Appropriate Technologies, using the presents of the sky and nature



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Light from a Plastic-Bottle

http://isanglitrongliwanag.org/

Solar-Electric-Systems

Mini-Solar-Systems

Small Charging-Units for Charging Batteries; After approx. 1 day full (AAA or AA-Types are very cheap) Solar-Radio, also with mechanical Wind-up; For remote areas, only a Short-wave-Radio will work! Also TV only works close to the Transmitter-Station.

LED-Torches, Head-Lamps. Batteries last very long;

Medium Solar Systems

Checklist:

How many Devices should be connected? How many Watts they do have and how long they are on? Voltage (12V for small, 24V for bigger Plants);

How many days without sun should be managed by the Solar-System?

Is there a roof directing to South available?

Risk for the Panels to get stolen? There are ways with a moving-detector and a loud Horn or high-voltage Generator (not dangerous) for protection.

Gel-Type Batteries are a good choice; They don't need to be refilled with distilled water.

Is Caustic for the Batteries available? (For the first filling; later distilled water is enough)

www.smart-powersystems.com: Compact Solar-Systems, including Wind-Energy, Hydro-Power

How much Power you can get from Solar?

Demand

- 3 Energy Saving Lamp 13W for 4 hours
- 3 Energy Saving Lamp 17W for 4 hours
- 3 LED-Lamp 1,5W, 110-230V, 21 LED for 4 hours
- 1 Radio 25 Watt for 3 hours
- 1 TV/Notebook 70 Watt for 3 hour

makes

- = 680 Wh
- + 35% losses
- = 550 Wh

For that you need

- = 2 Solar-Modul with 100 Watt, 12V (400 Euro)
- = 220 Ah Battery (498 Euro)
- = 20 A Charge-Controller (85 Euro)
- = 10 mm2 cable-diameter at 10 m length Solar-Modul / Charge-Controller (3% losses)

(50 Euro + 50 Euro Lamps and Switches)

- = Inverter 300 Watt (Sinus for 140 Euro)
- = 1223 Euro Total

Calculation-Sheet at http://www.alternative-technology.de/Solar_System.html http://www.alternative-technology.de/Solar_system.html

List of Parts for a Solar Home-System Calculation and List of Items for a bigger Solar System

Solar-Panel:



Mono/Poly/amorphous-Type: amorphous-Type is cheapest but look for Guarantee. Amorphous-Type Solar-cell have more Power at cloudy days. Solar cells should have at least 5 cm distance to the roof for cooling. Grounding is not necessary. Solar-Cells should be mounted in a way that no partial shadowing will occur (by a tree or a Tree-leaf etc). Outdoor you must use UV-resistant cable. Take care, Solar-cells might easily be stolen! Cleaning of

the surface is not necessary, this will be done by the rain, if the Solar-cells are mounted a little bit sloping. Should have at least 15° ankle for self-cleaning. But really self-cleaning happens only if it is sloping more than 40°. Otherwise clean it regularly (2-3 month). Ideal is a ankle which is the same like the latitude in °. Frames can be readjusted two times a year in order to improve Performance up to 25%.

From a 100W Modul you get 360 Wh per day in Germany; 100 W approx. 350-450 Euro www.sat-solar.ch

Charge Controller

Is necessary for not to Overcharge and Deep-discharge Batteries. That reduces lifetime of the Batteries drastically. So it should have deep-discharge Protection for the Battery.

MPP-Charger are suitable only for big-size Plants. Should have a cycle charge to a higher voltage (f.e.14,4 Volts) against Sedimentation. Some charge-Controller have a Interface for Data-Logging.

Devices

Low-Voltage 12V/24V-DC-Devices: good for Pumps; Lamps are pretty expansive in 12V Version; Most Devices only exist in 220V Version or are much more expensive in 12V-Version.

Also simple 12V Fridges are available, but also need considerable Power. Try to get a Energy-Saving Fridge, that will use much less Solar Power.

Lamps: Halogen-Type Lamps are better than normal Lamps but still use 3 times more than Energy-Saving-Lamps; If you have 12V-Lamps wires have to be thicker if the length of the cable is long!

Inverters

Transforms 12V / 24V from Batteries to AC 110 V / 230 V. They start from 30 Euro on.

- Install the inverter as close as possible to the battery.
- > Do never reverse connect the positive and negative pole of the battery to the device.
- Install in a well ventilated, cool and dry places. Never install the unit in sealed battery boxes together with lead-acid batteries because these batteries can produce dangerous explosive hydrogen gas that could explode by a spark. Keep the machine away from flammable substances such as gases and also of the reach of children

➤ The 230V AC output must never be connected with other active 230V AC power sources, because this will destroy the inverter inevitably.

Sinus-Inverter are more expensive, but do not generate noise in the radio or TV and are suitable for all Devices. You need Sinus-Wave for Copy-Machines, Drilling-Machines with variable Speed, Video, FAX, Radio

Modified sinus are more cheap and suitable for fridges, washing-machine, light, that means most Devices except those with Power-regulation.

Modified Sine Wave Inverter have a higher efficiency (90-95%) as a pure sine wave inverter (85%) and are cheaper (about 30%).

But equipment with speed control (eg vacuum cleaners, dimmers, washing machine, heating pump, gap motors, microwave) have problems with non-sinus-inverters (often referred to as "modified sine wave"). Motors get warm (fan etc) and energy saving light bulbs burn out sometimes.

Radio and television produces a noise. Sometimes a coil or filter can help (f.e. for a copier).

For bigger Units there should be an automatic-Switch-on Device for not loosing too much energy in Standby. Keep in mind that Fridges and Pumps need much more Power when starting than during running. So Inverter must have a good Surge-Power (short time deliver 50% or more additional Power).

Calculation

Inverter needs some ability for overload. Problem: when running a Desktop-computer and another device (refrigerator, vacuum cleaner) is turned on, the computer may crash because the inverter goes into current limit. So the inverter should briefly be able to provide a high overload (1.5 - 2 times).

Power of all Devices (in Watt) + 30%; If PC takes about 350 Watts so use a Inverter with 400-500 Watt Inverter takes a lot of Power from the Battery, so connect them direct to the Batteries and not through the Charge-Controller Load-Output.

A television with 80 W would need an inverter of at least 400 W

A hair dryer is a great burden for the inverter, as only one half-wave is used if switched to 50% power.

Take care: By wrong connecting of the Battery the inverter will be destroyed immediately!

- Keep the cables to the battery short due to high currents (but at least 1 m away from batteries).
- Twist Battery cables if they generate interference.
- Connect Cable at the inverter first, then at the battery.
- Automatic Switch on/off is very useful. But there is a problem with long cables (> 30m) and very low current rates (phone charger)
- Inverters may not be connected in parallel at the output! They get destroyed!
- Neither phase nor neutral may be connected to the earth! But connect earth potential with inverter earth if possible.
- Should have a good EMC radio interference protection

Ouestions

- Automatic switch on/off?
- Is there a switch for manual on/off?
- Efficiency (min. 85%)?
- How much Power in Stand-by?
- Starting current of the connected motors will be managed (eg fridges have up to 10 times!), so called Surge Power.
- Is the device Tropical proof?
- Is there after an error an automatic restart?
- Due to the poor efficiency at partial load there should not unnecessarily large inverter be purchased. Better build multiple subnets with its own inverter or a master / slave inverter-System.
- Inverter with a slave inverter is a nice feature (for low power-consumers)?

Quality criteria for a Solar-Inverter

- High efficiency, even at partial load
- Low standby losses
- High overload capacity
- Automatic switch on/off and automatic load detection.

- Stable output voltage and frequency
- output short-circuit ability
- Status indication
- Good noise suppression

For 12V systems battery should have 20% of the inverter power eg:1200 W Inverter at a 200Ah battery

For 24V a 120Ah Battery is enough

Because of the current peaks, a 1000 W inverter can operate a maximum of 300 W Energy-saving-lamps

Because of negative effect of the **ripple-current**, there should be a big capacitor of (100 mF capacitor for a 2000 W Inverter) parallel to the Inverter-cables +/-.

I can make sense, to use several smaller Inverters for several Lines. In this way you have less losses and also there is a redundancy if one Inverter fails.

Links

www.xantrex.com

Lead-Batteries

- ➤ Car-Batteries can be used for Solar, but they did not last so long. There are special Solar-Batteries. You get also maintenance-free Batteries. Lifetime approx. 4-10 years.
- ➤ Batteries are very sensitive for deep-discharge. Never discharge below 10,5 Volts (Gel: 10.1V)
- ➤ Never leave Battery deep-discharged for a longer time. There is normally a deep-discharge Protection integrated in the Charge-Controllers and Inverter, so connect your 12V Devices through the Charge-Controller.
- What size of the Battery? For a 50-80 Watt Solar-Panel take a 50-100Ah Battery.
- ➤ A 82Ah-Batterie can provide 10 hours with 8,2 A or 100 hrs with 0,82A.
- ➤ Keep Fire, Switches, 220V Plugs at least 1 m away of the Batteries, because **Batteries generate Hydrogen**!
- ➤ Connect Batteries parallel (Plus to Plus and Minus to Minus) only if they have about the same Age and the same Voltage. Otherwise you need Schottky-Diodes. Same capacity is not really necessary.
- ➤ Batteries can be recycled! Do not throw them away, they are poisonous!
- > The level of the liquid has to be checked from time to time and refilled with distilled water to the Level-Marker.
- ➤ Batteries should not be in a too hot ambient (max. 43°C, best is 20°C). So not in the direct sunlight! Charge Batterie: 10% of the Capacity (f.e. 36Ah with 3,6 A); in 12 hrs full (+ 2 hrs because of Energylosses)

Mega-Pulses to extend Battery life-time and for better charging

Battery pulser for the regeneration and care of all lead, GEL or AGM batteries. Treated with the Megapulse, batteries damaged by sulphation can be fully recharged and even batteries that were believed to be dead can be made ready for use again.

http://www.borderlands.de/Links/Free Energy Multiplier.pdf http://www.borderlands.de/Links/On_Pulse_Charging_of_Lead_Acid_Batteries.pdf

NiCd, NimH-Batteries

They last long and have a high density of Energy. But they are compared with Lead-Batteries expensive. The Capacity is the mAh-Value, written on the cell. Current values for Type AA is 2300 mAh.

Iron-nickel battery (28.10.2018)

- Very robust battery which is tolerant of abuse, (overcharge, overdischarge, and short-circuiting) and can have very long life even if so treated. It can last for more than 20 years.
- Harmless
- No short circuit problem

- No danger of fire or explosion
- Very effective hydrogen-producer: can be used as combined batteries and electrolysis for hydrogen production for fuel cell cars and storage
- Environmentally friendly (do not have the lead or cadmium)
- Very fast rechargeable!
- Ability to withstand vibration, high temperatures and other physical stress
- Good for off-the-grid applications
- They charge slowly, and are only able to discharge slowly

Negative

- High weight!
- Low specific energy,
- Poor charge retention
- High cost of manufacture

Links: https://en.wikipedia.org/wiki/Nickel%E2%80%93iron_battery

Power-Generator

- > Diesel-generator last much longer and are more efficient
- ➤ Diesel-generator should run for a longer time
- ➤ Diesel-generator might be more difficult to start.
- > There a generator also available for gas.
- ➤ Bio-gas has to be cleaned prior to use it for a gas-generator.
- There are generators available for Bio-fuel (f.e. Changfa from China).
- ➤ Power-Generators have only a small internal Tank
- ➤ Generator often have a small charging output (5A) for to charge lead-batteries.
- > Generator need maintenance in changing oil, checking cooling-liquid if available.
- > Generator generates considerable noise and smoke and should be placed away of living people.

Generator with Battery-Backup

You can reduce running-time of the Generator by using a high-current charger and batteries and a Inverter. The Generator has to be switched on, only if the Batteries are empty.

You can increase life-Time of the Generator: First start Generator, switch on Load 3 minutes after Start.

At the End switch of Load 3 minutes before you Stop the Generator for better cooling down.

Is there a representation for the Generator in the country?

www.motorland.net

Hybrid-Systems

Combination of a Solar-System and Generator. The Energy is 100% available. Cheaper solution than only with Solar. But Generator need maintenance. If you have Micro-Solutions (every family has its own Solar System), a mobile generator for about 10 households could be enough.

Free energy for all people

Easy practical evidence that magnets are able to release energy

Put one (Neodymium)-magnet on metal. Especially with Neodymium-magnets there is a lot of attraction-power by that (amazing!). Remove that (Neodymium)-magnet in the same direction. The same power is necessary to remove it! Energy-balance = 0! That means the same energy you get out by attraction you have to put in (maybe more) to separate them.

Now remove the (Neodymium)-magnet now 90 $^{\circ}$ to the right (or left) direction.



Much less energy is necessary! That means you get more energy out (by attraction) than you need to put in to separate them. If you calculate all that energy to but the magnet back to original position, there will be a positive energy balance, that means you get energy out, there is an over unity-factor! Try it, with the fridge-door? It seems that this effect takes place at the magnetic motor.

- Crucial is the asymmetric construction. That means that more magnetic force is available in rotation-direction and vice versa. With a symmetric design, no constant rotation or movement is possible (Bedini).
- The active area (surface) of the magnet is crucial. Therefore bigger magnets can generate more torque.
- Elliptical gear could be an option to generate an asymmetric situation.
- It seems that Solide-State electronic constructions by Transformer and resonant circuit could work as well. In the free e-book www.free-energy-info.com/PJKbook.pdf there is a lot about all.
- One construction which worked of Robert Adams has long magnets only in the rotor and in the stator 4 Energy-harvesting coils and 2 smaller control-coils. The time of the activation of the coils is crucial. (www.youtube.com/watch?v=J2bPDDWqSvM&pbjreload=10)
- It seems that there are engines running exclusively by Neodymium-magnets, but the arrangement and position seems to be essential and not easy! The magnetic shielding seems to be mandatory in order to generate an unsymmetrical status (more power in rotation-direction and vice versa). Mike Brady made round shielding around the magnets. Perendev-motor of Mike Brady: https://www.youtube.com/watch?v=hkjVqg8GZI0; Pakistani Wasif Kahloon engine: www.youtube.com/watch?v=nYXIBTB4fao
- This can be increased by mechanically move the magnets if they work opposite to rotation. Running Motor by FRIEDRICH LULING Theory: https://www.youtube.com/watch?v=BmGx_XQTOHw, practical: https://www.youtube.com/watch?v=h2PupzLzjkI. Or by mechanically rotate the magnets if they work opposite to rotation at the correct time to the correct position: Design by Thomas Engel 2013 in German newspaper FAZ. Shortly after that he died.

 (http://blog.hasslberger.com/2013/11/german_inventor_solves_permane.html). The energy for the movement (8 mA at nine volts) is considerable less than the energy produced by that engine. But the maximal rotation speed is limited (Thomas Engel engine 400 RPM). Good explanation: https://www.youtube.com/watch?v=4Ge2h8Apgd8&app=desktop
- Pulsed solenoid coils to reduce the unfavorable magnet forces (minus values!) at specific positions.
- Pulsed solenoid coils which take the induced energy from certain positions and thus positively influence the magnetic field (it seems this principle is realized by <u>Svobodian Andrey</u> https://www.youtube.com/watch?v=hT1hNAIMk7U.
- Pulsed solenoid coils that force specific magnets at specific times to saturation when they work opposite direction (requires more energy).
- Another way is to make the construction in a way that the shield can be moved forward to decrease the magnetic-field and backwards (90 ° to the magnet-field, to reduce the energy) to increase the magnetic-field.
- Using a motor to start and run the magnetic continuously and a generator (could be integrated in the magnetic motor) to tap the energy and provide the motor and over-unity. It seems that Infinity in South Korea is doing that. In that way the speed etc. can be regulated very well.

Professor Claus W. Turtur: To supply people with energy, one needs powerful space energy motors. The development of such a motor is presented from the physical basics to the finished design sketch of Professor Claus W. Turtur. The machine is about as big as a laser printer and delivers about half a kilowatt - without any environmental damage, free of charge, harmless to health.

Sources

Download a free ebook of free Energy with many ideas and concepts! www.free-energy-info.tuks.nl/PJKbook.pdf

Details and Background

Is the Energy-problem of mankind solvable? (part 1) www.youtube.com/watch?v=YeVQpK243ho Is the Energy-problem of mankind solvable? (part 2) www.youtube.com/watch?v=qjdEOPhwLU8 Is the Energy-problem of mankind solvable? (part 3) www.youtube.com/watch?v=Dnz-Qjtz_I8 http://www.ostfalia.de/cms/de/pws/turtur/images/1_Schrift_03f_englisch.pdf http://www.ostfalia.de/cms/de/pws/turtur/images/1_Series-english-5Articles.p

Motor powered with neodymium magnets

www.youtube.com/watch?v=mHW6b1aFPfU

Free Energy Generator, Working Patent! Muammer Yildiz Magnet Motor, Detail design!!! www.voutube.com/watch?v=sk2s8fHSP9k

Running Yildiz Magnet Motor at Inventors Expo April 10-12, 2013, Geneva, Switzerland https://www.youtube.com/watch?v=CDpKqdcDDrO

Free Energy 1kW magnetic motor https://www.youtube.com/watch?v=cRkuFenWLgg

Electromagnetic generator 10 kW Free energy device https://www.youtube.com/watch?v=Qrw6Xj5a0nM

https://www.green optimistic.com/free-energy-magnetic-motor/#.Wka68VXiapp

http://blog.hasslberger.com/2013/11/german inventor solves permane.html

More Proposals and Examples

https://s3.us-east-2.amazonaws.com/lead-dmm/magnetmotor+model+neu+hamburg.mp4

https://www.youtube.com/watch?v=VNmtFMuhDAY

https://goo.gl/images/XSE9H2

http://jnaudin.free.fr/html/mromag.htm

https://goo.gl/images/8Ajhb5

https://www.youtube.com/watch?v=eA0b-8pqUCk

https://www.youtube.com/watch?time_continue=6&v=RkLfpXpO5sQ

Spanish: prove ispirate al motore elettrostatico di Turtur www.youtube.com/watch?v=2VRDK5Ra-lg

Hydro-Power

There are small Hydro-Power-Stations available, starting from 100W. But in spring when there is a lot of water, the Inlet-System and filter has to be cleaned from time to time. Water is enriched with Oxygen, good for the fishes. In some constructions fishes can pass the Hydro-Power downstream. Upstream a fish-stairs is needed.

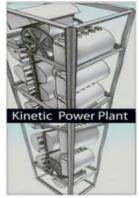
www.smart-powersystems.com www.maurelma.ch/download.htm

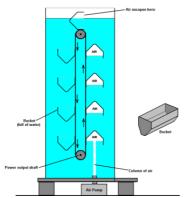
Gravitation water vortex power plant

http://www.zotloeterer.com

https://www.youtube.com/watch?v=oo_mP18IXMo

Kinetic Power Plant (31.10.2018)





Energy conversion through the use of buoyancy and gravitational forces.

With tricks gravity can be used as energy, but something has to be moved mechanically.

The Kinetic power plant consists of

- A paternoster with mounted swimming tanks (open on one side) in a plunge pool filled with water.
- A compressor that fills the tanks with air. Their buoyancy force sets the paternoster in rotation.
- A generator driven by the paternoster via a chain gear.
- A compressor compresses air and blows it down into the buoyancy bodies whose openings are at the bottom (ascending side).
- The water is displaced. The resulting buoyancy accelerates the paternoster. The water resistance increases with increasing speed in the square.
- For this reason, the rotation in the paternoster must be slowed down so

that the water resistance remains low.

• The electric motor counterforce of a generator is used for braking. This generates electrical energy.

Calculations

- A) Weight force / mass difference
- B) Relationship: Free fall elevator
- C) Relationship: buoyancy in water
- D)Filling volume and compression pressure
- E) Determination of compressor power
- F) Calculation of buoyancy energy
- G)Calculation of water resistance
- H)Calculation of shaft diameter
- You do not need any fuel
- Can be built decentral (where electricity is needed)
- emit no exhaust gases and no CO2, no waste
- relieve the load on the power lines
- Generate clean and ecological electricity 24 hours a day and 365 days a year.

12 kW at the output and only 1.7 kW power requirement for compressed air generation, i.e. a COP of 7·1 !

This results in a COP (efficiency) of 7:1.

8 meters water depth.

Slow Speed: 5 cm / sec;

A kit for 5 KW costs about 15.000 €.

A finished 5 KW power plant with rectifier and inverter 25.000 €.

This system requires 50 x 50 cm floor space and 4.5 meters height.

A system with 200-300 KW costs 1 million €;

A system with 5-7 MW costs 20 million €;

Links: Supplier Rosch Technik and Gaia.

www.e.cat.deutschland.de info@e-cat-deutschland.de

Animation Kinetic power plant (KPP) KI-tech.no: https://www.youtube.com/watch?v=FravXky8oYQ
Page https://www.youtube.com/watch?v=GravXky8oYQ

Rosch thrust kinetic power plant (KPP) demo https://www.youtube.com/watch?v=03aVI1_OMsA

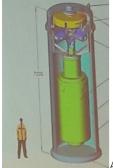
Small size. https://www.youtube.com/watch?v=RrtzL0feOjI

https://www.youtube.com/watch?v=8Zenn0VD2Bo

Rosch KPP 15 kW Free Energy System Demo June 20, 20

https://www.youtube.com/watch?v=7-5qd7bEiqA&list=PLe0xWOPe2ch2Z4iktEg8AVFMmJef-r2NA

Resonance ram (31.10.2018)



Advantages

Resonance rams can be used in sea water as well as in lakes, ponds, rivers, and in artificial water reservoirs.

No water supply is required as is the case with run-of-river or storage power plants.

Resonance rams can heat the pumped water to a higher temperature.

In a 500 kW plant, for example, water that is fed into a storage tank heats up in 20 m depth from +15 degrees to up to +75 degrees,

They are used successfully for electricity production.
Until 2009, several resonance rams with outputs of 1000 kW were sold in Europe.

Links

http://www.borderlands.de/Links/BeschreibungResonanzwidderAS051115.pdf Russian resonance ram https://www.youtube.com/watch?v=O8P9gN15fuc

Green Turbine (31.10.2018)



m turbine with 80 % efficiency Link www.greenwturbine.eu

Autonomous energy system for domestic use (31.10.2018)

Running Magnetic-generator by FRIEDRICH LUELING



He mechanically moved some magnets back and forward and was able to run this machine continuously without additional energy.

presented it on TV at UFA-Wochenschau 08.02.1966 https://www.youtube.com/watch?v=Y0T3JWEnSIE

Theory: https://www.youtube.com/watch?v=BmGx XQTOHw,

practical: https://www.youtube.com/watch?v=h2PupzLzjkI.

Working magnetic-generator of Thomas Engel published 2013 in German newspaper FAZ.



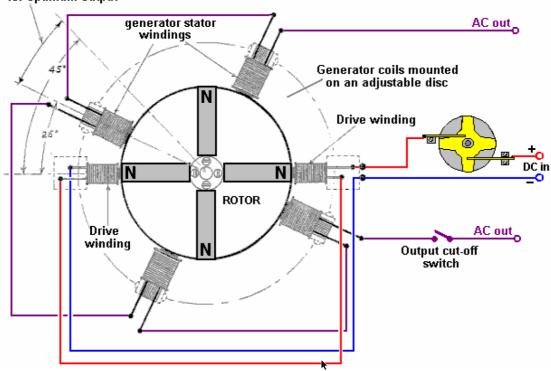
The Inventor and his motors. The older version on the left Magnets are rotated at certain times. The energy for the movement (8 mA at nine volts) is considerable less than the energy produced by that engine. The maximal rotation speed was 400 RPM. The function had been proved by the journalists of a leading German newspaper FAZ. Shortly after he published that article he died.

Good explanation: www.youtube.com/watch?v=4Ge2h8Apgd8&app=desktop www.youtube.com/watch?v=4Ge2h8Apgd8&app=desktop http://blog.hasslberger.com/2013/11/german_inventor_solves_permane.html.

Running magnet-generator of Robert Adams

When he was 70 years old, Robert Adams of New Zealand designed a very effective magnet-generator. He was told to destroy his device or he would be killed. Robert decided that at his age, he had very little to lose and so he published his design. His generator achieves a power output which is eight times greater than the input power.

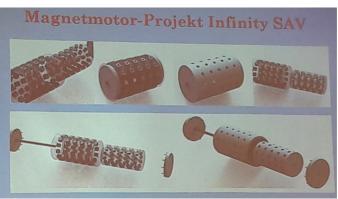
Adjust generator stator windings for optimum output



www.free-energy-info.com/Adams.pdf www.free-energy-info.com/PJKbook.pdf https://www.youtube.com/watch?v=J2bPDDWqSvM&pbjreload=10

Working 5 KW Magnet-Generator of Infinity SAV





Dipl.-Ing. Andrij Slobodian has developed a 5 kW magnetic motor. 30,000 orders have been received. The 5 kW magnetic motor costs 20,000 €.

Links: https://www.youtube.com/watch?v=hT1hNAIMk7U https://www.youtube.com/watch?v=EmdKVecQhXs

https://www.youtube.com/watch?v=cRkuFenWLgg

Working Energy-generator with up to 5 MW from Noca



The DMIG is available starting at 5MW and is easily scalable to larger power requirements. http://www.nce.energy/

The chef said that suddenly an important employee disappeared!?

The central question with regard to "free energy"

How to increase the cross section in neutrino absorption

- vibration
- rotation
- layer materials
- extremely strong fields (electrostatic/magnetic)
- extremely asymmetric fields
- high frequencies
- very steep and very high pulses
- and combinations of all that

And the magic ingredient: Runaway Breakdown / Electron Avalanche https://en.wikipedia.org/wiki/Runaway_breakdown https://de.wikipedia.org/wiki/Runaway_breakdown

See extra document for more Details.

Hydraulic Energy Generators HEG (31.10.2018)



Dr. V. V. Marukhin, has developed a revolutionary energy system whose efficiency is unrivalled worldwide. The system of the Hydraulic Energy Generator HEG is based on a permanent hydraulic-pneumatic oscillation process and is the logical further development of the well-known hydraulic ram. This works automatically via an interplay between fluid pressure and fluid acceleration every second.

The 80 cm high tube generates an output of 1 MW autonomously.

The length/height is 80 cm, the diameter 20 cm. The dynamic vibration energies are converted at 3,000 Hz via piezoelectric foils at pressures of 2,500 bar.

The noise is practically inaudible (0.2 dB)

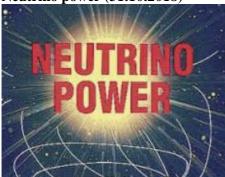
New development since 2009

The European patent granted on 30.1.2014 states a feasible output of 65 KW to 65 MW.

The plants licensed today have an output of between 20 kW and 1,500 kW, while the production costs are low.

Reference: Adolf.schneider@vtxmail.ch; www.transaltec.ch

Neutrino power (31.10.2018)



Neutrinos are hardly detectable, but they could be carriers of free energy. The Nobel Prize for this topic was awarded in 2015. It's been taken seriously ever since.

Links:

www.neutrino-wiki.com

https://neutrino-energy.com/

Neutrino energy, the inexhaustible energy source of the future! Holger Thorsten Schubart at the Intervi https://www.youtube.com/watch?v=IY15D2zmxWI

Neutrinos - new energy source Part 2: https://www.youtube.com/watch?v=lohMQjB911o

NEUTRINO, the energy source of the future: https://www.youtube.com/watch?v=QQy-89t7foE Salesman: Henry grey, stanley meyer,

Prof. Meyl: Free Neutrino Energy in the whole Universe: https://www.youtube.com/watch?v=bfcLjIlsLnQ Dr. Konstantin Meyl- Expanding Earth Theory and Neutrino Power https://www.youtube.com/watch?v=5FDPXRoIE90

Geothermal power

In 99% of the earth we have Temperatures of more than 1000 °C; Can be used for households as well (100 m drill-hole or plastic flat-collectors. This one uses the sun as well). Geothermal Power-Stations in Germany 1000 m - 3000 m deep. In Germany for 1000 50% of the energy

Especially in countries with a thin Earth-crust, where many volcanoes exist. For some countries (Island) good Potential. No ecological disadvantages found yet but there must be a good check of geological conditions before starting! It is expensive to build a power station but operating costs are low

Save Power-Supply

(for Computer, Hospital....)

Normally you use a UPS. But they provide Energy only about 30 minutes.

But you can also use a Battery-Charger, Battery and a Inverter and let the System (Computer) run all the time with the Inverter. Also you have a very accurate Voltage in this way, without High/low-voltage instability.

Only suitable for small-Size Systems (up to 1000 Watt) Otherwise Charger will be too big. Calculation for a Battery: Load 200W for 5 hours; makes 1000 Wh. For 12V: Battery Ah = P(Watt) / U(V); 1000 Wh / 12V = 83 Ah; With 30% safety you need a 100 Ah-Battery.

http://www.alternative-technology.de/Safe_Power_Supply/safe_power_supply.html

Wind-Energy

You have to check the situation of the wind in your area. In coastal areas you have a relatively stable wind. If you make it by yourself, you can also use a Generator from a car. They have an integrated regulator.

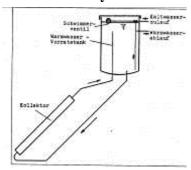
Take care: Wind-Turbines have to be constructed and fixed very stable. They make some noise and shadowing (Disco-effect!). Needs also a charge-controller. The biggest enemy of the Wind Generator is the wind! Actually more cost efficient solution than Solar-Power.

www.smart-powersystems.com

Windpump 400 for 700 Euro: http://www.erdbohrer.de/mehr-Pumpen/Windpumpen/Windpumpe-400:279.html

Windpump MW600 K for 1.381 Euro: http://www.solar-melzer.de/mw_600.htm Making your own Wind-Turbine, plans etc. http://www.i-love-windpower.com/

Solar-thermal Systems



Could be produced by small workshops. Very reliable!

The Water could be used for shower, washing the body, cleaning, cooking, making tea and washing. Also the hot water is potable, due to pasteurization-effect, but does not taste that well if it stays long on this high temperature

It works even if there is no direct sun.

Different Outtakes from the Tank for different Temperature-Levels are possible.

You have a Hot-Water-Buffer in case there is no more water available. At full sun the water can boil and get steam! The System must be protected

against that.

Most Systems do not need an extra Pump, they circulate by gravitation.

Vacuum-Collectors are more efficient, especially in the cold season.

But they are more expensive. They are loosing the Vacuum sometimes after some time.

But

- ➤ Hot-water will be ready at noon or afternoon.
- ➤ If the pipes are longer it takes some time of hot water to come.
- If there is no thermal Regulation-valve, there is a risk of injury due to hot water.
- For Laundry an external Temperature-Regulation is needed to setup the right Temperature.

Links

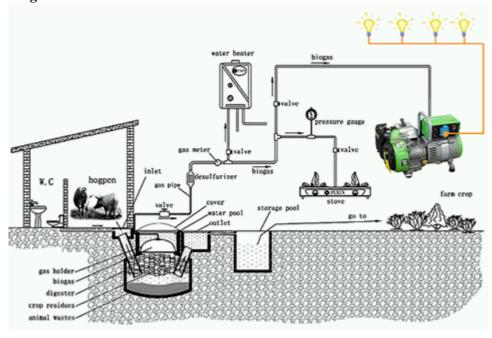
www.solarsysteme-mittermeier.de

http://www.thesietch.org/projects/solarthermalpanel/index.htm

http://www.alternative-technology.de/Solar-Thermal-Systems/solar-thermal-systems.html

and there see the document "Sizing of a Solar-System" for a calculation.

Biogas



need additional water!

Biogas typically refers to a gas produced by the biological breakdown of organic matter in the absence of oxygen. Works good in Tropical/Sub-Tropical Countries. (needs 20-30°). Provided with Human and Animal-Dung and Urine, Plants, agricultural Waste and Water. Dry Substance max 10%. The dung of a cow could produce after 14 days approx. 2,8 KWh Energy (same with 10 Pigs or 100 chicken). Could be build with local material. But they also

Gas could also be used for light, cooking, heating, and Energy (Gas-Motor, but needs cleaning before), even for gas-cars. Biogas lamps from China and Brazil. Many System in India, Vietnam; If it is made in the right way, it has very little bad smell or smoke. The harvesting of biogas is an important role of waste management because methane is a greenhouse gas with a greater global warming potential than carbon dioxide.

Good conditions are: according Humidity, air-locked (few air-exchange), no light, constant Temperature (min. 4°C; depending from Bacteria 25-40°C), pH-Value (depending from Type of Bacteria), additional food for Bacteria's like Vitamins, Minerals.

The biogas plant is part of a unit: the barn, the mixing tank, the plant, the sludge storage basin, the gas pipe and the gas utilization equipment

The calorific value is only about half the size of gas bottles

The digestion process requires a temperature between 20 $^{\circ}$ C and 30 $^{\circ}$ C. The higher the temperature, the faster the gas production and accordingly the shorter the digestion time

The container size is measured by the digestion time times of day filled Quantity.

The Dung must be fluid with about 8 -10 % of dry matter. In practice this means that fresh manure is mixed with approximately the same amount of water.

Thus, if the gas production is increased and decreased there is additional water demand: It is best to use the urine to reduce water demand.

The digested sludge leaving the plant is in a liquid state and is best placed on the fields in this form.

If no special burners are available, commercial gas cooker can be used when the nozzle is opened a bit more.

The gas may also be used for illumination.

Estimated cost to build a Nyasanda type biogas plant

Digester 58 \$
Gas container 28 \$
Insulation structure 137 \$
Tools 10 \$
Sum 233 \$

4.2 years to earn back the investment.

Conditions for a Biogas-plant

Continuous biological agent available Water is available There is a way to dispose the residual (on the fields etc)

More Info: http://publications.lib.chalmers.se/records/fulltext/100663.pdf

Links:

Design and Construction: http://www.ruralcostarica.com/biodigester.html

http://www.aidg.org/biodigesters.htm http://www.i-sis.org.uk/BiogasChina.php

http://en.wikipedia.org/wiki/Biogas

http://biogas.wikispaces.com/

https://energypedia.info/wiki/Electricity Generation from Biogas

Ebook to buy: http://www.completebiogas.com/toc.html

Solar-Cooker



Cooking the food only with the sun. Solar-Cookers have a lot of advantages: Reducing the demand of fire-wood, no more smoke of fire which can lead to many diseases, more free time for the children etc.

Although it is not that easy to implement the Solar-Cooker, may be because cooking-habits must change a little bit. Solar cooking can be realized only with Sun shine and in the day-time. But there are cookers with electrical Back-up. There must be a good Training-System.

For example a rent and buy-System, with people who give Support in the beginning.

There are different types of Solar-Cookers:

Parabolic-Solar cooker: high Temperatures (up to 650°C), could also be used for frying in Oil. Cooking times like the normal firewood-cooker.

Disadvantage: Not so easy to construct. Some material have to be imported. Only works with direct sunlight. Has to be tracked all 30 min to the Sun-Position. Risk of over boiling. To keep food warm you also need a Isolated Box. Only space for one Pot. Risk of damage of the eyes by concentrated sunlight (take sunglasses).

This disadvantages are not with the **Box-Type Solar-Cooker**: Can be build easily and cheap with local material etc. The food can remain unattended, it does not get burned. The food stays hot in the Cooker for some hours (close the Lid), even if there is no sun. Good price / performance-Ratio. Tracking the sun only every 1-2 hours.

Disadvantage: Not usable for frying in Oil. Long cooking-hours (about double as with firewood). During cooking not easy to access the Pot.

www.solarcooking.org

www.eg-solar.de: Parabol-Solar-Cookers with a good acceptance world-wide

http://www.ulog.ch/

Plans at www.med.uni-magdeburg.de/~maercker/SolCook/slcot-en.html http://www.alternative-technology.de/Solar-Cooker/solar-cooker.html www.solar-papillon.de

Wood-saving stove

Advantages of Wood Saving Stoves

They use less than half the wood of an open fi re

They save time used for collecting wood

They save time for cooking food because they cook faster

They save money because less is spent on buying wood

They are safer to use because the fi re is contained

They can be carried even when the fi re is burning

They are cleaner and easier to use

They are sturdy and robust products

It costs approximately €55 to build a wood-saving stove.

Links

Essential Guide for Today's Stoves: http://stoveguide.net/

Contact: E-mail: johndebar@gmail.com http://ip.com/patfam/de/45524543

http://www.friendsofthemexicancloudforest.org/wood-saving-stoves.html

How to use

http://www.drfn.info/docs/cbend/energy factsheets/wood saving stoves.pdf

http://en.wikipedia.org/wiki/Cook stove

http://www.id-ong.org/cn/import/Leaflet_ID_ecostove_English_display.pdf

How to build:

 $https://www.engineeringforchange.org/news/2011/09/08/how_to_build_a_wood_burning_institutional_stove.html$

http://www.cowfiles.com/resources/pdf/Energy-Saving-stove.pdf

Solar Dryer



- > Dried foods are tasty, nutritious, the nutritional value and flavor of food is only minimally affected by drying
- > Dried foods are high in fiber and carbohydrates and low in fat, making them healthy food choices
- Vitamin A is retained during drying
- > Storage space is minimal, easy-to-store
- > Transportation costs are reduced; dried Products weigh only about 1/6 of the fresh food product
- The energy input is less than what is needed to freeze or can
- > easy-to-prepare; solar food drying is a very simple skill
- > longer storage of dried products (because of more complete drying)
- > Can open new markets and income and is a good start-up technology. It improves the bargaining position of farmers. Sometimes farmers sell at very low prices during the harvest season
- You can have up to 50% more productivity in agriculture
- For diabetics dried fruit prepared without adding sugar is a healthy choice instead of desserts.
- > Dried fruit can be used in stews, soups and casseroles or enjoyed as snacks. It can also be added to cereals for breakfast or used in making ice cream and baked products

Links:

http://www.alternative-technology.de/Solar_Dryer/solar_dryer.html www.efn.org/%7Eitech/Solar%20tunnel%20dryer/Solar%20tunnel%20food%20dryer%203_2008.pdf www.solare-bruecke.org/Bauanleitungen/Tunneltrockner_dt.pdf

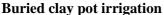
Reforestation



- Trees provide a wide range of products (timber, fruit, medicine, beverages, fodder, oils) and life supporting services (carbon sequestration, erosion control, soil fertility, shade, beautification).
- The very soil we need to grow our food crops, and the health of our water resources and sources, depend on the number of trees we have on the planet, and how healthy they are.
- Trees make the soil more fertile, increase soil moisture and reduce erosion.
- They also help prevent desertification.
- Trees give us shade, also for young plants
- Trees act as windbreaks to protect crops from strong winds
- they provide us with fruits and animals
- Trees supply us with wood that we use to build houses, make furniture, build fences, and burn for heating and cooking.
- Trees save money on fuel wood, fodder and stakes
- They generate about 40 per cent of the world's oxygen (in one year, an average tree inhales 12 kilograms (26 pounds) of CO2 and exhales enough oxygen for a family of four for a year.)
- Forests provide significant income and livelihood options

- The World Agroforestry Centre (ICRAF) recommends the planting of deciduous trees where water scarcity is a problem. They consume less water than evergreens during critical periods of water shortage and compete less with crops.
- As the forest grows, trees can be thinned out or pruned and used for timber or fuel. People can collect fruit, seeds, nuts and medicines from the forest.
- Birds and animals will return to areas they had left when their habitat is restored
- You can grow many food crops—on a large scale to sell, or in a garden to eat at home. These foods provide us with carbohydrates, protein, fats, vitamins and minerals.
- they encourage rainwater to sink into the soil instead of causing floods
- Fertilizer trees make the soil richer so crops grow better! And thus reduce the need for chemical fertilizers
- Trees control weeds such as the parasite strigalt's good to leave an open strip for to prevent fire and harmful animals and for irrigation.
- Fast growing trees need a lot of water
- Tear furrow (groove, Furche) in the slope of a hill, fill with loose soil and plant the trees. The roots fix the soil!

 $\underline{http://www.jesuitenmission.org/jesuitenmission/weltweit-helfen/watershed-programm0.html}\\ \underline{http://www.alternative-technology.de/Reforestation/reforestation.html}$





Mix the soil you dug out of the hole with 1/3 as much compost or wellaged manure. Place enough mixture in the hole so the pot sticks up 2 cm above the surface.

• Put the covered pot in the hole and fill the hole around it with soil. Press the soil down firmly.

Plant your seeds or plants about 1–3 cm from the pot. Dilute liquid manure and compost and add to the clay pot.

As the soil dries, suction develops and the water slowly seeps out from inside the pot and into the soil around it (the suction force is created by soil moisture tension and/or plant roots themselves. This is a naturally automatic system, if it's been raining, the soil is wet so there is no moisture tension and the pots don't release any water. The soil gets just what it needs, right when it needs it with no gadgets or sensors required! To keep the system working optimally, add more water to the pots as needed and avoid letting them dry out completely. Dig the pots up at the end of the growing season to prevent breakage over cold winter months. Because the soil is kept moist inches below the soil surface, this helps reduce the growth of weeds (also means less water consumption and less maintenance) www.aquaplue.com

Cleaning of Water



World-wide, soiled water is an enormous problem. UNICEF estimates that 60% of the rural population and 23% of the city-population in the poorer countries have no access to clean water. It is estimated that from diarrhoea-illnesses caused by impure water, 2 millions die annually and approximately 900 millions get sick.

-2-4 weeks storage can reduce bacteria from 50-90 %. Many people dislike the taste, because the water is old.

Sodis: the easiest way: Just put some transparent plastic-bottles of water in the direct sun for about 5 hours, and you can drink it. But the Turbidity has

to be low (leave it for some hours to sediment)

See www.sodis.ch for more information

Ceramic-Filter: If the water is not too turbid. The flow of water is very slow. Reduces Bacteria and Protozoon. If the pore-size smaller than 1.5 um, the pathogens get removed also. Bigger pores only macro organisms as cysts and worm eggs are removed. The rest can be removed by boiling afterwards. Cleaning of the filter: brushing under running water, boiling the candle. Could be produced easily in the countries of the South. But only with Silver-Ions it is antibacterial.

Clay-filters with silver: with Silver-Ions it is also antibacterial. Excellent results! Also removal of bacteria; 2,14 l/day; Lifetime 1 year; Made of 55-65% loam, 30-35% crushed feldspar or 20-40 % sand, 5-10% sawdust, 3,2% colloid silver; Guatemala 7,70\$; Silver inhibits further growing of bacteria

Charcoal -Filter: Critical if he is used too long. No indication when he has to be replaced. Reduces chemicals, better taste. If not used for longer, breeding ground for bacteria.

Upflow filter: at low filtration-rates and sufficient oxygen content of raw-water reduction of 50 - 70 % of organic and inorganic coarse and fine particles.

Filter-medium: coarse sand 3-4 mm; cleaning of the filter, 5-10 min every day, to prevent the filter-bed of clogging; better results: decreasing grain-size to top;

- -slow sand filtration: also anti-bacterial, but slow flow, sufficient oxygen in the raw water, steady temperature, constant flow is necessary!
- **-chemical treatment**: chlorine (best and most tested but not easy to get and store this chemicals), iodine, bromine, ozone;
- **-boiling** destroys pathogenic germs like bacteria, viruses, spores, cercerea, amoeba cysts, worm eggs etc. Let the water sit for a few hours after boiling in a vessel, the water picks up air and loses its bland taste. Improve the taste by flavoring plant materials adding during boiling. If done properly, boiling is a very effective and simple disinfection method, but requires a significant amount of energy, if not used the sun directly. A **Solar-Cooker** could be used for cleaning water as well (by Heating up to $> 65^{\circ}$ for some time). Some devices exist to verify whether the water is potable (WAPI from www.solarcooking.org)
- **-UV-treatment:** thin water films are necessary! Many substances inhibit the transmission of the light. The water must be pre-filtered. The UV lamp requires replacement annually. Expensive special Lamps must be used! Eliminate waterborne pathogens (germs, viruses, and molds). UV disinfection does not kill giardia or have a residual effect on bacteria that may be reintroduced into the water after UV treatment.
- **-Deep tubewells**. Because the wells are more than 200 feet deep, the water has been sealed beneath an impermeable layer of earth for a long time and is commonly bacteria-free. One disadvantage of obtaining water from a deep tubewell is that many people dislike the taste. Because the water is old, it has a high dissolved salt content, and many people prefer the taste of fresher, surface water. Additionally, deep tubewells can be expensive and time-consuming to construct because of the specialized deep-drilling equipment that is required.

Chlorine disinfection kills all pathogens, including giardia. In addition, chlorine has a residual effect; that is, if bacteria are reintroduced into a chlorinated water supply, the new bacteria will die. Although chlorine disinfection is a well-proven technique, it has a few disadvantages. Often, people dislike the taste and smell of chlorinated water. In addition, because it is easy to overdose water with chlorine, it is necessary for a trained person to test chlorine levels before water is consumed. Silver+Chlorine: 20-35min contact;

ozone-treatment: A water treatment with Ozone also removes Bacteria, Virus and Germs.

filtering also by a fine meshed cloth, let the water settle before;

Dirty water-> safe water: https://innovativeh2o.com/

Reverse-Osmosis: An excellent way for cleaning water, you can even take salt-water and convert it in potable sweet-water. Filters have to be changed at least every year (20-50 \$). There are no minerals in the water after that, so be careful if the food does not provide enough minerals. Or add 10% of untreated Water to it.

http://www.advancedwaterfilters.com http://www.freedrinkingwater.com

PAUL - Waterbackpack

Also a good and easy way to get water potable. Can be realized in the Solar cooker! **See http://www.alternative-technology.de/Solar-Cooker/solar-cooker.html**

Water cone

Cheap and mobile solar Potable Water generation from sea water or brackish water on the base of condensation by solar still: www.watercone.com/product.html

Refrigerator, freezers

- Old refrigerators need 5-10 times more energy like new ones
- 12V refrigerator are 2-3x more expensive as 220V Version, but need considerable less power.
- 220V versions need usually a 1000 watt inverter for the start-up current because starting current is up to 10 x of the rated current
- Absorption refrigerators need at 12V 5 times more energy than compressor refrigerators
- Deep Freezes need much energy. May be switch off with timer at night
- "Frost-free" devices do not need to be defrosted, although, they need a lot of power for making a "frost free" cycle.
- Operating hours compressors about 25%
- Refrigerators need about 300-500 Wh / day ($T = 32 \,^{\circ}$ C); 200-400 Wh / day ($T = 25 \,^{\circ}$ degrees)
- There are Solar-fridges available which run direct from Solar-Panels. But what happens if there is not enough sun? May be make a backup by a small generator.
- Suppliers of solar refrigerators: www.wemo.info

You can increase the cold storage-Time by putting bottles in the fridge with a mix of Salt and water. It works by latent-Heat, a lot energy is saved by the process of liquid / solid and reverse.

Calculation of the quantity of Salt:

If you multiply -15,71 g/° with the desired temperature you get the quantity of salt / kg water.

Example: Temperature -18° C

 $m = T \times (-15,71g/^{\circ})$

 $m = -18 ^{\circ} x (-15,71 g/^{\circ})$

 $m=280\;g$

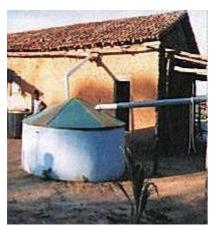
Put 280 g Salt in 11 Water. Deep-freeze point is at minus 18 °C.

According to different sources, 10 °C is enough for the deep-freeze.

Alfalfa (Lucern)

Good for feeding young children! All what is necessary is inside. Problem: Taste is not good. Can be eaten or a drink can be mixed, may be with other (good taste) ingredients. http://en.wikipedia.org/wiki/Alfalfa

Using rainwater, the Water Cistern



Rain-Water is a water of good quality. But store it covered (no sun and Mosquito can go in) and cold if possible. Good for washing (you need less washing-Powder!), Toilette, Irrigation. For drinking only in countries with no air-pollution and there should be a good filter system installed, because there is air pollutants that poison the water. If possible do no use the first water when it starts raining. Use mechanical filters like screens and closed gutters, French drains, gravel, sand, sumps, grates, and wire mesh, and first flush units

Storing the rainwater for drinking safe, solid and sealed. Safe, is water that comes into the storage facility after being fully filtered. Solid, is water that cannot escape or cannot be tainted by anything from outside the container. Sealed, is water that does not float away due to evaporation

You can spare using rainwater up to 50% of the daily water. The tank

should be UV-resistant and no light should can go in

Internet: http://en.wikipedia.org/wiki/Rainwater_harvesting

www.rain-barrel.net/drinking-rainwater.html

Nature does not have waste. Using waste to build houses

Not only does increasing energy efficiency serve to reduce brickmakers' fuel costs and hence increase their income, it also reduces the emissions of carbon dioxide and other pollutants per brick produced.

http://www.scidev.net/en/agriculture-and-environment/news/researchers-make-bricks-from-waste-desert-sand.html

http://www.sciencedaily.com/releases/2012/12/121219084058.htm

Fuel for Free? Waste Materials in Brick Making ISBN 978-185339-625-0

Latrines

At least 50-100 m away from the next spring. Hole max. 1m above Ground-Water level. Never flood the Hole. Rain should not come into the hole. Lid from wood hat flies may not come in. Air-Pipe should have a mosquito-net at the end. If possible put sand or ash in the hole after using, to reduce smell and coming of the fly.

Sometimes you can also use grass, leaves or waste from the kitchen for it. Never put water or old Oil or disinfection-material in the hole.

www.komposttoilette.de

www.berger-biotechnik.de

Computer

Laptops for countries of the South are very suitable as they have an integrated Battery. There are pretty cheap second-hand Laptops available at Ebay in the Internet starting with 150 Euro. Problem: German Keyboard, Battery, German Windows. Before joining Ebay you must sign in with your Email-Address. Office is a Licence-Product. There is Open Office as Freeware available, works like Office www.ebay.de

Spectacles, glasses

Getting second hand spectacles, glasses: http://www.lunettes-sans-frontiere.org/english.htm

Cold chain for Medicine

- Maintaining cold chain is very important for patient's health. Following few points elaborate its importance.
- If cold chain is not maintained the medicine will lose its efficacy and will become ineffective i.e.
- ➤ If the temperature of the medicine goes below 2°C, the medicine can freeze which would adversely affect its efficacy. Further freezing can also lead to cracking of vials / syringes leading to a possible contamination due to loss of sterility.
- ➤ If the temperature of the medicine goes above 8'C, it would again lead to reduction or loss of efficacy of the medicine making it ineffective. »
- Not maintaining the cold chain will eventually result in ineffective treatment of disease which may also lead to death.
- ➤ Inconsistency in maintaining cold chain for doses administered could even make the complete therapy ineffective
- Always purchase cold chain medicine from those chemists / pharmacies / home delivery service providers, who directly buy such medicine from us. Check / enquire before purchasing that medicines are placed in a refrigerator.
- > Select a pharmacy / chemist / home delivery service provider which has a 24 hrs power backup arrangement.
- Never accept cold chain medicines without proper packaging i.e. use of ice or ice packs in a carton or thermopore box.
- Always enquire from the chemist / pharmacy / home delivery service providers that for how long would the packaging maintain the temperature and make sure that the medicine is either used or stored within the given time.
- Never accept medicine with broken seals.
- Medicine must be placed in a manner that it must not be in direct contact with ice / ice packs. Use carton sheets / bubble wrap or polythene bags when travelling long distances.
- ➤ Protect the medicine from exposure to direct sunlight during transportation
- ➤ If you wish to store cold chain medicines at home, please note that such medicine must be stored in a refrigerator.
- > Do not place cold chain medicines in the freezer. It will make the medicine useless due to freezing.

- > Do not keep cold chain medicines in the door of the refrigerator. Storage at the door is not recommended because during opening and closing of the door the medicine will be expose to room temperature immediately.
- Do not place cold chain medicines in direct contact with inner walls of refrigerator as it can lead to frosting.
- > If you need to store cold chain medicine for a long time, we recommend you to monitor the temperature of your refrigerator using thermometers.
- If there is no electricity for up to half an hour do not open the refrigerator.

http://www.coldchaintech.com/

Solar Aircon

Look in google for solar air conditioner and you find for example http://www.energor.com/Solar%20Air%20Conditioner.html www.china-aircon.com

Grey-water reusing

Greywater is wastewater generated from domestic activities such as laundry, dishwashing, and bathing, which can be recycled on-site for uses such as landscape irrigation and constructed wetlands. Greywater is largely sterile, but not potable (drinkable Fehler! Hyperlink-Referenz ungültig.



Protecting water: Washing with the soapnut

The soapnut

The fruits of the asian soapnut tree wash without chemical additives and thus protect people and the environment.

Positive

- Protects the environment, as no synthetic surfactants from oil and palm
- Good for allergy sufferers, as there are no chemical additives in the

- spares the colors of the textiles
- Gentle to the sensitive skin.
- Laundry is soft even without softener
- Cheaper than conventional detergent.

Negative

Laundry turns gray faster

Stain removal is poor

Washing machine calcifies faster

https://www.amazon.de/exec/obidos/ASIN/B004NQCAX2/waschmaschine-stinkt-info-21



Washing balls with ceramics

Positive

- protects the environment, as it contains no surfactants
- Good for allergy sufferers, as there are no chemical additives in the laundry
- helps to save 300 € to 400 € to detergent

Negative

- Laundry turns gray quickly
- Stain removal is poor
- Washing machine calcifies faster

https://www.amazon.de/exec/obidos/ASIN/B001DMMPOS/waschmaschine-stinkt-info-21

Washing with horse-chestnuts

They contain 10 to 15 percent of so-called saponins. This is the main active ingredient of soap.

Wash with ivy

Wash with curd soap and soda

The simplest softener replacement is white household vinegar

Natural building

Building compactly and minimizing the ecological footprint. On-site handling of energy acquisition, on-site water capture, alternate sewage treatment, and water reuse. Adobe bricks, cob (or monolithic adobe), rammed earth and clay-straw infill are common choices for wall material. Roofing coverings often used include sod or "Living" roofs, thatch, and wooden shakes or shingles. Rubble trench foundations are popular, as they do not require concrete; Likewise, dry-stacked or lime mortared stem walls are common.

Transportation in the cities, why not with electric bikes?

Public transportation has a big impact on the worlds resources, climate, pollution in the cities and could be more efficient and fast. Stop and go in the cities is highly inefficient and wastes the performance and time of people. We have to keep in mind that in 90 % of the times the private cars are standing and not used. **Car sharing** could increase the usage-times a lot.

In Germany and other countries more and more people are using electro-bicycles ("Pedelecs") in the cities. They are the most efficient transportation-medium with almost no impact on the climate. Using them reduces the pollution in the cities a lot. There is more space for shops etc. because parking-places can be reduced. They ensure fast and reliable transportation times. They are extreme flexible, always available, use minimum space and people can drive direct to from the start-point to the destination. And they ensure sport activities depending how much electrical support is used (that is flexible). And they ensure no perspiration if people come in the office, which was often a killer-argument. If the batteries are empty it is still possible to go with the bike a bit more slow in contrast to electric scooter. They are more simple in production and excellent equipment is available. Maintenance is much less and more easy. They can be the battery-back-up for solar system. The safety is higher than Motorcycle, because they are more slow. Concerning safety a helmet can ensure that and maybe marked routes can ensure more safety. There are absolutely cool and high technological bicycles are available and much more innovative then cars. Recycling of Lithium batteries is possible. Workshops for building specific bikes can be setup very easy. China switched within a short time to electrical scooters for the cities, respect! For sure a metro build above the normal street could be as well a good alternative. Or bicycle-routes above or beside a normal road? With 4 lines? Covered with a transparent roof? That would be a dream, one day reality? Very cool bicycle-bridge-construction:





https://goo.gl/images/kTK k2S; https://goo.gl/images/deM HAj; https://goo.gl/images/dN3q nX; https://goo.gl/images/psL2 3;



Biclycles from a 3D-printer



Bikes from Bamboo (based on a kit)

Potable water direct from the environment! It works!



- Practical example including film www.designboom.com/technology/cloudfisher-fog-netwater-foundation-02-02-17/
- Producing drinking water from fog: CloudFisher: https://www.youtube.com/watch?v=LtKXkCfWmyY
- Turning Salt water into Drinking water using Solar power QPT: https://www.youtube.com/watch?v=JGwGcMsaKt4
- Harvesting Water From the Sky in Arid Peru: https://www.youtube.com/watch?v=bqZw1MqISvM
- UNLIMITED WATER FROM AIR (Pure & Fresh): https://www.youtube.com/watch?v=s6w0-RkDnLA
- Fog Harvesting with Recyclables | Kathleen Chelling:

https://www.youtube.com/watch?v=J1116SeYcuo

- How To Turn Thin Air Into Water | Konstantin Avdienko: https://www.youtube.com/watch?v=o68leKAf-Gk
- How it works: https://www.aqualonis.com/cloudfisher
- A guide to your fog collecting project: https://www.aqualonis.com/instructions
- Climate Of Change Fog Harvesting: https://www.youtube.com/watch?v=gsvMYsBm9FQ
- EcoloBlue 400,000 Liter/Day Atmospheric Water Generator Station: https://www.youtube.com/watch?v=yL3Ps86N2nM
- Harvesting Fresh Water from Fog: https://www.youtube.com/watch?v=h8vlzZ25vtg
- Company for the textiles: Essedea GmbH & Co. KG; Lothforster Str. 50 | 41849 Wassenberg |
 Germany, Tel: +49-2432-964461 | Fax: +49-2432-964466 | E-Mail: schulze@essedea.de |
 http://www.essedea.de

Drinking water from fog: www.aqualonis.com/ https://www.dw.com/en/fishing-for-water-in-the-clouds/a-36302183

Adsorption chillers (5.9.2018)

In contrast to absorption chillers, adsorption chillers require relatively low temperatures to generate cooling capacity. 65 - 85 °C are sufficient for the full capacity of these chillers (solar thermal). On the cold water side, flow temperatures down to 5 °C are feasible, with best results at 10 °C. This makes the adsorption refrigeration technology suitable for normal air conditioning systems, also with dehumidification function, and for technical processes in industry and commerce.

They work extremely efficiently (300 watts input power)! This is a big topic worldwide, because very large energies are needed for cooling. Especially in southern countries there are many solar systems that produce far too much heat in summer. From it one can win cold. The whole thing is based on water. Maintenance: only every 3-5 years a part has to be replaced. There are also hybrid systems that can also be operated with electricity. The heat exchangers are large surfaces through which cold water flows.

However, an adsorption chiller costs several times as much as a compression chiller with comparable cooling capacity.

The adsorption refrigeration technology can bring great advantages if:

Year-round demand for cooling capacity in the air-conditioning temperature range (e.g. computer centres, biogas plants, etc.)

Free waste heat available as drive energy (CHP, production waste heat, district heating, excess solar system heat, etc.)

Links: https://engineering.ucsb.edu/~yuen/references/rer-8.pdf

https://www.scribd.com/presentation/75303226/Adsorption-Refrigeration

https://www.amazon.com/Adsorption-Refrigeration-Technology-Theory-

Application/dp/1118197437?tag=duckduckgo-d-20

https://fahrenheit.cool/en/

Book: Adsorption Refrigeration Technology: Theory and Application by Ruzhu Wang

More advanced technologies for a sustainable future

HHO-Systems

They can reduce the energy-consumption realistic by 10-20 %.

The power of HHO self-running free energy system running a 400 Watts load:

https://www.youtube.com/watch?v=cMlciNOyo_U&feature=player_detailpage

How an HHO generator works and helps you save gas: http://www.instructables.com/id/How-to-assemble-a-HHO-Generator-and-why-it-works/

Strumoto-Motor

Reducing the gasoline-demand by getting the gasoline back from the exhaust gases: https://www.youtube.com/watch?v=DyKbex7vMO0

Keppemotor

An excellent design for reduced power demand of small fans.

http://www.slimlife.eu/keppemotor.html;

https://www.youtube.com/watch?v=-tzudcCsbzE

Stelzer-Motor

An interesting concept based on a hydralik-drive with 2 combustion-chambers http://www.stelzermotor.com/persisch_englisch.htm https://en.wikipedia.org/wiki/Stelzer_engine

Liquid nitrogen engine

A liquid nitrogen vehicle is powered by liquid nitrogen, which is stored in a tank. Traditional nitrogen engine designs work by heating the liquid nitrogen in a heat exchanger, extracting heat from the ambient air and using the resulting pressurized gas to operate a piston or rotary motor. Vehicles propelled by liquid nitrogen have been demonstrated, but are not used commercially. One such vehicle, Liquid Air was demonstrated in 1902.

https://en.wikipedia.org/wiki/Liquid_nitrogen_engine

Liquid Nitrogen Engine https://www.youtube.com/watch?v=dhpEKRSweTw

http://www.keelynet.com/energy/boese.htm

Water motors, Water Diesel and the Aquaflex motor (27.10.2018)

The secret of additional energy in highly efficient HHO gas production

Stanley Mayer patented a water car in 1992 (US patent no. 5,149,407). He managed to separate the water molecules with low energy (with car battery) via pulsed high-voltage electrolysis and run a car with 100% hydrogen. His invention could, for example, be used for home heating, power generation or for driving cars and airplanes. Hydrogen provides 2.5 times as much energy as petrol and is therefore well suited for aircraft engines.

Walter Jenkins developed a process to run electricity generators of up to 20 hp (14.9 kW) from 5% petrol and 95% water. He only needs 5 W for that! Jenkins uses magnetic and electric fields with a certain frequency to excite the nebulised liquid particles of 1-5 micrometres. It uses high plasma spark plugs. The fuel mist is not only ignited at the beginning of a cylinder cycle, but is also exposed to an extended ignition spark while the piston moves downwards. The ignition spark is pulsed several times. The H2O process technology drastically reduces fuel costs and increases performance, and carbon and other toxic emissions are almost completely eliminated.

This makes it possible to operate both stationary units and road vehicles, with a range 4 to 5 times greater than that of gasoline cars. It also works with bioethanol water. With its patented H2-Global process, every combustion engine runs cleanly on water-based energy.

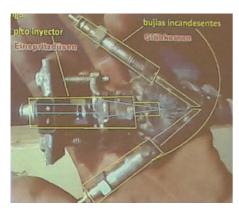
Stanley Mayer died unexpectedly on 20 March 1998 and is believed to have been murdered.

More information see vvww.borderlands.de/net_pdf/NET0918S22.pdf or Moray King or see Ohmasa Gas. https://www.youtube.com/watch?v=-JQtT5Be8wU

Jose Vaesken Guillen drove 450 km with water by a converted motorcycle in Paraguay. The consumption was 8 litres of water. The conversion cost 110 Euros! It seems to work similar like the GEET cell from Paul Pantone.

He recommends increase of compression, UV-radiation treatment of the fuel and a ozonator.

When a fuel is exposed to an electromagnetic field, the molecular chains break up and rearrange. This can lead to an increase in efficiency.



The device has 2 glow plugs and an injector. The glow plugs ignite the pulsed injected (pre-treated) water and cause an expansion of the water molecules.

Spanish book: aqua-flex: sistema de ahorro y combustibles alternativos

https://www.youtube.com/watch?v=2MNXN-

RkWYA&feature=youtu.be

Other people working on that topic: Stanley Meyer, Daniel Dinge, Paul Pantone, Uli Schuhmacher, Dr. Theo Almeida-Murphy and Eduard Haas have also developed water motors.

Hydrogen production with pulsed electrolysis is 30 times more efficient

The electrolyte added to demineralized water was sodium hydroxide (NaOH) in a concentration of 4 grams / liter, which corresponded to a conductivity of 17.53 mS/cm.

With DC current 18 watts of power was required for the electrolysis, the setup with a pulsed current of 200 nanoseconds pulse duration and a frequency of 100 MHz needs only 0.57 watts, i.e. only about 1/32! Pulse operation requires an energy quantity of around 2.7 kilowatt hours to produce 1 kg of hydrogen. However, 1 kg of hydrogen contains 33.3 kWh of energy. This means that about 12 times as much energy is produced as Input-Energy! It supplied a quantity of hydrogen of 0.58 milliliters / second. www.ijee.ieefoundation.org/vol3/issue1/IJEE 13 v3n1.pdf

System of the company H2 Innovation-Lab: hydrogen is produced "on demand". This produces more than 1 kg of hydrogen from 1 cubic metre of water in one hour. It is also possible with rain, sea or river water. An external power supply is not needed. They say it is 20 times more efficient than conventional processes by using new ?hydrogen burners?. Conventional electrolysis runs with an efficiency of 60%, this new process has an efficiency of over 2000 %! It is patented worldwide and is ready for production!

Link www.h2innovativelab.com

Petros ZOGRAFOS from Greece

Petros ZOGRAFOS Hydrogen generation demonstration: www.youtube.com/watch?v=KOLhzbZsAYA (engl. Untertitel). Free Energy Generator New water reactor from Petros Zografos:

https://www.youtube.com/watch?v=7EAh3PZyoGQ (schlechte Qualität, engl)

How the Water to Electricity Petros Zografos Free Energy fuelcell system is working from hellagen.gr https://steemit.com/news/@overunitydotcom/how-the-water-to-electricity-petros-zografos-free-energyfuelcell-system-is-working-from-hellagen-gr

Iranian scientist Alaeddin Qassemi unveiled his new invention, a car that he says is powered by water

https://www.youtube.com/watch?v=qSHKt9kWRGg

https://www.youtube.com/watch?v=fk gDQz GA8

http://www.irna.ir/en/News/81987880

Water diesel

Water diesel is an emulsion of water and diesel fuel. As these substances are normally difficult to mix, emulsifiers, also known as surfactants, are required for the permanent, uniform mixing of both substances. A usual mixing ratio is 15 % water, 5 % emulsifiers and 80 % diesel.

When this special fuel mixture is used, the combustion temperature in the cylinder is reduced, less waste heat is generated and nitrogen oxide emissions are reduced by up to 30%. The water content in the injected fuel droplets evaporates explosively, which further atomizes the diesel fuel and leads to more uniform and complete combustion. The formation of diesel soot particles, which also contribute to particulate pollution, is reduced by up to 80 %. In addition, the use of water diesel in the above mixing ratio results in a reduction in consumption of around 15 % in the forecast.

Links: https://en.wikipedia.org/wiki/Emulsified fuel

Water instead of gasoline

Bosch water injection innovation reduces fuel consumption by up to 13 percent:

 $\underline{https://www.businesswire.com/news/home/20160831005985/en/Water-gasoline-Bosch-water-injection-innovation-reduces}$

GEET-Plasma-Reactor according to Paul Pantone is a technique to mix fuel and water for increase of performance.

EGM-Fuel from Oil and Water: https://www.youtube.com/watch?v=vEj6kwf0e9s

Concluion

Possible nuclear reactions in the water seems to trigger release of more Alpha Particles when used in

electrolyzer, which in turns creates anomalous force.

• Cavitation of water can create Nano bubbles, that when ignited turns into plasmoids, which could create

anomalous force...similar to plasma ball lightning.

• Resonant frequency, vibration, sound, electrial and magnetic fields seems to be different ways of creating the

correct environment for nano bubbles and plasmoids.

Some possible frequencies to perform water experiments with

Ohmasa Gas: Vibrational frequency of around 100 Hz Keely: H2 & 0 disassociation 620-630 Hz Acoustical

Matter to Aether: 42.8 KHz

Puharich: Carrier Frequency 3980 Hz (Harmonics of 7690,

15920, 31840 & 63690Hz)

More Links:

http://www.borderlands.de/Links/Wasserauto.pdf good summary of Adolf Schneider (Thanks)

Patents

http://www.borderlands.de/Links/PatH2.pdf Zusammenstellung von Patenten

http://www.borderlands.de/Links/US2013061822A1.pdf Patent von Christopher Adair

Water car of Daniel Dingel

http://www.youtube.com/watch?v=UVhXrvCCILw&search=Dingell Video

http://countrycoast.com/daniel.html Summary

http://www.mobilemag.com/content/100/354/C8115

Water Car of Denny Klein, based on unique electrolysis process

http://netmar.com/~maat/archive/feb2/carplans.htm Convert your car and run on water

http://video.google.com/videoplay?docid=-3333992194168790800 Video "It runs on water", Stanley Meyer

http://www.nutech2000.com/category7_1.htm Videoss + Books on Stanley Meyer's Water Fuel Cell

Water powered motorcycle

https://www.youtube.com/watch?v=o5w3i9PXH1g

https://www.youtube.com/watch?v=IH3zytDD8cs&t=4s

https://www.youtube.com/watch?v=EUMTlexS6m0

Products for HHO-Generatoren

Pulse Width Modulator CCPWM30A for HHO kits. Auto ON/OFF Latest Design.

https://www.ebay.de/itm/Pulse-Width-Modulator-CCPWM30A-for-HHO-kits-Auto-ON-OFF-Latest-Design/271845148495?epid=646007152&hash=item3f4b3bc74f:g:ZiYAAOSwo6lWJrLJ:rk:1:pf:0

http://www.borderlands.de/Links/UltimateCell.pdf

https://www.adverts.ie/other/ultimate-cell-hydrogen-fuel-cell/5530751

http://www.zorce.com/2014Z3/index.php/departments/departments/zorceology/78-engineering/744-index.php/departments/departments/zorceology/78-engineering/744-index.php/departments/departments/zorceology/78-engineering/744-index.php/departments/departments/zorceology/78-engineering/744-index.php/departments/departments/zorceology/78-engineering/744-index.php/departments/zorceology/78-engineering/744-index.php/departments/zorceology/78-engineering/744-index.php/departments/zorceology/78-engineering/744-index.php/departments/zorceology/78-engineering/744-index.php/departments/zorceology/78-engineering/744-index.php/departments/zorceology/78-engineering/744-index.php/departments/zorceology/78-engineering/744-index.php/departments/zorceology/78-engineering/744-index.php/departments/zorceology/78-index.php/department

fuelsaving-ultimate-cell-from-ansa-technologies

https://utt.edu.tt/uploads/4MRDER_1_.PDF Ultimate Power

Videos

Ultimate Cell (2014)

https://www.youtube.com/watch?v=jvfVkAUAiPk

Stanley Meyer

https://www.youtube.com/watch?v=OXctY1K4wko Stanley Meyer Water-car

https://www.youtube.com/watch?v=t98UBY3GhhI Stanley Meyer Water-car

https://www.youtube.com/watch?v=KcaEXowV7Ro Stanley Meyer Water-car

https://www.youtube.com/watch?v=WY00EMNzr-8 Stanley Meyer Water-car – Basic Principles

https://www.youtube.com/watch?v=fxOdM5z6auU presentation ofStanley Meyer

https://www.youtube.com/watch?v=CBLLOuyOXnw Prinzipal

https://www.youtube.com/watch?v=JYeI7r52Oyg Interview

https://youtu.be/-joRn7qoPQY latest video of 2018

Paul Pantone

https://www.youtube.com/watch?v=d5YsK3bwzPM GEET Plasmagenerator 80% Water https://h2-global.com/

Thank you Stanley Meyer to sacrifice your life for mankind! We will never forget you!

https://www.youtube.com/watch?v=C3FQhf8X9OY why he died?

https://www.youtube.com/watch?v=C_YHiZZpKKk explanation why he died

removed! http://alexanderhiggins.com/water-powered-automobiles-inventors-killed-intimidated-and-bought-off-to-keepclean-energy-from-public/

Solar-Storage MDR-Technology

https://www.youtube.com/watch?v=1BkZ7qJG3Ug

Cold Fusion (1.9.2018)



- Another interesting technique is the **cold-fusion**. With that technique heat can be produced for heating of houses. With some cold fusion processes, Transmutation-processes (change of elements) can be implemented. This could be used for neutralize radioactive substances. (see book "Raumenergie-Technik" of Josef Gruber, page 58)
- **Cold Fusion** is a type of nuclear reaction that would occur at, or near, room temperature, versus today's current deadly and highly polluting nuclear reactors that require millions of degrees of heat "Hot Fusion" to generate electricity, such as the Fukushima in Japan.
- Cold Fusion is the collective label for any apparatus that enables non-toxic and radiation-free nuclear reactions to take place, based on low energy, whereby elements fuse together forming new elements, producing excess heat and energy in the process.
 - Book: Fire from Ice: Searching for the Truth Behind the Cold Fusion Furor by Eugene Mallove Cold Fusion or E-Cat or Low energy nuclear reaction or LENR. Andrea Rossi is the inventor of that system (see online). Airbus made a patent at the European patent-office.
- Based on heating of a liquid and a heat-exchanger; "This amount of energy is far more than can be obtained from any known chemical sources in the small reactor volume."

Links:

http://e-catworld.com/

https://ecat.com/inventor-andrea-rossi

https://en.wikipedia.org/wiki/Energy_Catalyzer

http://andrea-rossi.com/

http://andrea-rossi.com/1mw-plant/

https://peswiki.com/directory:cold-fusion

<u>www.haikolietz.de/docs/kaltefusion.pdf</u> and Dr. Jan Marvan and Patterson-Transmutation-cell, www.earthtech.org.

Companies: http://brillouinenergy.com/, https://brilliantlightpower.com

A library of papers about cold fusion: http://lenr-canr.org/ Low-Energy Nuclear Reactions: www.newenergytimes.com/

Free clean energy www.slimlife.eu/

Wind towers, Wind-catcher (11.9.2018)



Wind towers exist in the Persian Gulf and Mediterranean region. On hot days, the cool sea wind is directed through the openings in the top of the tower into the shady interior of the tower by means of guiding devices. The cool air sinks due to higher density. Thus the cool air flows into the living rooms and displaces the existing warm indoor air via the shaft of the tower facing away from the wind as well as via the windows and the doors.

During the night and when there is no wind, the heat is stored in the thick walls of the tower during the day, the air heats the interiors. This makes it lighter, rises up in the tower and draws fresh air through the

windows and doors of the building. Since the walls of the tower are warm, the night air from the wind tower is less cooled than the day air.

https://en.wikipedia.org/wiki/Windcatcher

https://cap.ksu.edu.sa/sites/cap.ksu.edu.sa/files/attach/tsbe 2 e 05.pdf

Finance

There are different organisations, where it is possible to get money for Projects

<u>http://www.forseo.eu/english/home.html</u>: forseo is a capital procurement and investment company for environmental technologies

www.kfw.de: Kreditanstalt für Wiederaufbau KfW www.dbu.de: Deutsche Bundesstiftung Umwelt

www.eib.org: Europäische Entwicklungsbank (EIB), for Energy:

http://www.eib.org/products/elena/index.htm

www.worldbank.com: The World Bank www.gefweb.org: Global Environmental Facility GEF

all Organisations in a Data-Base: www.foerderdatenbank.de

The Good Planet Foundation finances "clean development": www.goodplanet.org

Micro-Credit

There are quite a number of organisations, who provide Micro-Credits for good conditions

Getting Micro-Credits look at: http://www.oikocredit.org/site/en

www.grameen-info.org

www.banmujer.gob.ve

www.microenergy-international.com

More Links:

www.appropedia.org good Information about Appropriate Technologies!

Appropriate Technologies: www.aidg.org/water.htm

http://www.borderlands.de/index1n.php3

Appropriate Technologies: www.aidg.org/water.htm

https://ingenieure-ohne-grenzen.org/en