Jatropha Power Fuel

1. Jatropha – the Plant

The **Jatropha** curcas or also known as purging nut belongs to the spurge family and is a succulent bush which grows up to 6 m. This plant originates from South America and was brought to Africa by Portuguese sailors. The five-lobed leaves are about 15 cm big, slightly yellow in color and hairy. When the walnut-sized capsules are ripe, they are becoming black and spread small cone-shaped seeds.
The growth period till harvesting of the first nuts is about 8 months, then the yield is increased to a maximum of 6 tons/ ha within the next 4 years.

The **Jatropha** plant develops continuously new nuts and has to be therefore harvested by hand the year long. A work-intensive harvesting by hand is necessary to do not interrupt the growing process of the plant. Jatropha is an evergreen and deciduous plant, with no special demand to the soil quality, that can sustain even longer drought and is almost resistant against pest infestation.
An significant criterion for a yield-effective growth is, that there is sufficient water available with at least 1.300 mm rainfall throughout the year.

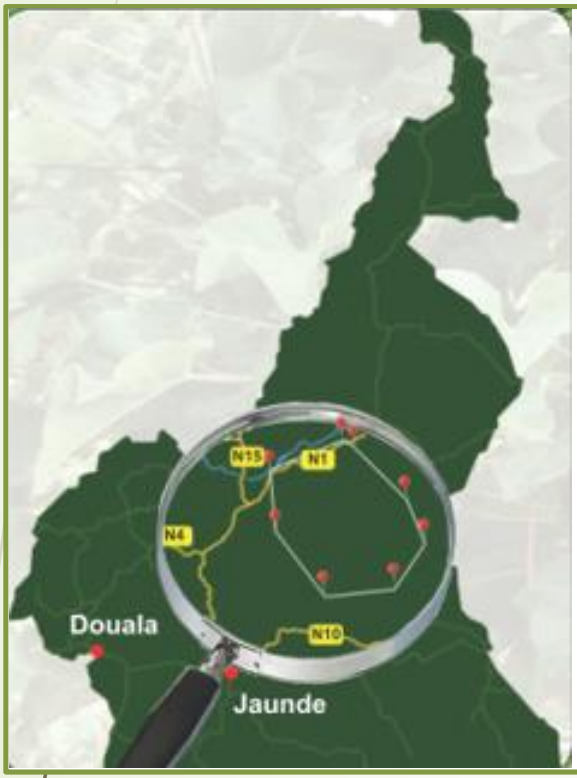
The „Food and Agriculture Organization of the United Nations (FAO)“ shows about 27 Mio qkm areas where are such a meagre soil quality, where food production / planting is not possible or only in a limited way. Only few areas dispose of a natural water source.

The **Jatropha** plant is the key for an ultimate biofuel, for which there is even today an enormous great demand. The extensive cultivation of Jatropha in Cameroon (>120.000 ha) can guarantee a long-term supply with biofuel that is environmentally friendly and also counteracts towards the trend using food to produce biofuels.
On a cultivation area of 120.000 ha there can be produced economically up to 720.000 tons biofuels (820 million liters) per year and about 2.000.000 tons of CO_2 can be saved ecologically. Another 35 million tons CO_2 are released permanently in the plants, as well as about 21,5 million tons CO_2 absorbed of the leaves and about 600 million tons oxygen. The sustainability of this project is the utmost premise, pointing out, that economical and ecological aspects are not in contradiction with.
The oil, extracted out of seeds of Jatropha nuts, is an excellent biofuel. The gasification of the press cake in biogaz plants reduces once again 900.000 tons CO_2 emission. The final product is a high-class bio fertilizer.

Jatropha is gaining more and more interest, particularly in economic terms, as the fruits contain about 35% oil and fat showing a cetane number of 60 (rapeseed oil cetane number 54) one of the most effective technically usable vegetable oils of the world. Furthermore, Jatropha is not edible and is therefore not in competition to the food use like other renewable energy sources (rapeseed-, soybean - or sunflower oil). Jatropha is a regrowing replacement of the chemical optimum high-class diesel fuel or for cerosin in aviation. The Jatropha oil represents the standard DIN 51605 for vegetable oil as fuel, therefore these oils can be directly used as fuel in engines.

2. Cameroon

Cameroon is perfect for the cultivation of Jatropha, because of its ideal climatic conditions, as the temperature is the whole year constant and sufficient water is available. The lands used by JP Fuel AG are, due to their soil properties not suitable for the cultivation of food, but perfect for Jatropha cultivation.
The chosen area is situated in the Provence Centre, near the city Batchtenga and covers approx. 120.000 ha, extension areas are optional available.



Gouvernance
presidential republic

Population
26 Mio. Resident

Capital City's
Yaoundé 2,4 Mio.
Hafenstadt Douala 2,768 Mio.

Administrative language
Französisch and English

GDP
38,76 Mio. EUR

Jobless rate
3,4%

Precipitation
Up to 11.000 mm / Year

Area
475.442 qkm

In **Cameroon** there are three climates. In the north it is hot and dry at about 30 degrees. The upland in the south next to it, is considerably cooler.
The mountainous countryland of west Cameroon counts with 11.000 mm rainfall per year amongst the highest rainfall areas of the world. The climate of the coastal plain in the south is 25 degree tropically humid, by average. The area, leased for 99 years, is situated about 610 m above sea level, the temperature by average is between 21 to 32 degrees and the rainfall by average is 4.000 mm per year. These rainfall amounts and the warm climate offers ideal preconditions for cultivating Jatropha to a high yield. Cameroon offers the necessary political stability to realise this project. Within the next five years the government will not change, as president Paul Biya, since 1982 is the chief of state of Cameroon, was re-elected in October 2018 for the next legislative periode of 7 years. The men power needed for the realisation of this project is locally available. The location chosen by us provides all options for a succesful and also sustainable cultivation of Jatropha.

3. Market Analysis

Today the **Jatropha** oil is used as biodiesel or biokerosene.
There is a worldwide continuous growing demand for it. According to the „International Energy Association“ the demand for crude oil, including fossil diesel, for road transport will double within the next 25 years. Proportionally, greenhouse gases and fuel prices will increase. Due to the German law „Renewable Energy Law (EEG) the framework has been established to allow alternatives to enter the market.
The Kyoto Protocol, signed by Germany, supports the principles to use sustainable produced energy in order to reduce global CO2.
In Europe, more and more engines have been converted to operating with vegetable oil for years, corresponding to the biofuel standards 51605 (DIN 51605).
Since the demand for vegetable oil for the use of fuel in Germany cannot only be covered from local resources, it is proven that 80 % of the oil is imported. There is a high demand for sustainable produced biofuels, in order to secure the long-term and environmentally friendly energy supply. In many countries palm oil is only allowed to be used as food. After processing, Jatropha corresponds to the standard DIN 51605 for vegetable oil as fuel and therefore can play a significant role for the above mentioned needs:

The largest markets with great demand potentials for **Jatropha** are:
Shipping, trucks, construction machinery and aviation industry.
All operating companies are instructed to reduce significantly emissions!

Jatropha biofuel helps to reach the emission goals without any problems.
Since 2008 numerous test flights of different aviation companies were completed successfully with Jatropha biokerosene. Furthermore, jet engine- and aircraft manufacturers have conducted positive tests with **Jatropha** biokerosene. International Air Transport Association strives for a admixture of 50 % of biokerosene, to achieve the climate goals. The demand for biokerosene is 29 million tons per year, whereas the total amount of demand for kerosene is 290 million tons for the worldwide air traffic.

The recent studies reveal, that there is an enormous global demand for biofuel.
However, the recent demands for biodiesel for the road transports are actually not taken into account, which will be disproportionate higher. **Jatropha** is the ultimate answer for the biofuel supply of the 21 century.

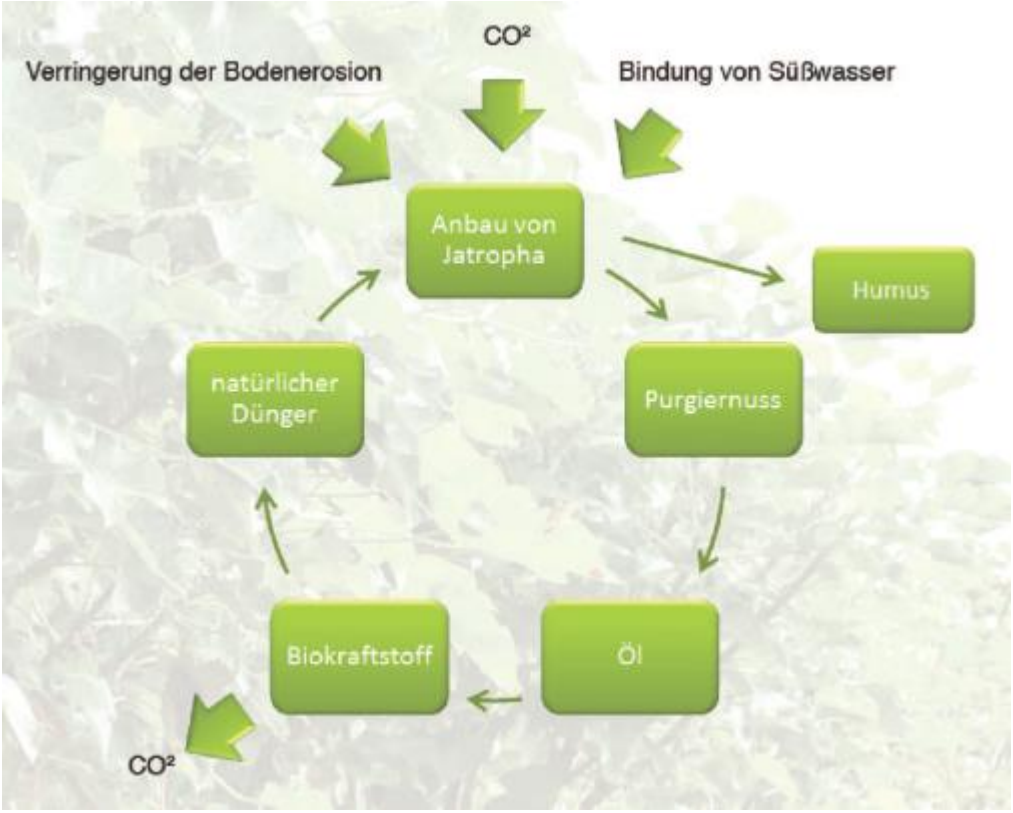
In addition, press cakes will be gasified to methane in biogas plants.
The remaining residual products represents a high class bio fertiliser.
All from us produced bio products like biofuel, biogas and bio fertiliser cannot meet the increasing global demand. Thus no sales difficulties are to be expected.

720,000 tons of biofuel from 120,000 ha of **Jatropha** cultivation area save 2 million tons of CO2 annually, compared to diesel. **Jatropha** leaves have a cultivation area of 120.000 ha a green area of 3.000 qkm and contributes to a global climate amelioration. This binds permanently 21,5 million tons CO2 per year. The price of CO2 certificates raises to 65 EUR per ton by 2025. This means for our project an additional yield of 1,5 billions EUR per year. The press cakes of the nuts, containing oil generates further 900.000 tons CO2 savings.

4. Sustainability

Biofuel production must meet the requirements of sustainability criterias. According to European Community guidelines 2009/28/EC, biofuels must reduce at least 35 % of glasshouse emissions compared to fossil fuels.The biofuel production on basis of **Jatropha** will lead to sustainable development by means of planed project realisation, because all relevant ecological and social criterias are respected and a long-term economical realisation is guaranteed.

In Cameroon there will be a consistency of climate due to the large Jatropha fields with its leaf bearing bushes. And this will bind at the same time large quantities of CO2. This project will contribute significantly to the global carbon footprint: 120.000 ha Jatropha binds 2 million tons CO2.



Since the region is sufficiently supplied with rainfall and therefore there is no groundwater extraction necessary, there is no competition for freshwater use by the population.
The use of artificial fertiliser is explicitly not planed, as the falling leaves build a natural humus and enough bio fertiliser accumulates from production.
Due to the robustness of the plant, pest control with pesticides is excluded - organic cultivation.

5. Social criteria and project

The planed cultivation areas consists mainly of uncultivated land, characterized by a meagre fauna and flora. The present bio diversity won‘t be modified negatively. The Jatropha plants protects the soil from erosions and build valuable humus during the years. These soil improvements make the land suitable for the cultivation of food in future. The planed areas are not suitable for food cultivation, there is no competition to the areas for food cultivation. The 120,000 hectares were already negotiated in 2012 for 99 years by 12 local authorities by means of leases. In order to increase the economic force of the region, the local population will be involved in this project. The cultivation and harvesting of these purge nuts represents a work-intensive cultivation form the whole year because of the manual harvesting of the nuts, so that a lot of local workers will be employed.

The working conditions are focused on the standard of International Labor Organisation (ILO). The payment is effected according to local standards. In addition further 20% are saved in a fund and made available for social purposes to the next communes . By these means it will be invested in social facilities and in the development of local infrastructure. Each municipal authority can dispose about these means independently. The additional development of social infrastructure enforces education and public health care of the region.
Project implementation and planning for the realization of this project provide that of the possible 120,000 hectares, 10,000 hectares will be developed and planted in the first year.

During this time period, also the central infrastructure for harvesting and pressing of nuts will be developed. In the second, third and subsequent years there will be 10.000 ha developed for cultivation and planting. In the 12th year the total area of cultivation of 120.000 ha is available. Already in the second year the harvesting starts with the first 10.000 ha and the oil extracted will be launched to the market. It is expected to generate a yield of 0,5 tons Jatropha oil per hectare in the first year of harvesting. The yield increases continuously till the 4th year of harvesting and then generates a yield of 6 tons per hectare Jatropha oil. The profit is raised consequently within the first 4 harvesting years from 150 EUR to 1.800 EUR per hectare. This does not even yet take into account the utilization of press cakes.
The necessary investment in 120.000 hectares cultivation areas 12 years amounts to 100 million EUR and pays off after about 4 years of getting profit.
The project is a long-term designed project and offers besides economic advantages also solutions for ecological and social problems in the region.

6. Short Overview, Summary

Jatropha cultivation and water

The Jatrohpa plant is very frugal, requires no fertilization and no pesticides, grows continuously to a height of 6m after 4 years. To achieve optimum yields, rainfall of up to 11.000 mm a year is necessary. In Cameroon up to 11.000 mm rainfall is normal.
In order to be able to use regularly this heavy rainfall, underground water tanks are installed.
The Jatropha plants are watered from the roots on, thus we do not lower the groundwater.
On the contrary, we reduce yearly soil erosions by absorbing rainfall water.

ECO system and biodiversity

The Jatropha plant is cultivated on our meager ground and soil in Cameroon. There is no agriculture possible on this land. However for the Jatropha plant the meagre soil is sufficient. Due to the falling leaves of the plant the precious humus soil builds up during the years. That is the reason for wandering with each cultivation area after years. We leave back an optimum soil, perfect for agriculture. This is how we create a biological circle.

Humanitarian responsibility

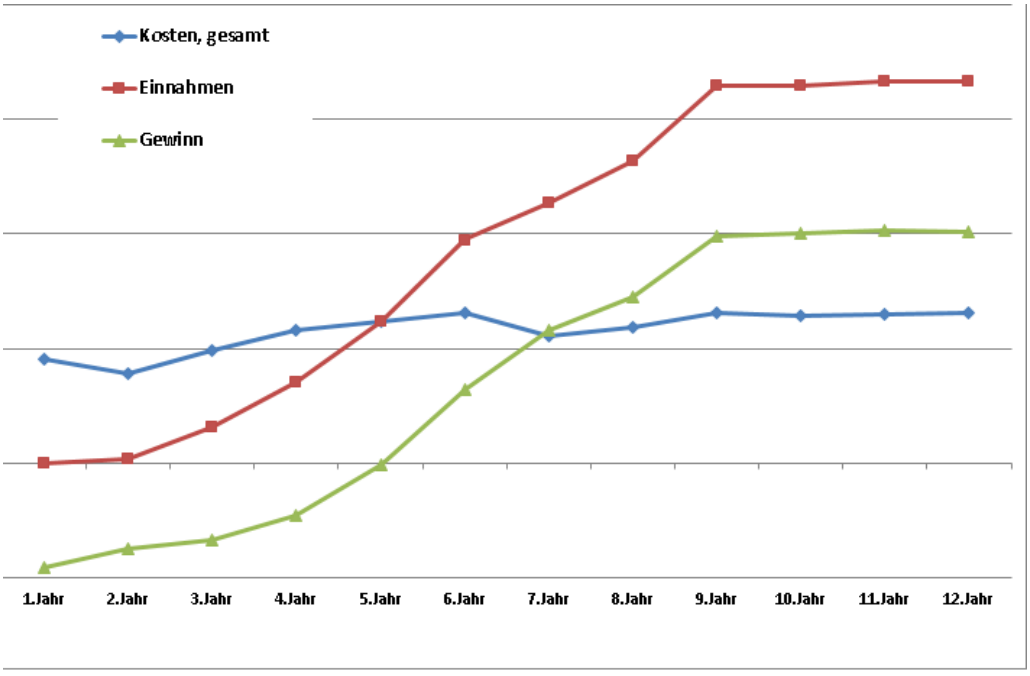
Twelve communes have wanted us to have 120.000 hectares cultivation lands for 99 years.
This represents a social responsibility we would like to fulfil. In accordance with the communities a part of the 20% of the wages earned by workers of the respective communities are made available for humanitarian projects. This humanitarian fund will be invested in schools, hospitals and especially in eduction. The municipalities determine the use of the funds for their region, sharing the responsibility together. This guarantees a community designed for the future. We do not leave back „scorched ground“ but we work together hand in hand with the population.

Ecological circle

From planting the Jatropha plant to harvesting the ripe purge nuts and from formation of humus out of falling leaves, bio oil is produced in the first step.From the remaining press cakes, Methane is produced in biogas plants. The residues from gasification are recycled as biofertilizer and returned to the ecological cycle. With a land of 120.000 ha cultivation area of Jatropha we bind 21,5 million tons CO_2 per year. The utilization of the growing business with these CO_2 certificates contributes additionally to the profit shown in the business plan.

7. Projekt

Business plan (extract)



Cameroon as partner

The state Cameroon is granted a right of first refusal of 10% of the organic oil obtained. This shows the connection of our project to the state of Cameroon and demonstrates the importance of the project for there own country. The state of Cameroon as a partner makes it easier to start our project and simplifies communication with the local authorities, which gives us the opportunity, to rent 120.000 hectares for 99 years. The communication with the authority is absolutely professional, reliable and meets the European standard.

Investor Relations

Investment options in form of coupons with a time period of 5 to 7 years.

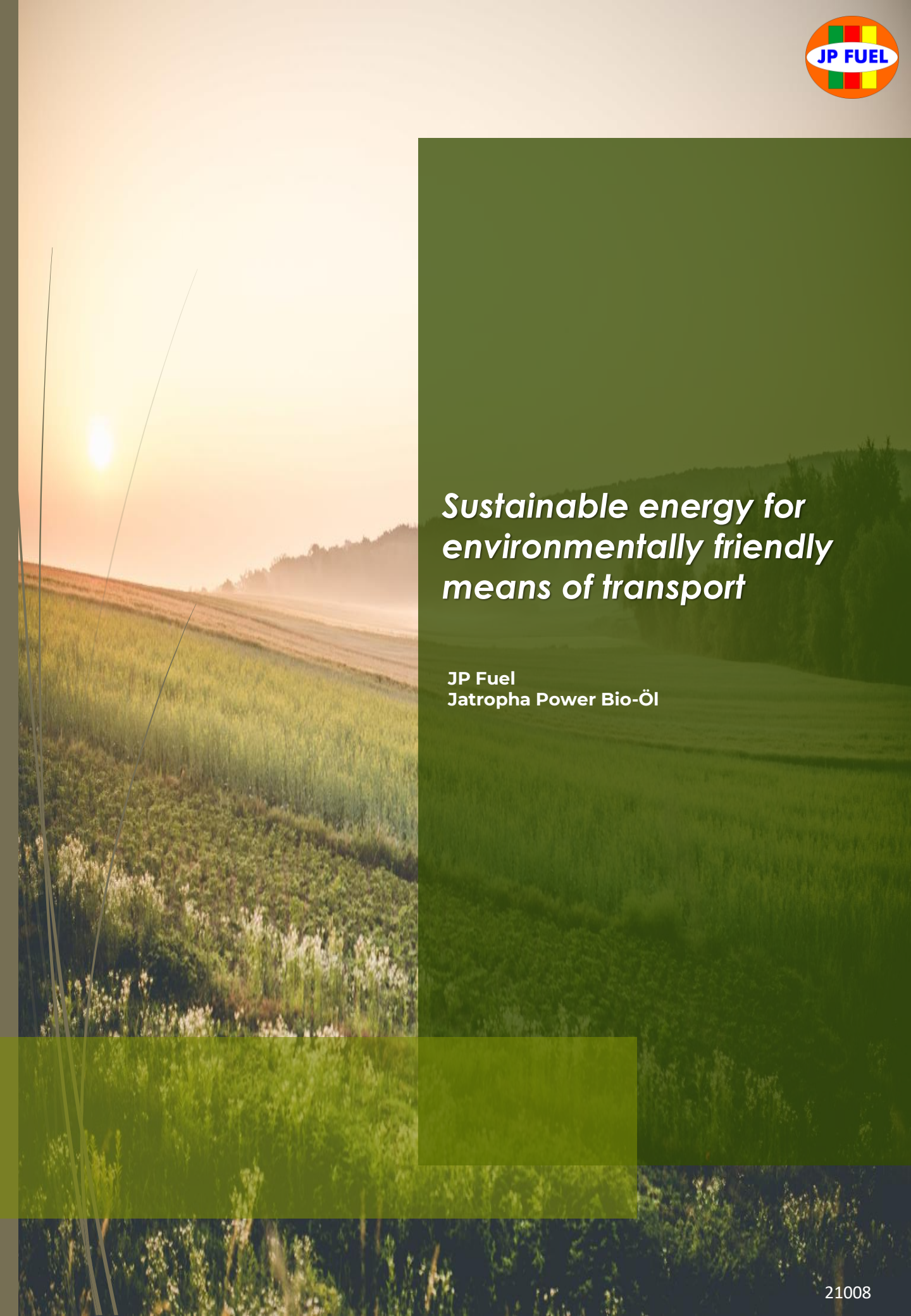
If you are interested, please ask for our Investment Opportunity.

Contact Information

contact@jp-fuel.com

+49 741 320 512 70
+41 71 511 5063
contact@jp-fuel.com

Contact Information Ahead
INCENDIUM GmbH
Alte Friedenstrasse 14
Deisslingen, 78652
Germany
Mr. Dirk Rieker, PhD


JP FUEL
Sustainable energy for environmentally friendly means of transport
JP Fuel
Jatropha Power Bio-Öl
21008