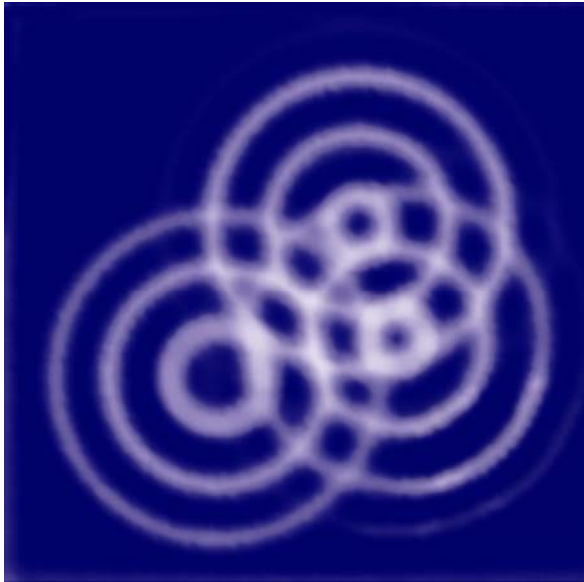


LEV LandesEnergieVerein Steiermark
Styrian Energy Agency

Gerhard Ulz
General Manager



„Throwing stones in the water to
make it move“

means information and communication (stones)
shall move society (water)
on the way to **renewable energy and energy-efficiency**

Key factors – Part 1

- **Luck**
- **„Crazy people“**
- **Innovative politicians**

Key factors – Part 2

- **Subsidies**
- **Regional energy advisers**
- **...**

Styrian Energy Agency

Founded in 1981

one of the oldest regional Energy Agencies.

Staff: 16 Persons (10 FTE)

VISION:

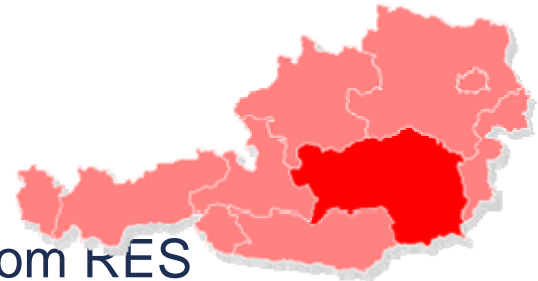
Empower the use of renewable energies and energy efficiency in the county of Styria

STYRIA:

~14.000 km², R&D 3,5 % / GDP

25% of the end energy consumption is from RES

RES: 250 SMEs, 3000 jobs, 250 researchers



Main Fields of Activities

NETWORKING

NOEST - R&D Cluster
(providing R&D funds &
innovation transfer)

Eco&Co – SME Cluster

Local energy agencies

STYRIAN GOVERNMENT

Regional Energy Plan

Residential-building-fund

Environmental fund

PROJECTS

Energy Efficiency

Biomass

Quality Management RES

TRAINING

Energy Consultants
(E-Learning)

Further expert- training

INFORMATION

Internetserver

Publications

Library

Some highlights – during the past 25 years



Communal Energy Concepts

1983 Styria (LEV) took the first step with the „communal energy concept Murau“.

LEV could make lots of experiences and learned his lessons ...

... **1986** LEV published the first manual for communal and regional energy planning.

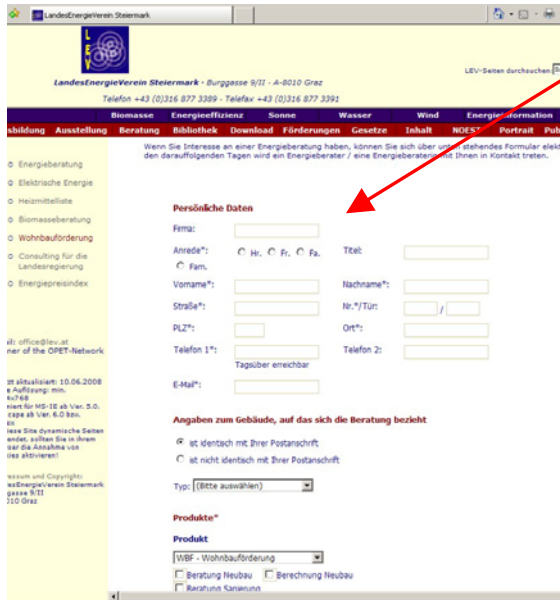
It provided a basis for a lot of other energy concepts which followed up to now.





one of the main tasks of LEV since **1983**

2008 online registration, www.lev.at



LandesEnergieVerein Steiermark

LandesEnergieVerein Steiermark - Burggasse 9/11 - A-8010 Graz
Telefon +43 (0)316 877 3389 - Telefax +43 (0)316 877 3391

Biomasse Energieeffizienz Sonne Wasser Wind EnergieInformation

Bildung Ausstellung Beratung Bibliothek Download Förderungen Gesetze Inhalt NOES* Portrait Publik

Wenn Sie Interesse an einer Energieberatung haben, können Sie sich über unser ständiges Formular elektronisch den darauffolgenden Tagen wird ein Energieberater / eine Energieberaterin mit Ihnen in Kontakt treten.

Persönliche Daten

Firma:

Anrede*: Hr. Fr. Fa. Titel:

Fam.

Vorname*: Nachname*:

Straße*: Nr./Tur: /

PLZ*: Ort*:

Telefon 1*: Telefon 2:

Tagsüber erreichbar

E-Mail*:

Angaben zum Gebäude, auf das sich die Beratung bezieht

ist identisch mit Ihrer Postanschrift.
 ist nicht identisch mit Ihrer Postanschrift.

Typ:

Produkte*

Produkt

WBF - Wohnbauförderung

Beratung Neubau Berechnung Neubau
 Rechnung Kanarung

Goal:

to design any use of energy as efficiently as possible.

energy input as low as possible



output/profit as high as possible

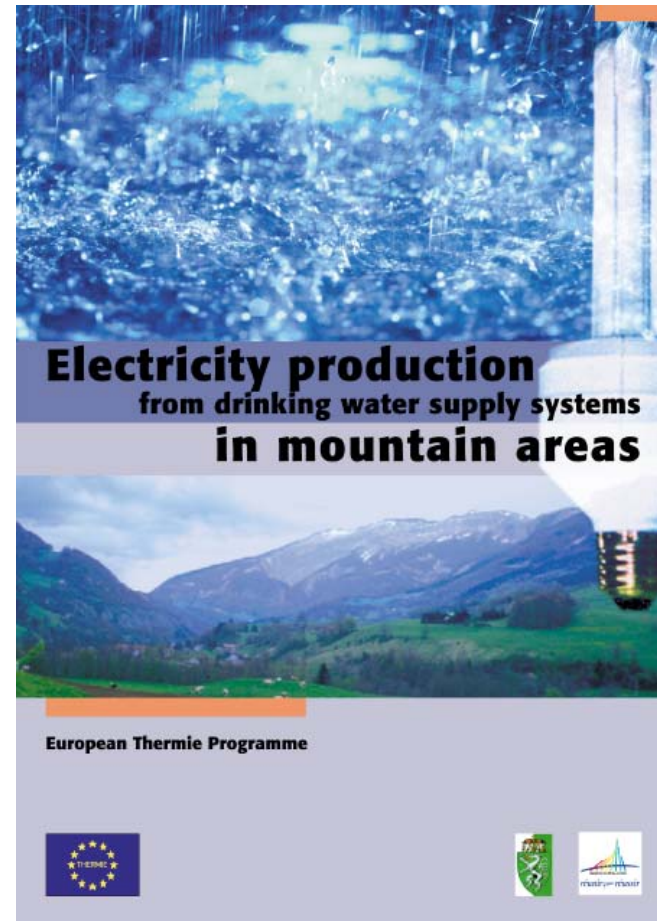
Electricity production

from drinking water supply systems in mountain areas (EU 1998)

Producing energy through the use of hydraulic force, is undeniable a good idea ...

but producing such energy without negativ affecting the landscape and the ecosystem, is even better!

Today this is possible because of the production of electricity on drinking water supply systems.



BIOMASS District Heating Systems and Biomass Plants



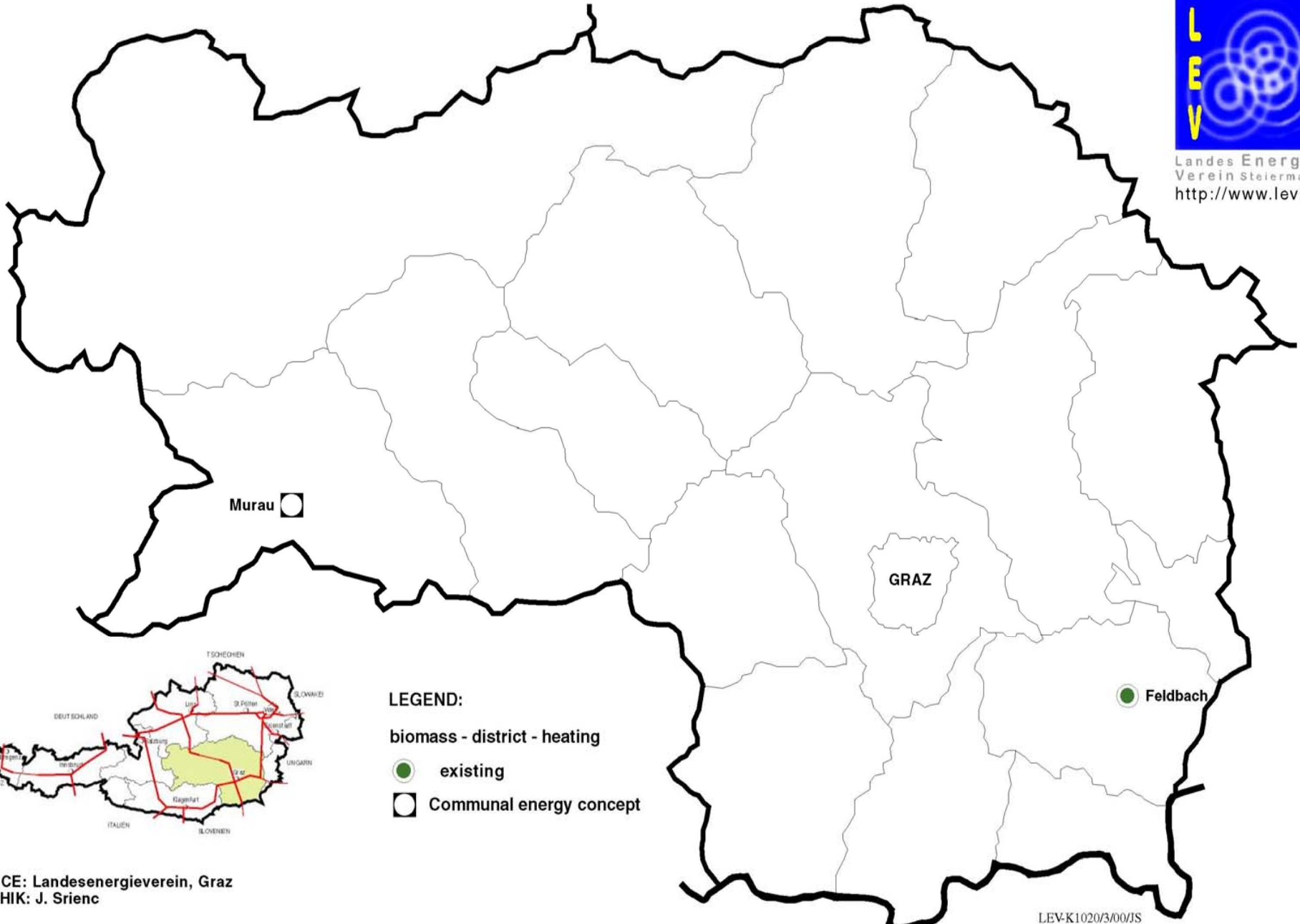
Overview from 1980 to 2008:

BIOMASS - DISTRICT-HEATING in Styria

autumn 1980





Landes Energie
Verein Steiermark
<http://www.lev.at>



LEGEND:

biomass - district - heating

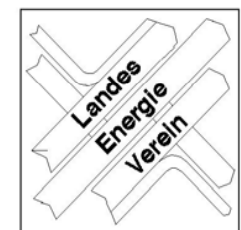
-  existing
-  Communal energy concept

SOURCE: Landesenergieverein, Graz
GRAPHIK: J. Srienc

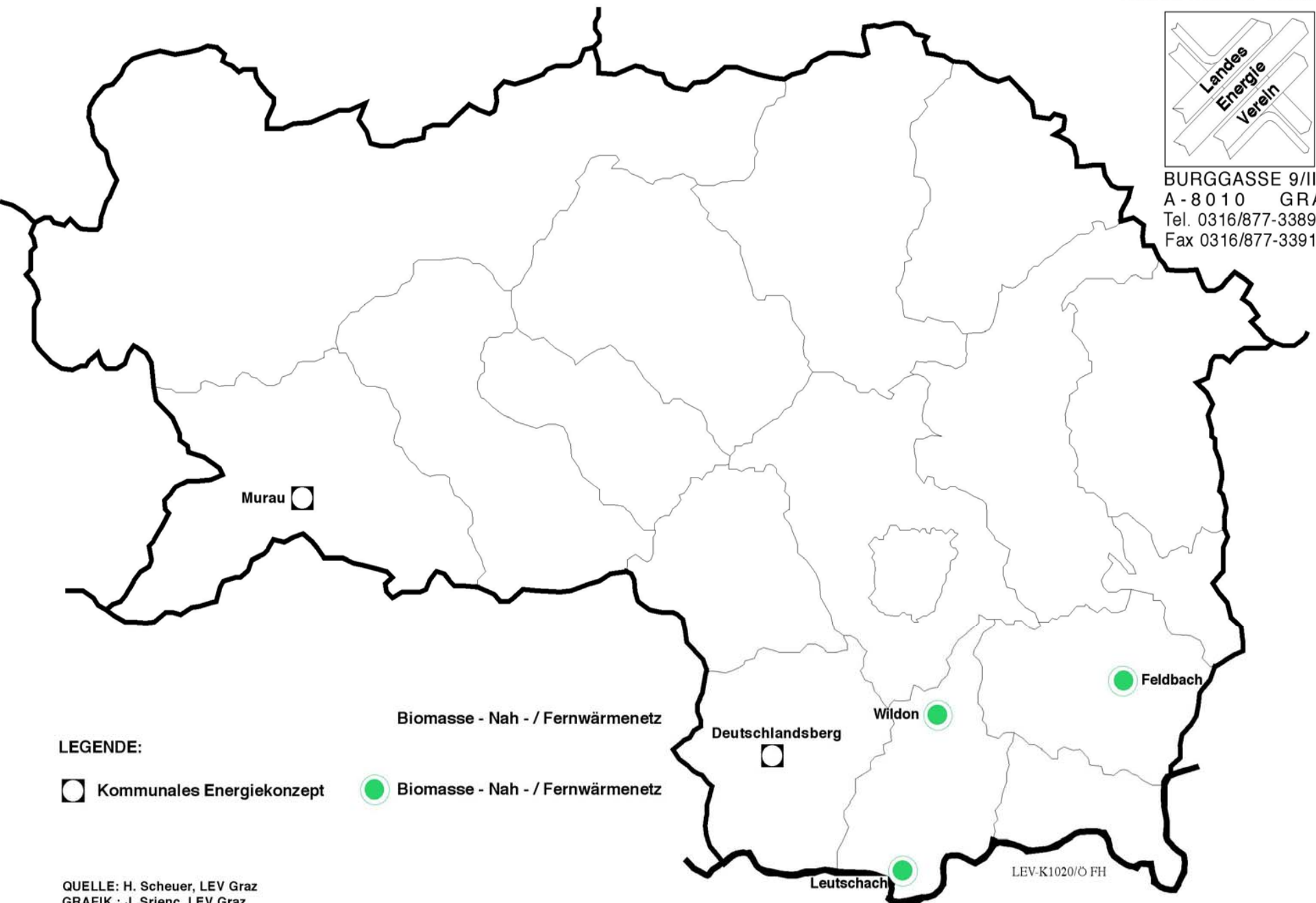
LEV-K1020/3/00/JS

BIOMASSE - FERNWÄRME - NETZE in der Steiermark / Österreich

Stand: Jänner 1985



BURGGASSE 9/II
A - 8 0 1 0 GRAZ
Tel. 0316/877-3389
Fax 0316/877-3391



LEGENDE:

□ Kommunales Energiekonzept

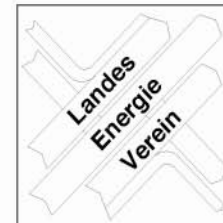
● Biomasse - Nah - / Fernwärmenetz

QUELLE: H. Scheuer, LEV Graz
GRAFIK : J. Srienc, LEV Graz

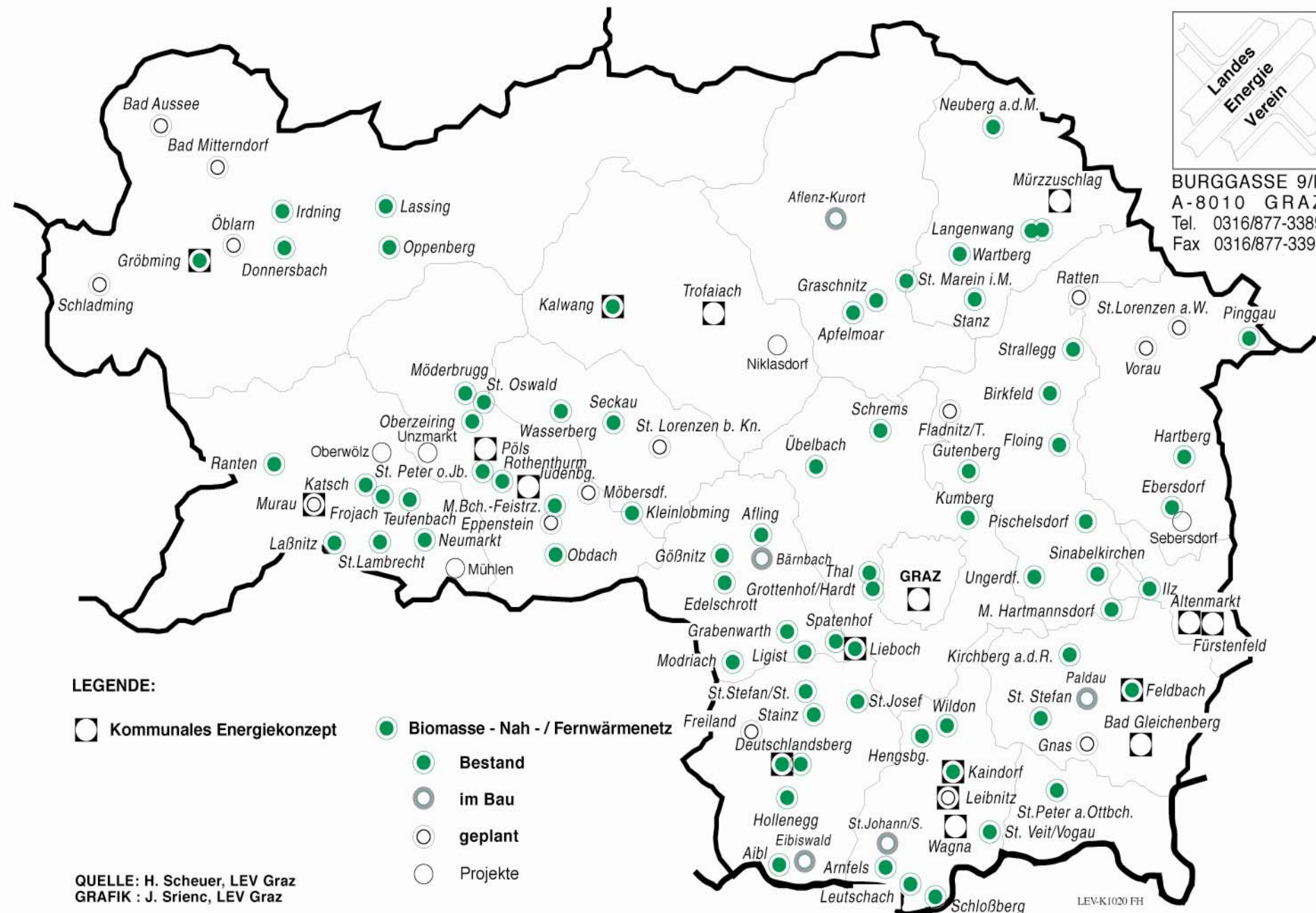
LEV-K1020/Ö FH

BIOMASSE-FERNWÄRME-NETZE in der Stmk.

Stand: Jänner 1994



BURGGASSE 9/II
A-8010 GRAZ
Tel. 0316/877-3389
Fax 0316/877-3391



LEGENDE:

□ Kommunales Energiekonzept

● Biomasse - Nah - / Fernwärmenetz

● Bestand

● im Bau

○ geplant

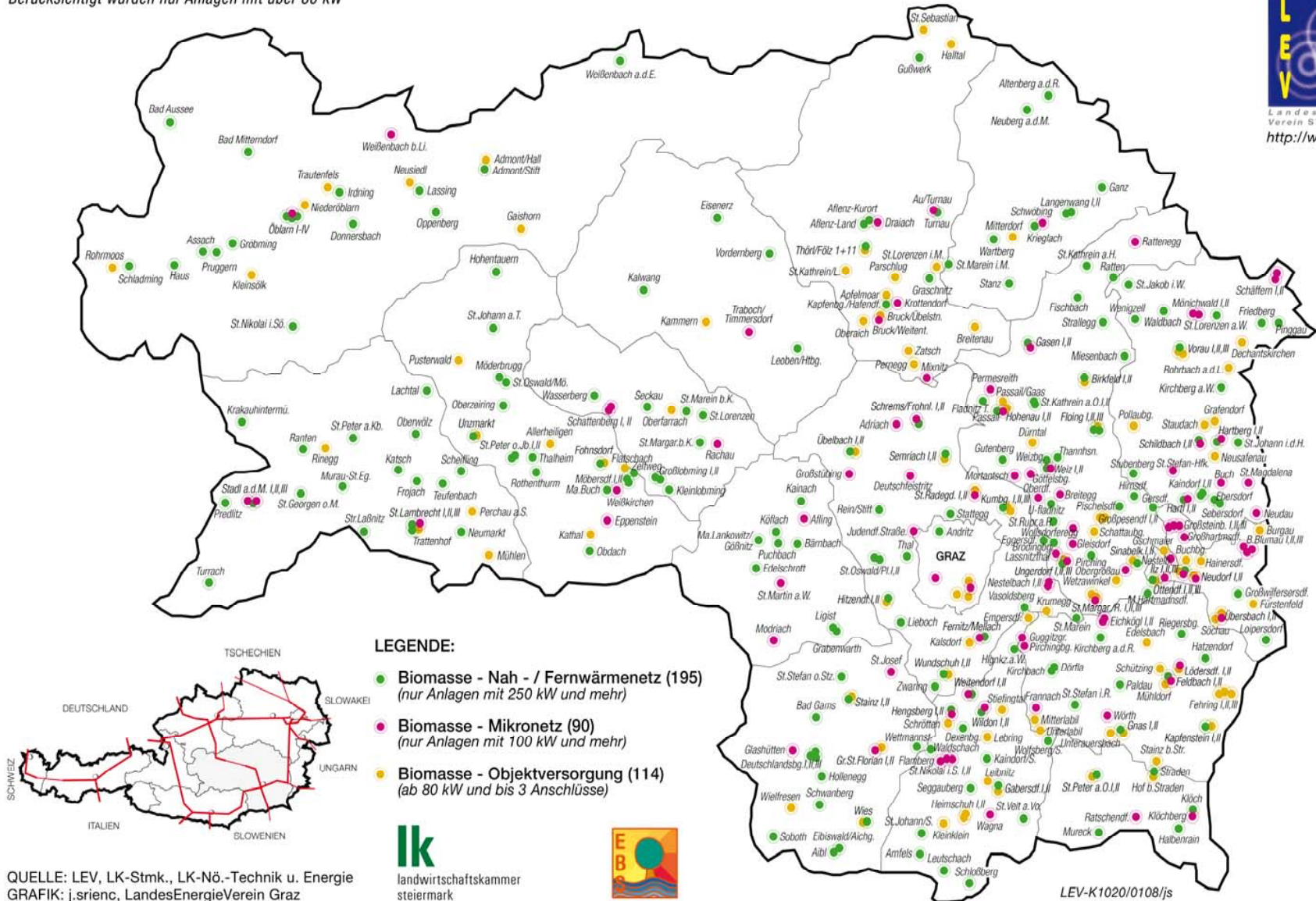
○ Projekte

QUELLE: H. Scheuer, LEV Graz
GRAFIK: J. Srienc, LEV Graz

BIOMASSE - WÄRMENETZE in der Steiermark

Gesamtleistung: ca. 278 MW
Berücksichtigt wurden nur Anlagen mit über 80 kW

Stand: Jänner 2008



- LEGENDE:**
- Biomasse - Nah- / Fernwärmenetz (195)
(nur Anlagen mit 250 kW und mehr)
 - Biomasse - Mikronetz (90)
(nur Anlagen mit 100 kW und mehr)
 - Biomasse - Objektversorgung (114)
(ab 80 kW und bis 3 Anschlüsse)

QUELLE: LEV, LK-Stmk., LK-Nö.-Technik u. Energie
GRAFIK: j.srienc, LandesEnergieVerein Graz



LEV-K1020/0108/js

Biomass „Round Tables“ 1995 - 2006

so called „Biomasse Stammtische“ (national / international) for biomass heat-plant operators.



1st international round table for biomass heat-plant operators, Bad Aussee (11/2000)

is part of the klima:aktiv initiative and partner of the international workgroup QM HOLZHEIZWERKE (www.qmholzheizwerke.ch).

supports builders in the phases of planning, tendering, constructing and operating of biomass heating plants and systems

trains independent quality delegates, who interact with builders, operators and planers in efficiency and quality matters.

supports during funding applications and manages the project data online in a comprehensive database (www.qm-heizwerke.at).

offers a standardized and cost efficient monitoring system leading to system optimization.

klima:aktiv
qm heizwerke

qm heizwerke

Quality and Efficiency Improvement of District Heating Systems and Biomass Plants

G. Ulz, F. Promitzer, H. Rothwangl, H. Steiner

qm heizwerke

- ... supports builders during the phase of planning, tendering, constructing and operating of biomass heating plants and systems.
- ... trains independent quality delegates, who interact with builders, operators and planners in efficiency and quality matters.
- ... supports during grant application and manages the project data online in a comprehensive database.
- ... offers a standardized and cost efficient monitoring system leading to system optimization.
- ... is funded by the Federal Ministry of Agriculture, Forestry, Environment and Water Management.
- ... is part of the klima:aktiv initiative and partner of the international consortium QM Holzheizwerke.

qm project database (www.qm-heizwerke.at)

- internet platform for complete handling of governmental subsidies
- data entry of technical and business data of biomass heating plants and systems
- right of access via authorization (builder-owner, planner, subsidising authority, quality delegate)
- relevant documents for granting are generated out of the data stock
- storage of heat-costumers' data including description of technical equipment and heat-supply-contracts
- monitoring of heating plants is enabled
- comprehensive help-index for handling the quality-management system qm heizwerke
- long term data storage

monitoring

The state of knowledge as well as modern measurement generate substantial room for improvement. Operators of heating plants and systems are supported via in-depth analyses of the heating plants by qm heizwerke. Following the analyses, individual suggestions for improvement are worked out and realized.

Two types of monitoring are offered by qm heizwerke:

1. The **Quick Quality Check (QQC)** is a very cost-saving and efficient method. An operational check is carried out. The operating parameters are analyzed. Outcomes are recommendations for measures with shortest payback periods.
2. The **all-inclusive plant-monitoring** over several weeks leads to profound knowledge of the operating behavior. It offers specific optimization measures. Provided fuel, power requirement and pollutant emissions are reduced. The economic situation of the owner improves. Additional energy resources are opened up through reductions.

Consolidated findings of the monitoring activities are inputs for developing qm heizwerke and are presented to planners and builder-owners at appropriate trainings.


training the quality delegates

The training of quality delegates is one of the most important parts of the quality management system qm heizwerke in Austria. Only qualified planners are authorized to work as quality delegates. They are specifically trained for this task. Due to the close contact between program management and quality delegate, the qm process is highly efficient.


Feedback-days - taking place periodically - keep the qm projects at the highest level.

qm heizwerke program management

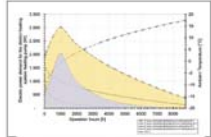
LandesEnergieVerein Steiermark
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T: +43 30314 877-3389
F: +43 30314 877-3391
E: info@qm-heizwerke.at
I: www.qm-heizwerke.at




Heating plant Rankweil, Austria




pump station (source: Devarine Elert)



Energy related electricity demand for the district heating net pump



Austrian quality delegates



BIOGAS



The first Biogas plant for anaerobic digestion in Styria was built in **1978**.

boom started at the end of the **1990s**.

Today there are already operating about **42** biogas plants.

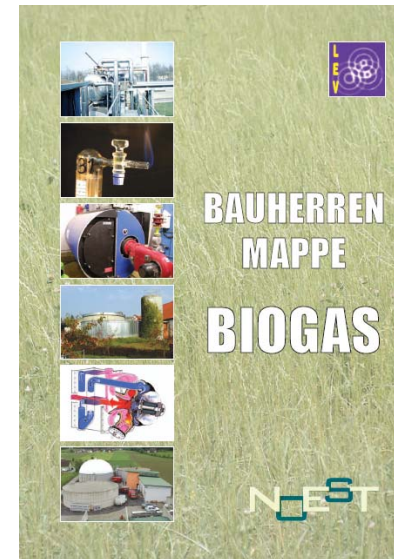
With this capacity installed, about **20.000** to **25.000 households** can be delivered with electricity.



BIOGAS



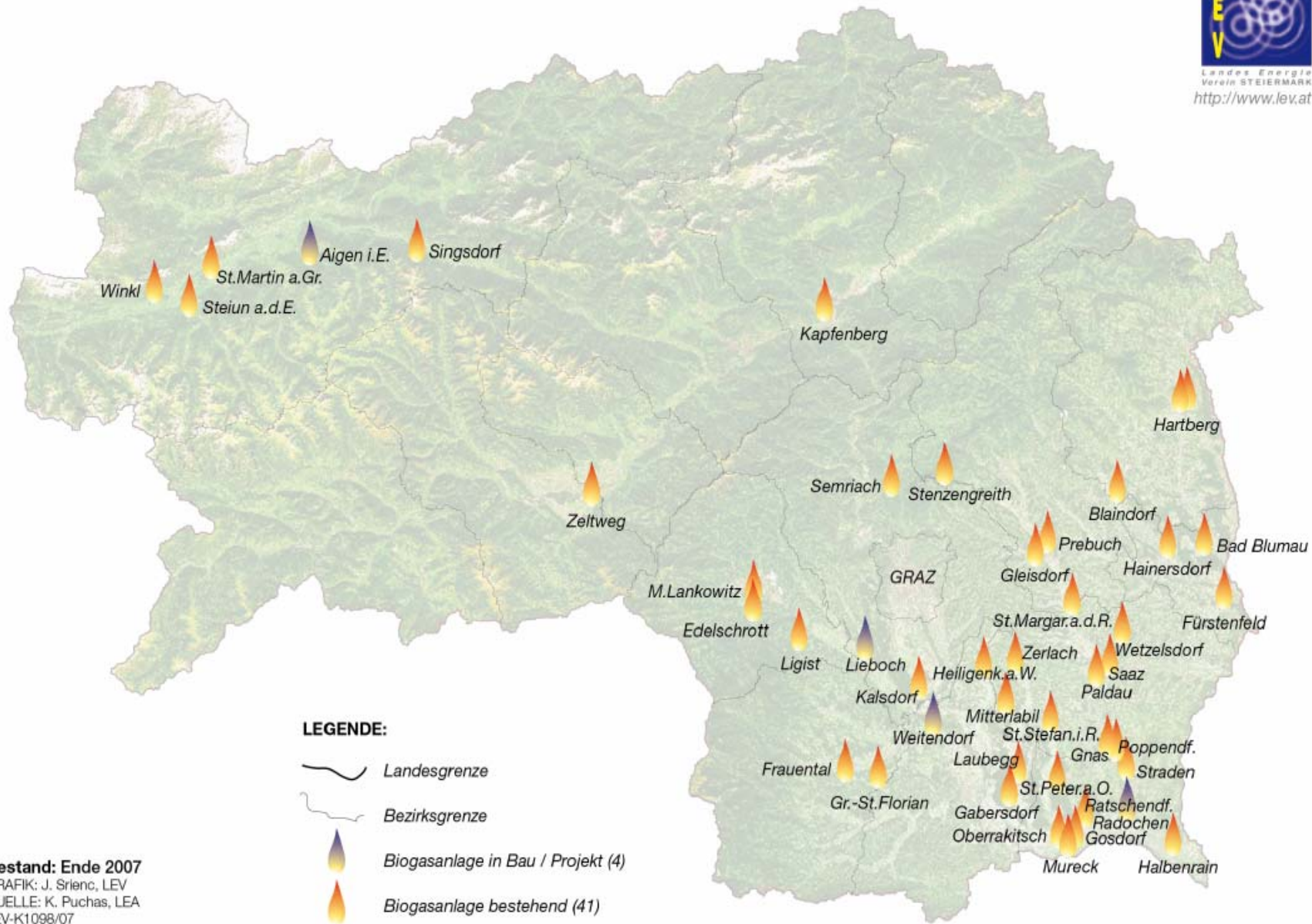
2003 LEV published the **first manual** for biogas plant operators and also for planners.



2004 LEV ordered a **study** which shows the **potential** for supplying **50.000 households more** with electricity from biogas



BIOGASANLAGEN in der Steiermark



Hydro Power

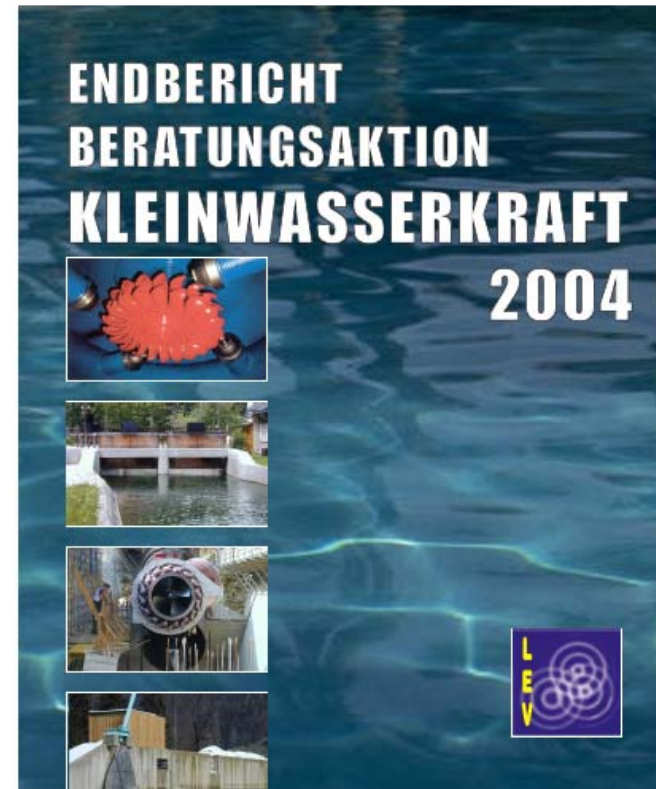
2004 LEV started a **consulting service** for operators of small hydro power plants.

Goal:

help to overcome initial difficulties with an efficient consulting

Results:

33 arranged and finished proceedings
33.045.734 kWh/a above generation
8.922.348 kg reducing CO2 emmision
24,7 mill. euro investment volume
etc.



Wind Energy



2004 LEV published the **first manual** for the construction of wind power plants.



2007 changes of basic conditions led to a new edition.

Download:

http://www.lev.at/Download/Leitfaden%20Windkraft_2007.pdf



Solar Energy

LEV was founder member of a special agency in **1988**

„**AEE INTEC**“
www.aee-intec.at/

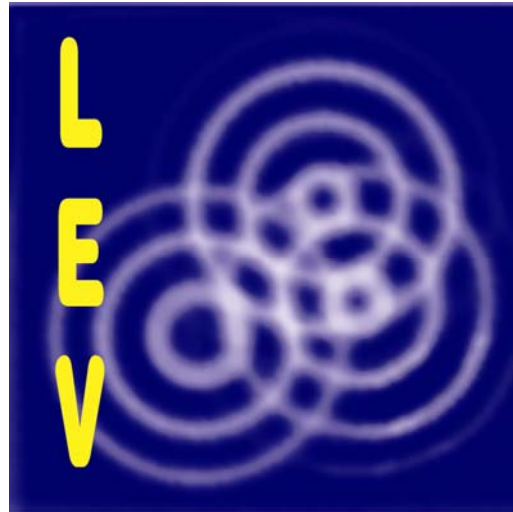
They arrange projects in the range of **research demonstration** and **know-how** transfer.

2007 LEV published the **manual** for the construction of photo-voltaic installations.

Download:

http://www.lev.at/Download/Leitfaden%20PV_2008.pdf





Thank you very much!

www.lev.at