

Dobrodošli!



This project is co-funded by
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**Güssing:
A Self Sufficient Town in Austria**

**Gising:
Samoodrživ grad u Austriji**

DI(FH) DI Christian Doczekal



**GÜSSING ENERGY
TECHNOLOGIES**

- ◆ History of Güssing
- ◆ Plants in Güssing
- ◆ Recommendations

- ◆ Istorija Gisinga
- ◆ Elektrane u Gisingu
- ◆ Preporuke

Location of Güssing (Austria)





**Arnold Schwarzenegger speaks at the Vienna Energy Forum 2011:
„Today, I'd like all of us to commit to do what Güssing did.”**

**Arnold Švarceneger na Bečkom energetsom forumu 2011:
“ Želeo bih da se danas svi obavežemo da ćemo uraditi ono što je Gising uradio”**

Starting position

Početna pozicija

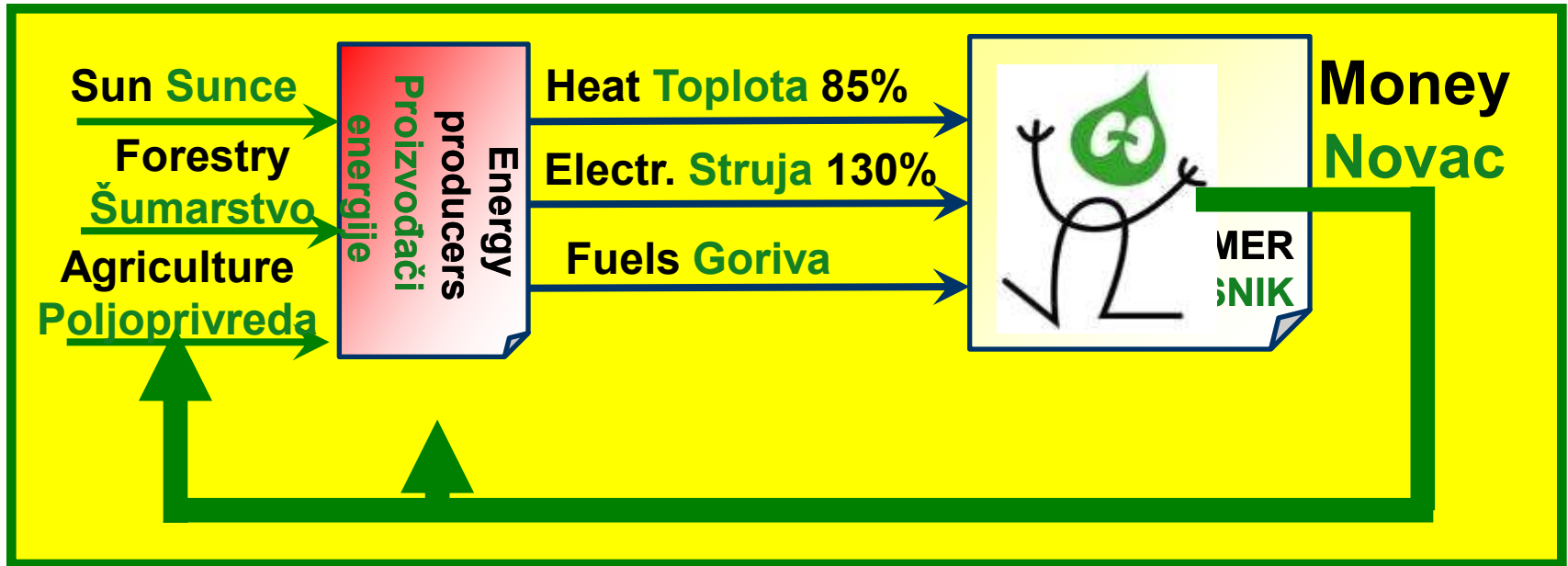
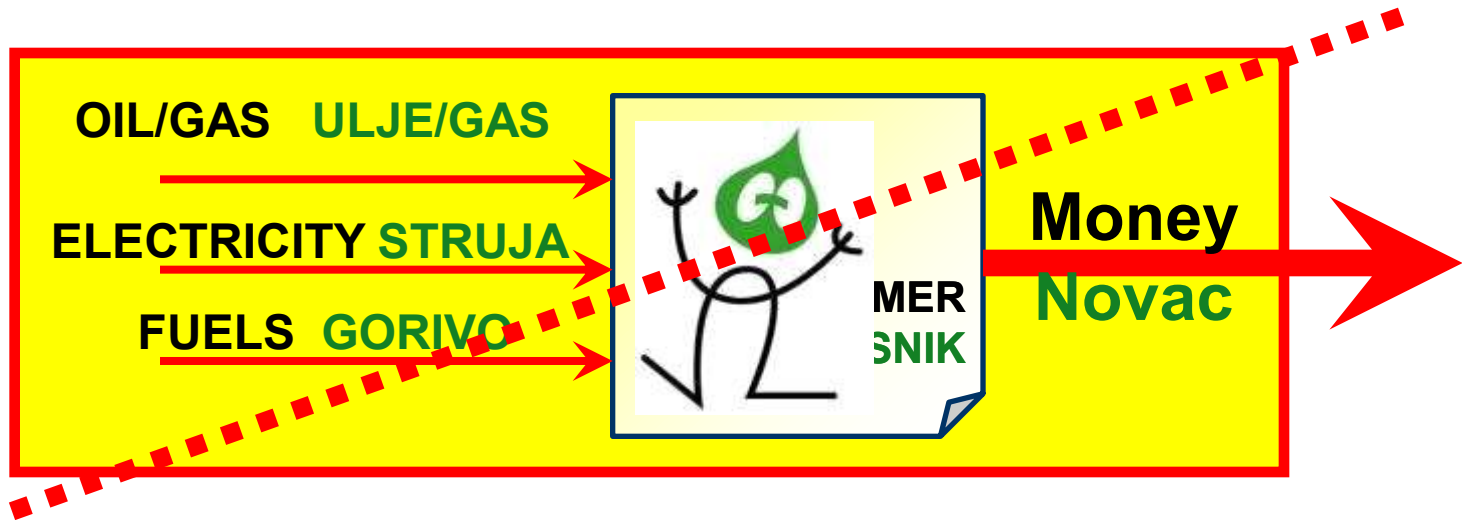
- 50 years alongside the iron curtain to Hungary
- no industry
- high rate of unemployment
- 70% commuters
- high rate of migration
- small structured agriculture
- bad traffic infrastructure

- 50 godina uz Gvozdenu zavesu prema Mađarskoj
- nema industrije
- visoka stopa nezaposlenosti
- 70% ljudi putuje u druge gradove na posao
- visoka stopa migracije
- male poljoprivredne strukture
- loša saobraćajna infrastruktura



Decision taken in 1989

Odluka doneta 1989



The model of Güssing is the strategy of the **local energy production** with the existing renewable **resources of a region.**

Gising je model strategije **lokalne proizvodnje energije** uz pomoć postojećih obnovljivih **izvora u regionu.**

What to use!?

Šta koristiti!?



**Sun
Sunce**



**Wood
Drvo**



**Agriculture
Poljoprivreda**



**Heat
Toplota**



**Electricity
Struja**



**Synthetic
Natural Gas
Sintetički
prirodni gas**



**Synthetic
Fuels
Sintetička
goriva**

- ◆ 2002 – Austria's Environment Award
Nagrada Austrije za životnu sredinu
- ◆ 2004 – Austrian AND European Solar Award
Austrijska i evropska nagrada za solarnu energiju
- ◆ 2004 – Most innovative town of Austria
Najinovativniji grad u Austriji
- ◆ 2005 – Austrian Energy Globe Award
Austrijska nagrada za energiju "Globe"
- ◆ 2005 – Global 100 Eco Tech Award (Japan)
Nagrada Global100 eko tehnologija (Japan)
- ◆ 2008 – Austrian Award for climate protection
Austrijska nagrada za zaštitu klime
- ◆ 2009 - Watt d'Or (Schweiz)
Nagrada Watt d'Or (Švajcarska)
- ◆ 2009 – Schwaighofer Prize (Methanisation)
Švajghofer nagrada (metanizacija)

- ◆ More than 50 new companies
- ◆ More than 1.100 new jobs
- ◆ Total wood consumption 44.000 tons a year

- ◆ Preko 50 novih kompanija
- ◆ Preko 1100 novih radnih mesta
- ◆ Ukupna godišnja potrošnja drveta 44 000 tona

- ◆ History of Güssing
- ◆ **Plants in Güssing**
- ◆ Recommendations

- ◆ Istorija Gisinga
- ◆ **Elektrane u Gisingu**
- ◆ Preporuke

First biomass district heating plant, 1996
Prva toplana na biomasu, 1996.



saw dust heating plant 3 MW_{th}
elektrana na piljevinu 3 MW_{th}

wood floor company
preduzeće za proizvodnju
drvenih podova

saw dust transport
transport piljevine







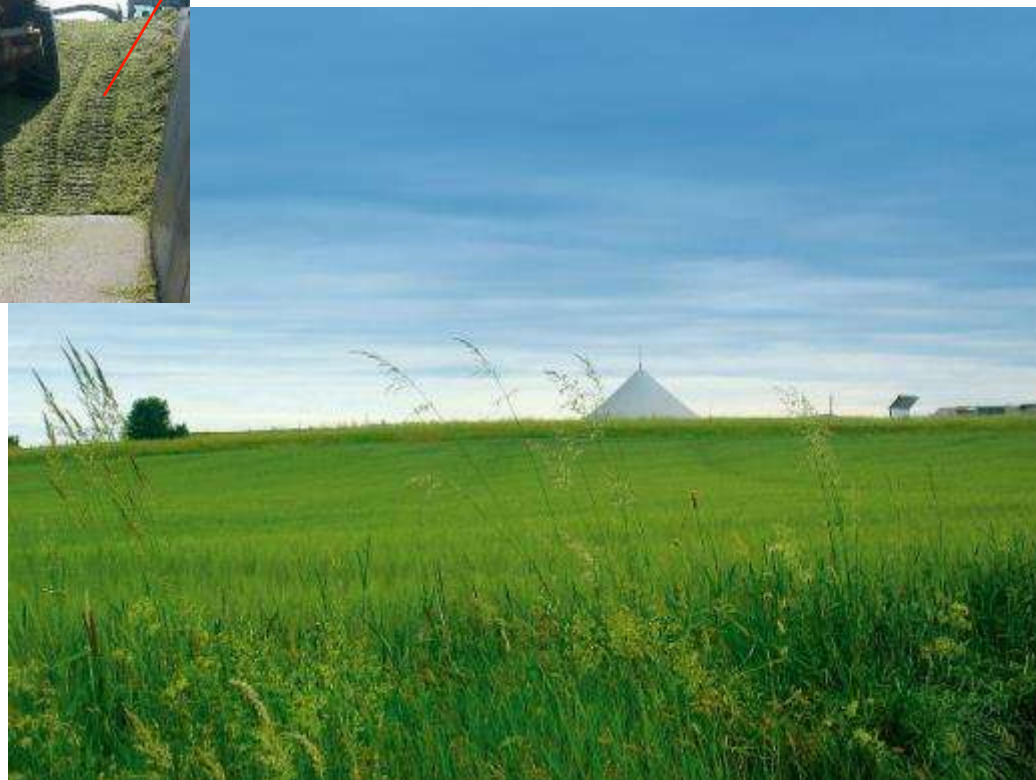
elec. generator
generator

steam turbine
parna turbina





gras, corn,...
trava, kukuruz



biogas plant for pasta production – heat and el. out of chicken dung
energija elektrane na biomasu – toplota i struja od kokošnjeg izmeta

CO2 neutral produced/ Proizvedeno bez CO2



Using heat for drying the pasta
Toplota se koristi za sušenje testenine



smaller biomass heating plants for suburban towns
manje toplane na biomasu za predgrađa



wood chips
sečka

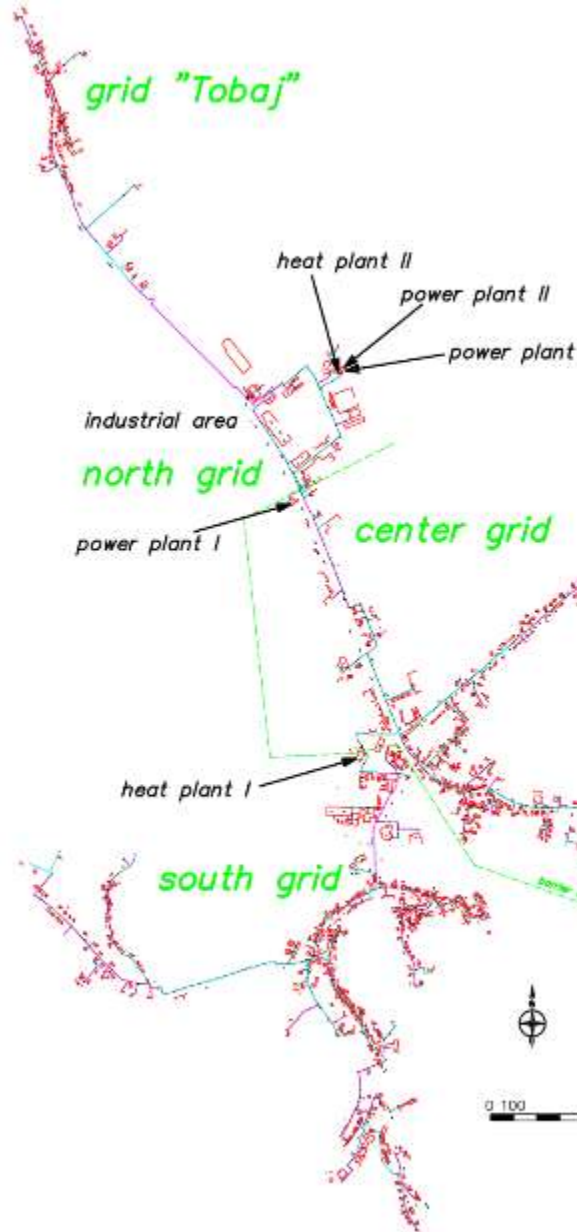


using short rotation crops – e.g. Poplar
upotreba biljaka koje se brzo obnavljaju – npr. topola



~2 years





Length/Dužina: 36 km

Temperature level/Temperature: 120°C/70°C

Base load/Bazno opterećenje: 3 MW

Peak power/Vršna snaga: 26 MW

Elektrane/Toplane:

3 CHP plants 3 kombinovana postrojenja

2 DH plants 2 toplane

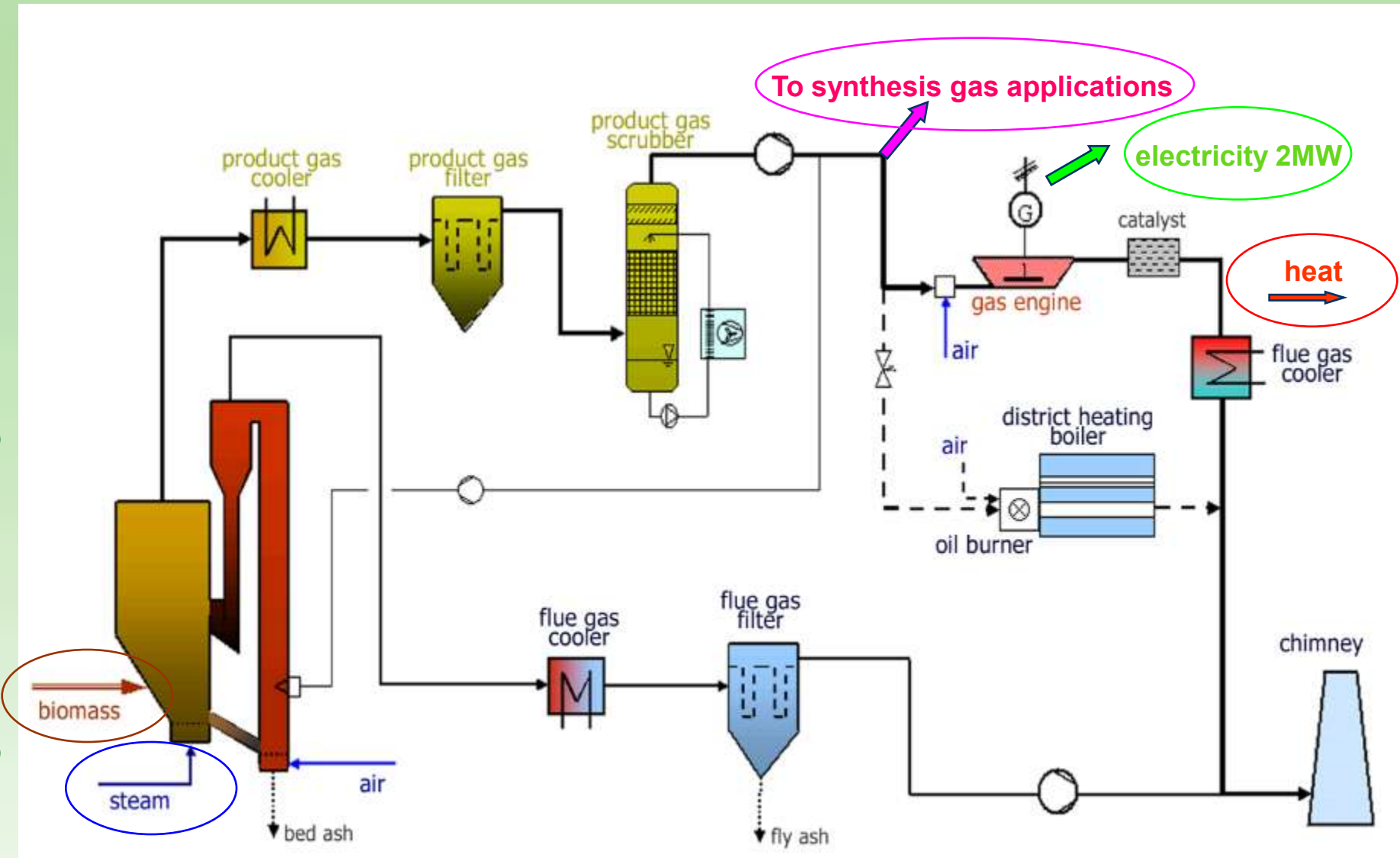
1 SNG plant

600 private consumers/privatnih korisnika

Operating all year (365 days/a)/ 365 dana godišnje

All public buildings and industry are connected to the DH grid.

Sve javne ustanove i industrija su priključene na mrežu daljinskog grejanja.







SNG plant with gas filling station

Güssing – A Self Sufficient Town in Austria

elektrana na sintetički prirodni gas sa pumpnom stanicom





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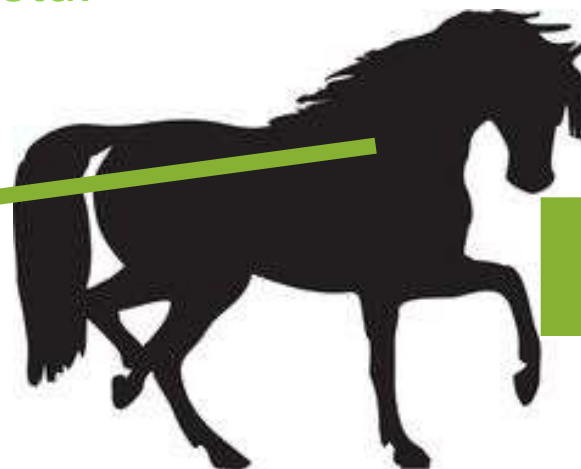
How to?

- ◆ Create **synergies** between industry, heat consumers, politicians
- ◆ Welcome to **visit Güssing** to see the possibilities
- ◆ Be a **dray-horse** for DH in your town!

Kako?

- Stvoriti **sinergije** između industrije, korisnika grejanja, donosilaca odluka
- Posetite **Gising** i pogledajte mogućnosti (Januar 2018.)
- Budite **pokretač** u **svom mestu!**

District Heating
in your town
Daljinsko grejanje u
vašem gradu



Future
Budućnost

Advantages:

- ◆ Use **local biomass**!
- ◆ Keep the **money** in your region!
- ◆ Chance for **agro economy**!
- ◆ Offer **cheap and secure** green heat and electricity in your town!
- ◆ Create **new jobs**!

Prednosti:

- ◆ Upotreba **lokalne biomase**!
- ◆ **Novac** ostaje u vašem regionu!
- ◆ Šansa za **agro ekonomiju**!
- ◆ Nudi **jeftinu i sigurnu** zelenu toplotu i električnu energiju u vašem mestu!
- ◆ Stvara **nova radna mesta**!

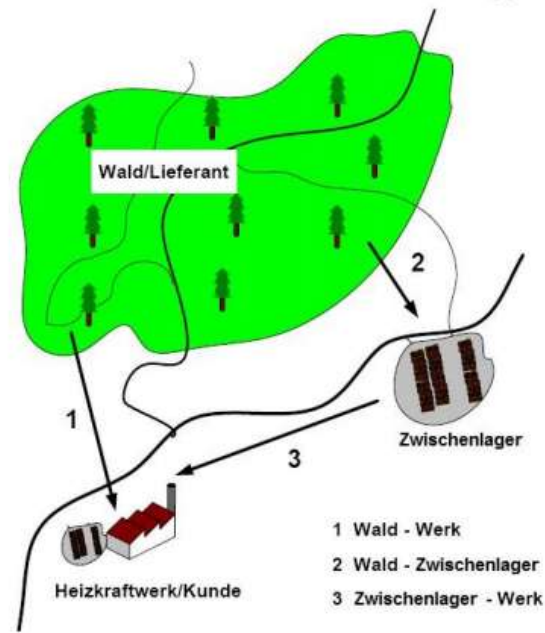


Use wood from private forest owners
Upotreba drveta privatnih vlasnika šuma

Local wood storage – concept:
Koncept lokalnog skladištenja drveta:

<http://www.pemures.com/cms/images/downloads/Energieholzbereitstellung-Konzept-SI.pdf>

http://www.pemures.com/cms/images/downloads/Energieholzbereitstellung_Konzept.pdf



Biomass and renewables are a strategic target in future development of your economy!

Biomasa i obnovljivi izvori kao strateški cilj u budućem razvoju vaše privrede!





Your town should do what Güssing did!
Uradite ono što je uradio Gising!

Hvala lepa!

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