



Overview about Alternative Energy Sector in West and Middle Europe

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in Kosovo Municipalities

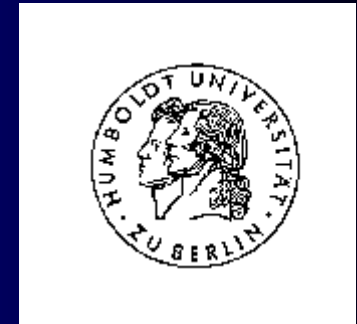


1. Energy Sector in West and Middle Europe



- Ten years ago over 95 % of all Energy was produced by so called „Normal Energy Sector“
- That means: Production of Energy, especially Electricity and Heating by Central power stations for a big area which using following resources:
 - Brown and Stone Coal
 - Oil
 - Natural Gas
 - Atomic Power
 - Water





Examples

Normal Energy Sector - Non Renewable Energy Sector
(Without Water as Ressource)



Ashdeposit
near Prishtina



Brown Coal
open mining
in Germany



Water Power
Station in France



Reasons and Definition „Alternative Energy Sector“



„To be more independent from these Non Renewable Energy Resources, especially from oil and gas, European Community, led by Germany started an Initiative to develop more the Sector of Alternative Energy 10 years ago – Aim 15% of Energyproduction“

Alternative Energy Sector means decentralised production of electricity and heating by Renewable Energy Resources

Especially in Germany the Energy law was changed to support the development of Alternative Energy Sector. A technology offensive started after this decision.



2. Examples for Alternative Energy Technologies



- Solar Energy Collectors – using of solar energy
- Wind Power Stations – using of wind energy
- Geothermic Power Station – using the heat of deep layers in geological underground (no in Kosovo)
- Biogastreatments – production of Methan under anaerobic conditions from organic sludge, organic waste and organic waste water
- Burning Technologies – using the energy of plants especially from trees and brushes or waste from forest and wood industry, production of oil and gas by plants (oil plants or wood)
- Water Power Stations – using of water energy



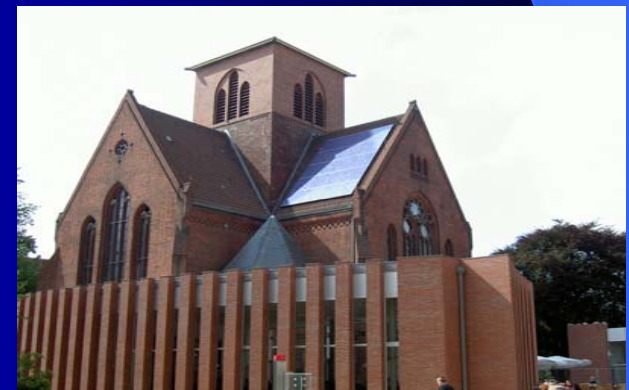
Using of Solar Energy



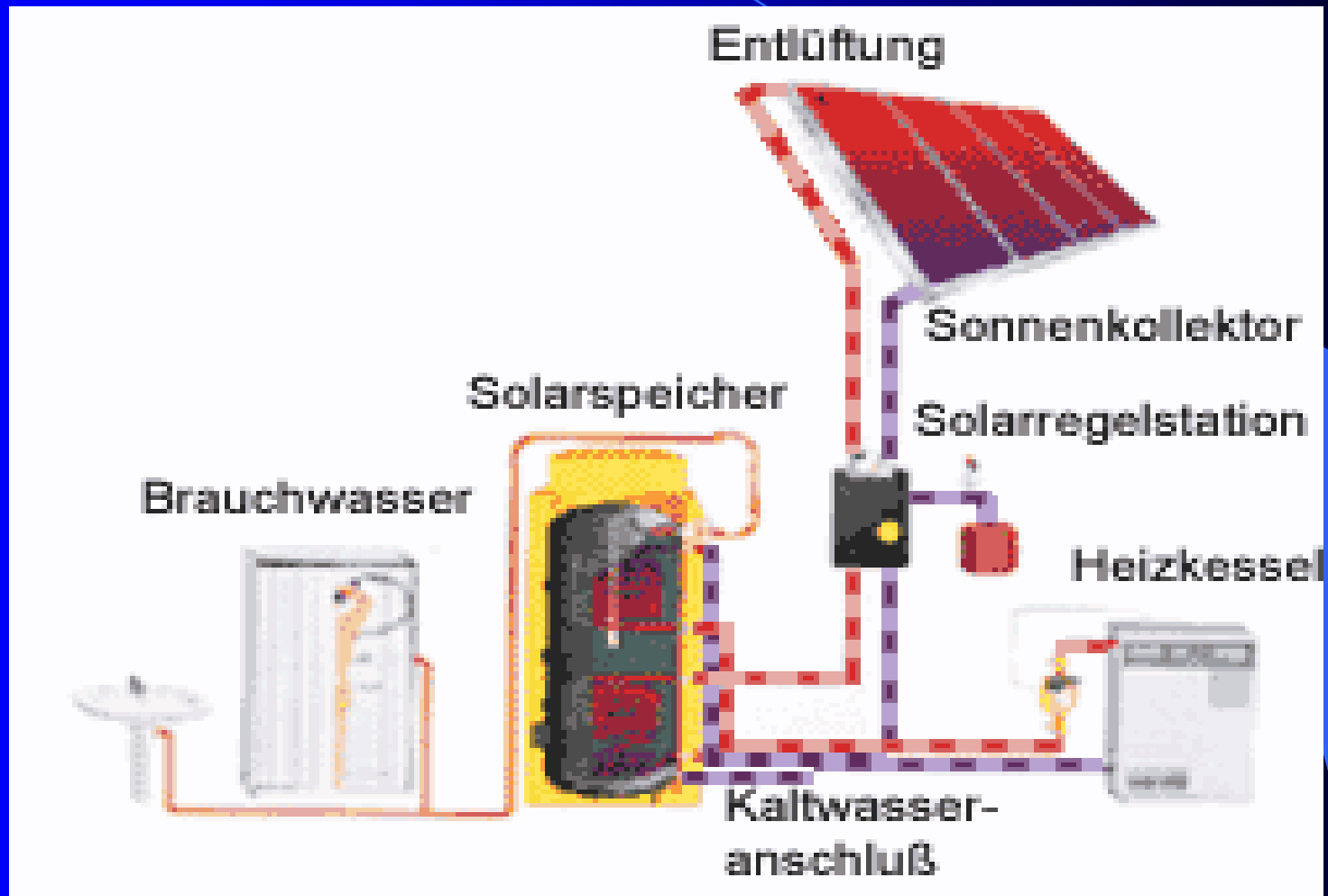
- High developed technology, efficiency depended on yearly rate of sunshine, using for heating of warm water in private and official buildings especially in summer time



Examples Solar Collectors in Berlin



Schema – Solar Collector





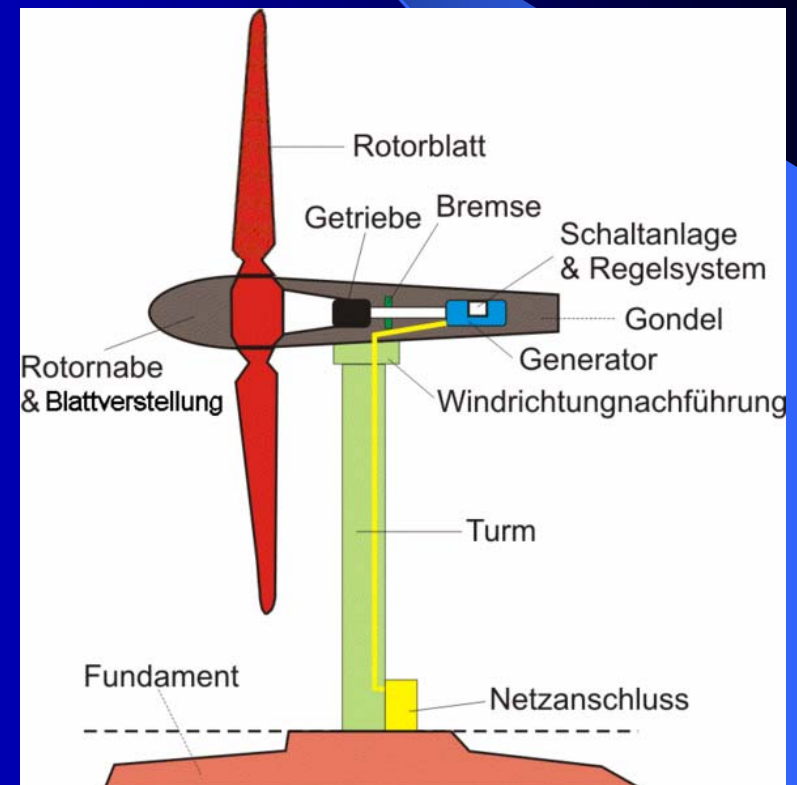
Using of Wind Energy



- **High developed technology, efficiency depended on yearly windrate in a region, using for production of electricity, electrical net nearby is necessary or private using**



Wind Power Station





Biogastreatment

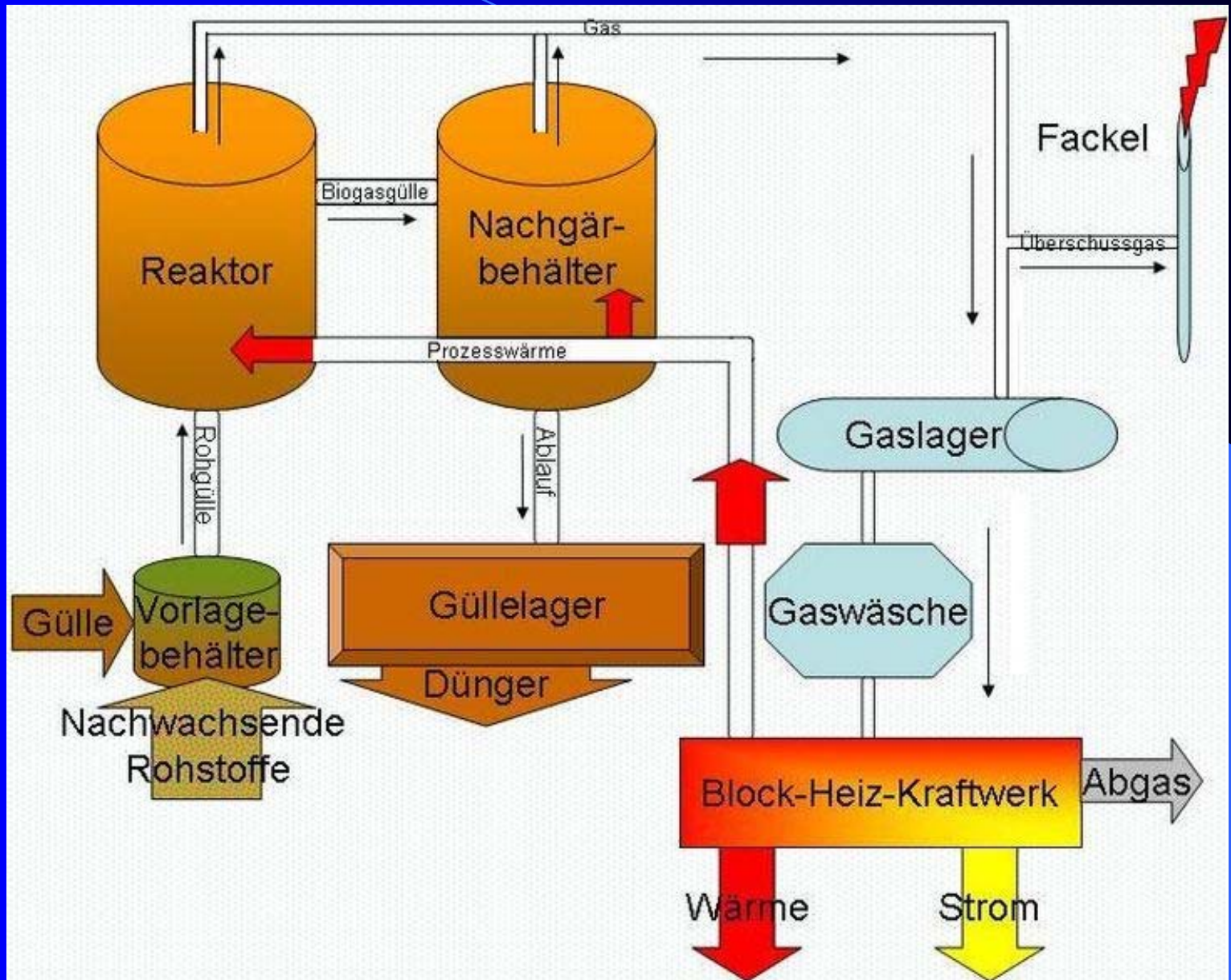


- **Developed technology, efficiency depended on kind of organic material coming in, using for production of heat water and electricity, electrical net nearby is necessary or using themselves**

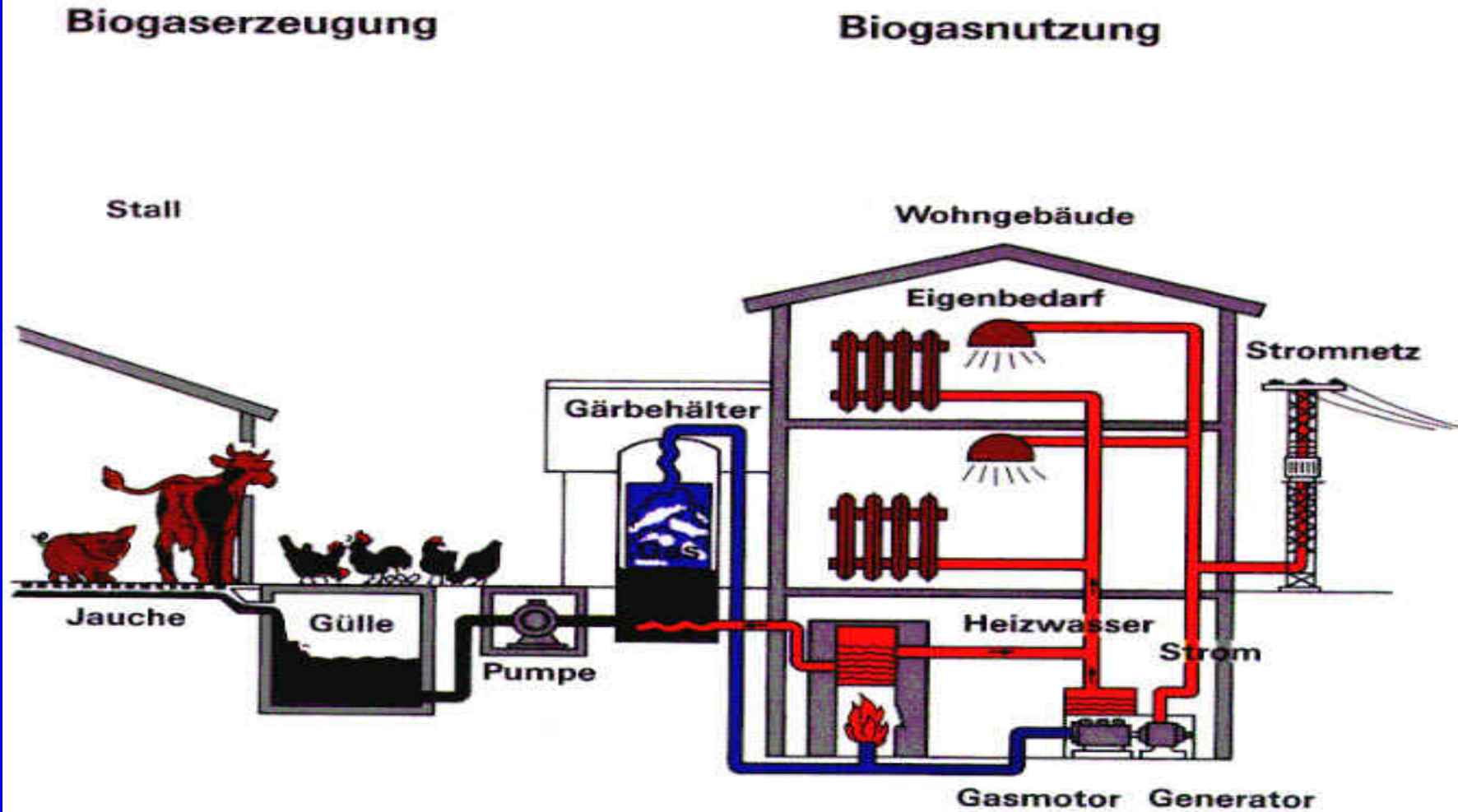


Biogastreatments

Schema / Biogastreatment



Schema / Biogasproduction and -using





Burning Technologies



- **Developed technology, efficiency depended on kind of organic material coming in, using for production of heat water and electricity, electrical net nearby is necessary or using themselves**



Woodpellets



Burning of Woodpellets



Production of Woodpellets



Holzpellets - ein vorteilhafter Brennstoff



Was sind Holzpellets:

- Rohstoffquelle: Hobelspäne trocken / Sägespäne nass aus Sägewerk
- Durchmesser: 6 mm für Hausbrand, 6 mm und größer für Großanlagen
 - Länge: 10-30 mm
 - Schüttgewicht: ca. 650 – 700 kg/m³
 - Brennwert: 4,9 – 5,0 kWh/kg
 - max. 10% Wassergehalt, max. 0,5% Ascheanteil
und max. 1% Rindenanteil
 - Staubanteil < 1%
 - Strenges Verbot von chemisch-synthetischen Bindemitteln
 - keine Lack- und Farbreste, absolut naturbelassen



Production of Woodpellets



Hammermühle

Zerkleinerung der
Säge- und Hobelspäne



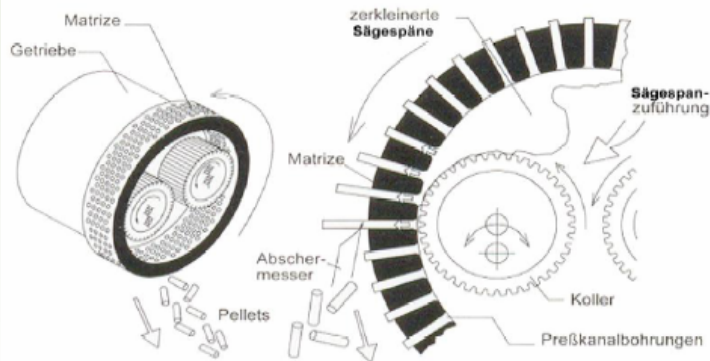
Bandtrockner für Holzspäne



1. Band
2. Dampfleitung
3. Naßspäne Zutragung
4. Kamin
5. Verladesilo
6. Abtransport Trockenspäne

Konstante Sparteuchte für hohe Pelletsqualität

Die Pelletpresse



Versorgungssicherheit

Produktionsstandorte in Deutschland



Derzeit 28 Produktionsstätten
14 weitere in Planung

Woodparticles



Production in forest



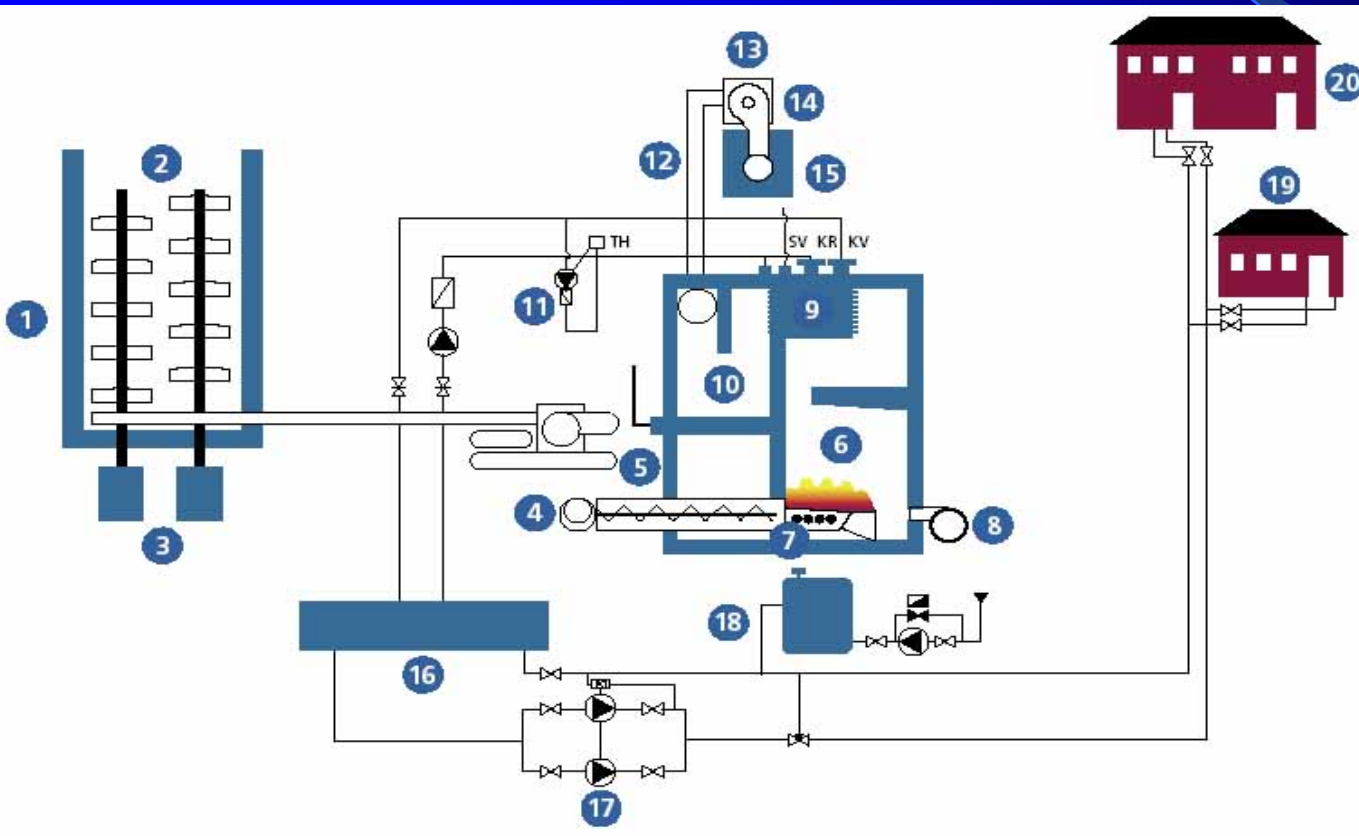
Depot for woodparts

**Transport from depot to
burningstation**



Burning Technologies

Schema -Woodparticles



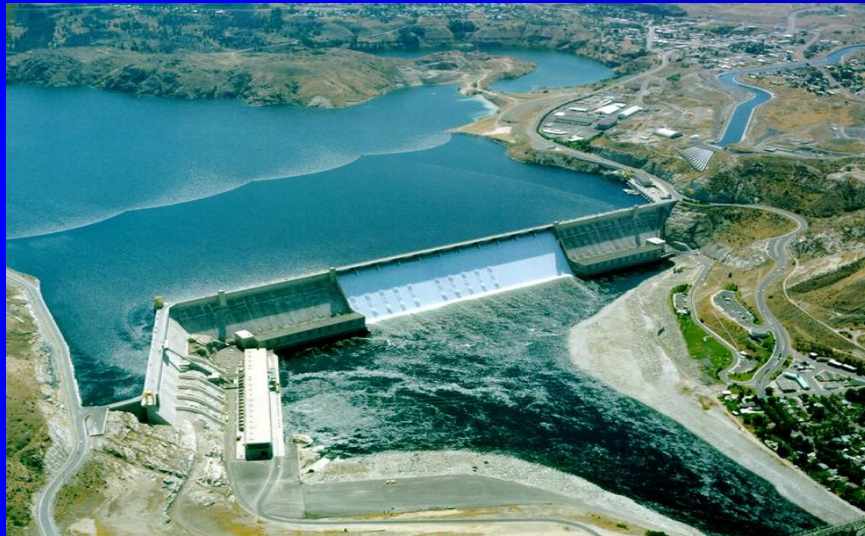
1. Brennstoffversorgung
2. Schubböden
3. Hydraulikantriebe
4. Stokerschnecke
5. Rückbrandklappe
6. Brennkammer
7. Retorte
8. Verbrennungsluftventilator
9. Heizflächen
10. Rauchgasabsetzkammer
11. Rückklaufanhebung
12. Rauchgasableitung
13. Wärmeerzeugung
14. Multizyklon Saugzug
15. Kamin
16. Wärmeverteiler
17. Netzpumpen
18. Druckhaltung/Expansion
19. Wohnhäuser
20. Wärmeversorgung



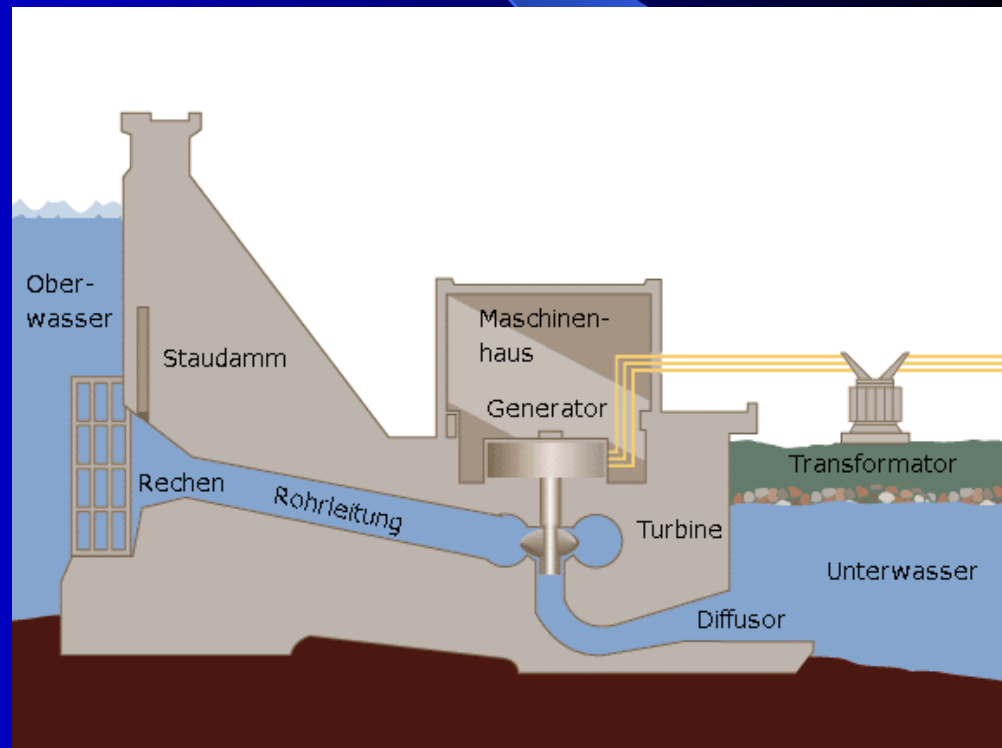
Using of Water Energy



- High developed technology, efficiency depended on power and amount of water in a region, using for production of electricity, electrical net nearby is necessary or using themselves

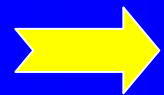


Water Power Station

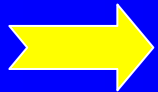




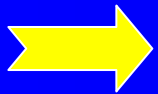
3. Summary and proposals for Pilot Projects in Kosovo



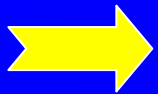
Energy efficiency needs a mix of different energy offers, Energy-, Price-, Cost- management and a Reducing of Energy losses



To build up the Alternative Energy Sector in Kosovo improve the Energysituation and the independence of only one ressource



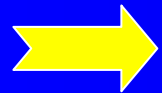
Decentralisation and Combination between Waste management and energy production reduce costs of energyproduction



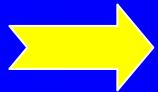
Following proposals should be realized:



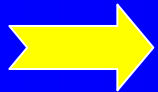
Proposals for Pilot Projects in Kosovo



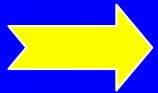
Pilot Project for using Solar Energy – official building
- Production of warm water



Study about possibilities for Wind Power Stations in Kosovo



Pilot Project – Biogastreatment from organic waste in
Combination with agricultural products



Pilot Project - Burning Technology by different woodproducts



Study about possibilities for regional Water Power Stations