to certifications ISO 9001, ISO 14001, OHSAS 18001.

The refinery is partly energy self-sufficient, fuel for steam and hot oil production received as side product from the refining process.

The project status

- Location defined

On a company premises of 27,000 square meters, a modern industrial plant is being built, divided into two segments, a production and a recycling plant.

- Certificate of investment registration

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- We have an excellent process technology and modern blending plant to produce 100.000 ton/p.a. high-quality engine-, gear-, hydraulic- and industrial lubricants meet the markets usual *API*, *ACEA*, *SAE* quality standards.

- Similarly, the Social Commitment, in the form of a cooperation between FROMM JSC and the Technical University (DHQG) in Ho Chi Minh City, should lead to education and certification in key issues such as "Water Hazardous Substances" achieving a premiere and secondary efficiency. According to agreement, our scientific laboratory staff and university professors will work together for university graduates as well as all our dealers, oil product users and waste oil collectors to protect the natural environment as well as the efficient use of resources and climate protection.

Realization of the project

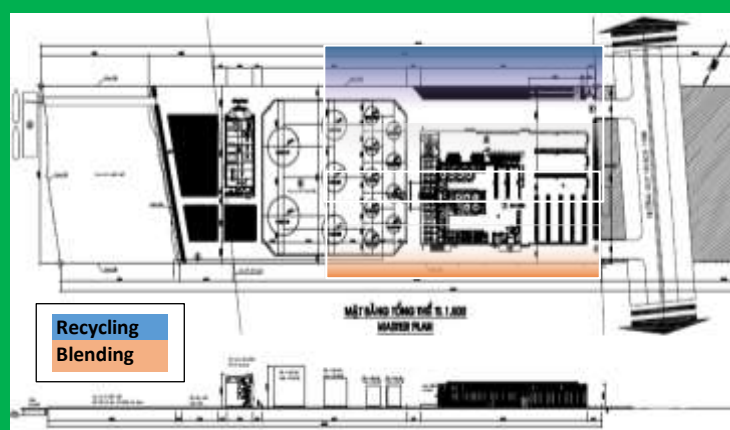
If realized, the refinery would be the first large scale re-refinery for used oils in South East Asia and thus a step towards the European and North American recycling culture.

The capacity of the plant is processing 100 000 mt/a used oils to new lubricants for vehicle and industrial use instead of being incinerated or dumped to soil.

The refinery, including the blending plant employees directly 100 local workers. Collection of used oil employees 250 drivers. In addition, undirect positive employment impacts to local small enterprises and logistics companies.

The recycling of used oils is a concept for an economically attractive, environmental and resource-conserving cycle of production, use and recovery.

Our objectives are to ensure sustainable development on an economic, social and ecological level.



Project funding: The project has not received any state subsidies.

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