

ENERGY RECYCLING WITH CPD-TECHNOLOGY



The CPD-Technology provides the unique opportunity in combining prospective development of new added value with active environment protection. No other Technology is more appropriate, in the endeavor to optimize and decentralize waste management into energy self-sufficiency - A revolutionary way! With the CPD-Technology it is possible to use nearly all kind of organic raw material as well as residues for producing synthetic diesel fuel. It will show us the chance to reduce the dependency of fossil fuels in a social responsible way.

> WE DON'T USE POTENTIAL FOOD FOR FUEL PRODUCTION <

THE CPD-TECHNOLOGY – AN OUTSTANDINGLY INVENTION FOR OUR FUTURE

A new technology with worldwide unrivalled potentials in energy politics, waste management and optimal environmental protection is going to market: The technology is the Catalytic Pressure less Depolymerisation (CPD-Technology). After decades of intensive catalyst research and development of the CPD-Reactor as well as the successful application of this technology in a proven system, the way is open now for the world-wide use of this technology.

With regard to the growing prices of crude oil, alternative recycling methods will take a leading position, particularly the technology of the Catalytic Pressure less Depolymerisation, which is developed as well as patented several times by Dr. Christian Koch. With this technology it is possible to change organic material residues like waste plastics, waste oil and used wax as well as renewable primary products like wood, plant residues, energy plants and organic waste in an economic manner into diesel fuel. It is a basic principle that potential food won't be used for diesel production.

Unlike previous methods which burn the waste materials and produce CO₂ and poisonous substances like dioxin and furan, which then have to be filtered out with costly and high-technology arrangements, the CPD-Technology enables a nearly complete utilization of the raw materials into a high-quality and unproblematic storable energy source – diesel fuel.

The final product of the CPD-Technology – diesel fuel – has an outstanding quality and can be used without restrictions as diesel fuel for vehicles and all diesel engines.

For 35 years Dr. Koch has been acting in the research of fuel conversion. For that he had to witness how the developments of technologies with lowest energy efficiency were aided with a maximum of subsidies and promotion from politics as well as the energy-lobby. Thereby the hopelessness of the different technologies and therewith the wasting of billion Euros of taxes can be documented easily.



Currently beside the CPD-Technology of Dr. Koch there is no other technology which can realize an approximately equitable energy balance in renewable energy production. The energy efficiency of CPD-Plants outperforms the energy efficiency of all other Technologies of producing fuels from biomass by a factor of 1,9 to 6,4. The time is now for the CPD-Technology.

Between Dr. Christian Koch and the company Alphakat GmbH at the one hand and at the other hand the KDV-Technology AG and their Partners exists a widespread Technology Partnership, which is assured amongst others by a „Technology Partnership Agreement“. As Initiator of CPD-projects and technology partner of Dr. Christian Koch we have the access to the developed Technology of Dr. Koch.

THE CPD-TECHNOLOGY OF DR. CHRISTIAN KOCH...

- **Demonstrates the technical and chemical reproduction of the natural crude oil formation**
The natural crude oil formation process of 300 million years will be reduced to a reaction time of 3 minutes.
- **Optimizes the energy production from residues as well as renewable organic raw materials**
An active and conflict-free environmental protection is for the first time possible by the optimization of the energy production from residual substances and regenerating raw materials.
- **Produces high-quality Diesel fuel with competitive prices**
Already with an oil price of US\$ 50.- (Barrel) the CPD-System produce high-quality Diesel with profit. Unlike all other technologies the CPD-Technology works economically even without subsidies and promotions.
- **Fulfils all relevant EU-Standards (Europe) for Diesel fuel**
The quality of the CPD-Diesel fuel exceeds the EU-Standard of the normal Diesel with nearly all input materials and has a Cetane number of 58 - 60. (Cetane number of conventional Diesel is 51 - 54)
- **Has the highest energy efficiency of all known processes**
The high efficiency of the CPD-Technology is 6.4 times more as from RME (Rape-methyl-ester). The quality of the CPD-Diesel surpasses the quality of other fuels by far.
- **Makes an active environmental and climatic protection possible (Co₂ neutral)**
Through the inorganic bond of the toxic substances in form of salt and crystal (because of the ionic changing characteristics of the catalyst) as well as process temperatures of less than 350 degree Celsius there will be practically no environmental burden.

THE CPD-TECHNOLOGY REACH'S THE COMMERCIAL BREAKTHROUGH

Dr. Christian Koch is by far the most successful developer of the CPD-Technology. The 1st patent with the number 100 49 377 was registered on October 31, 2002 to the inventors Name: Dr. Christian Koch, Dr. Imtraut Oberländer and Wolfgang Gruhnert. Dr. Christian Koch as inventor and patentee has registered further 35 patents and patent-appendixes in the years 2005 and 2006.

The new high speed chamber mixer was patented by Dr. Christian Koch as exclusive inventor and patentee as follow:

- Patent document No. DE10 2005 056 735 from 29.11.2005 with 19 Patent-appendixes
- Patent document No. DE10 2006 054 506 from 17.11.2006 with 16 Patent-appendixes
- Patent EP1798274A1 (Europe) und WO2007062811A3 (worldwide)



REFERENCE FACILITIES IN GERMANY, CANADA, SPAIN AND MEXICO

CPD-500 IN GERMANY

In January 2009 the first CPD-500 plant in Hoyerswerda, Germany began with the diesel production. Classified domestic waste (Garbage) is used as input material.

CPD-500 IN CANADA

It was April 14, 2007 when the first CPD-Plant in Barrie, Canada began with the diesel production. The system converts electronic waste into CPD-Diesel. Since August 2007, this facility is running with maximum capacity. On June 3rd, 2008 there was an open day for visitors.

CPD-500 IN SPAIN

At January 24, 2007 the first CPD facility – a CPD-200 started with the diesel production in Spain (Bodilla, near Madrid). The input materials are mineral and biological residues.

It's also used for testing different input materials as qualification for the planning of a CPD-700, which will start operation in early 2009.

CPD-500 IN MEXICO

In October 2004 the first industrial CPD-Plant was opened in Mexico. In the following Dr. Koch developed the turbine further. At the end of 2006 the system was refitted with 8 (eight) turbines (high speed chamber mixer) of the newest generation, so the capacity was increased from 200 to 500 liter per hour Diesel-Production. The CPD-Plant in Monterrey, Mexico converts waste oil into CPD-Diesel.

THE QUALITY OF CPD-DIESEL

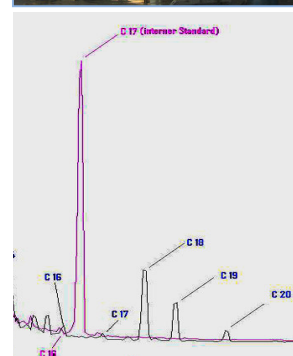
CPD-Plants produces mineral diesel fuel with highest quality and the following characteristics:

- Best chemical consistence
- Cetane number of 58 – 60 and best chemical characteristics
- Compliance with all relevant requirements of EU-Norms
- No authorization from the manufacture of motors and cars is needed

NEARLY ALL ORGANIC MATERIALS CAN BE USED FOR DIESEL PRODUCTION

The following listed organically materials can be used for the production of high quality CPD-diesel:

- Garbage, Domestic waste, Catering refuse etc.
- C-4 plants, wood, biological residues
- All kind of plastic material (PVC, PET, etc.)
- Rubber, Latex etc.
- Waste oil (contaminated waste oil as well!)
- Refinery residues, Bitumen etc.

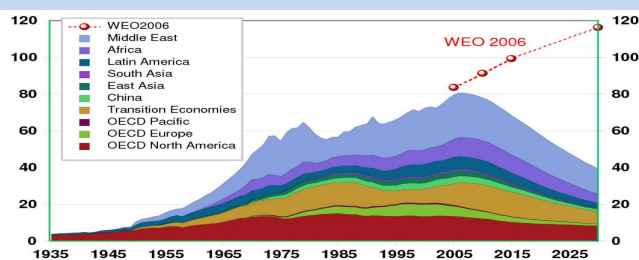


THE CPD-TECHNOLOGY IS LEADING ECOLOGICALLY AND ECONOMICALLY

THE CRUDE OIL PRICE WILL RISE

Already in the next few years the request of crude oil from the known and developed oil fields will overrun the crude oil delivery volume (Peak Oil)

The cost of discovery and delivery of new oil fields especially low lying formations as well as non conventional crude oil fields will be enormous. This development results imperatively in high crude oil prices.



CPD-TECHNOLOGY WITH THE BEST ENERGY-EFFICIENCY

The following comparison of different conventional methods for producing bio fuels from different biomasses show the inefficiency of these conventional methods compared with the fuel production of the CPD-Technology.

Fuel	Raw Material	Liter per Hectare	Diesel Equivalence (l/ha)	Energy Efficiency
KDV-Diesel	Miscanthus	9000	8960	637%
Bio-Methane	Silo Maize	3460 ¹	4850	344%
BTL - Diesel	Miscanthus	4400	5040	292%
Bio-Ethanol	Corn	3540	2080	148%
Biodiesel RME	Rape	1550	1410	100%
Rape - Oil	Rape	1460	1410	100%

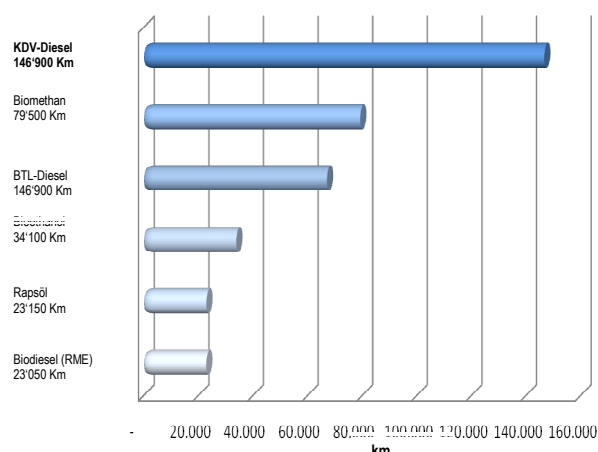
The efficiency of the CPD-Technology is 6.4 times higher than the one of RME (Rape-Methyl-Ester) and more than twice as much as the BTL-Technology (Biomass to Liquid) from which it is also possible to produce synthetic diesel fuel. Besides the CPD-Technology, the BTL-Technology has also the ability to use all biological residues as input material. It has also been considered the work and costs of rape and maize (corn) which are higher than from energy plants like Miscanthus. Furthermore the rape cultivation areas stand in direct competition to food and feed cultivation areas. However energy plants can also be cultivated on bad soils.

COMPARISON OF RANGES BETWEEN CPD-TECHNOLOGY AND OTHER CONVENTIONAL TECHNOLOGIES

The adjoining figure shows the energy efficiency of the above mentioned technologies by showing the ranges for the different fuels (based on the diesel equivalent) which can be produced from the relative biomass per hectare cultivation area.

For the evaluation of the range there is taken a basis of 6.1 liter diesel for 100 km. Furthermore the different yield of hectares as well as the different energy efficiency of the several technologies will be considered.

CPD-Diesel has with a clear distance a range of 146'900 km compared with biodiesel (RME) which has a range of 23'050 km.



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