

RENEWABLES IN HUNGARY

Stirling, November 2006

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PRESIDENT

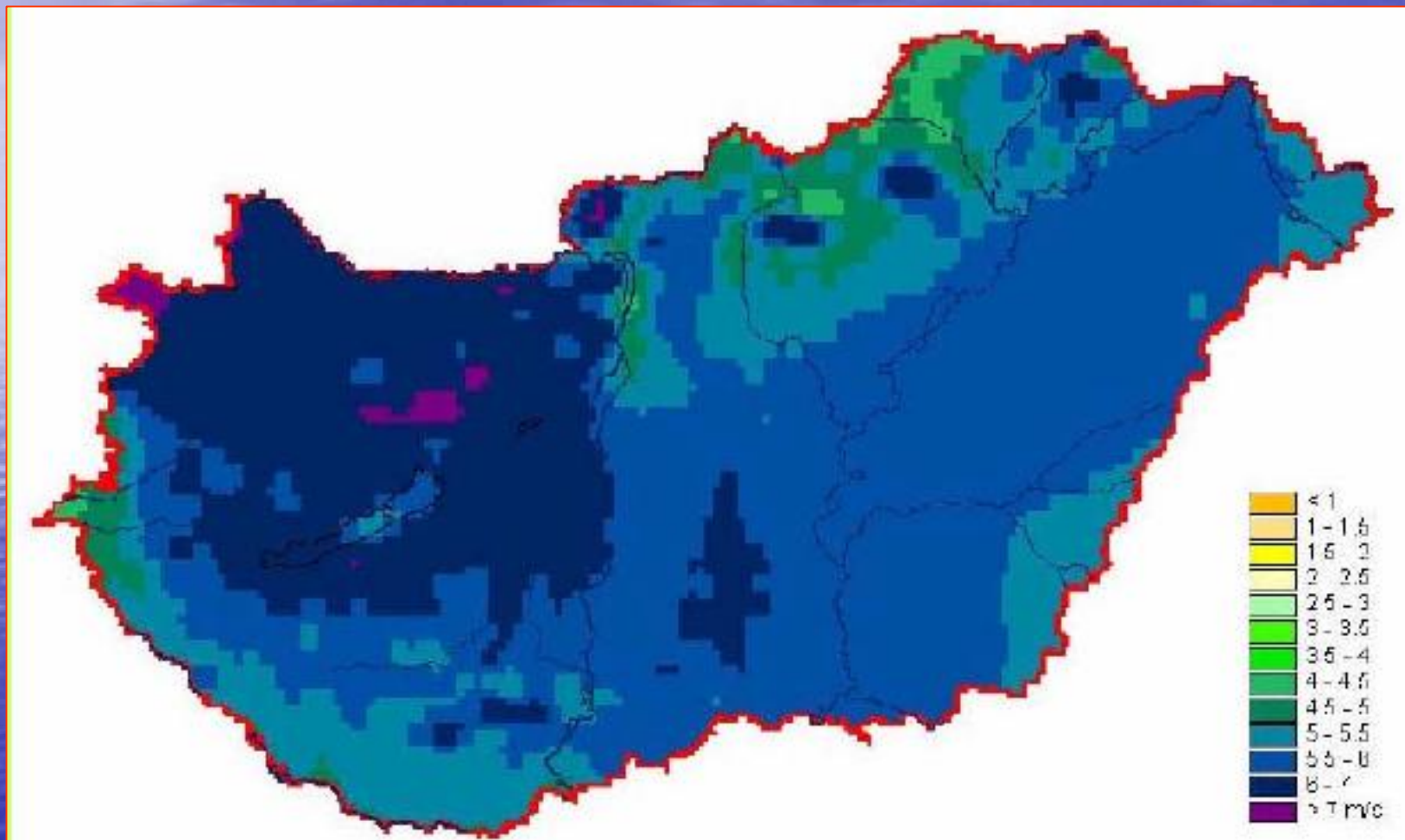
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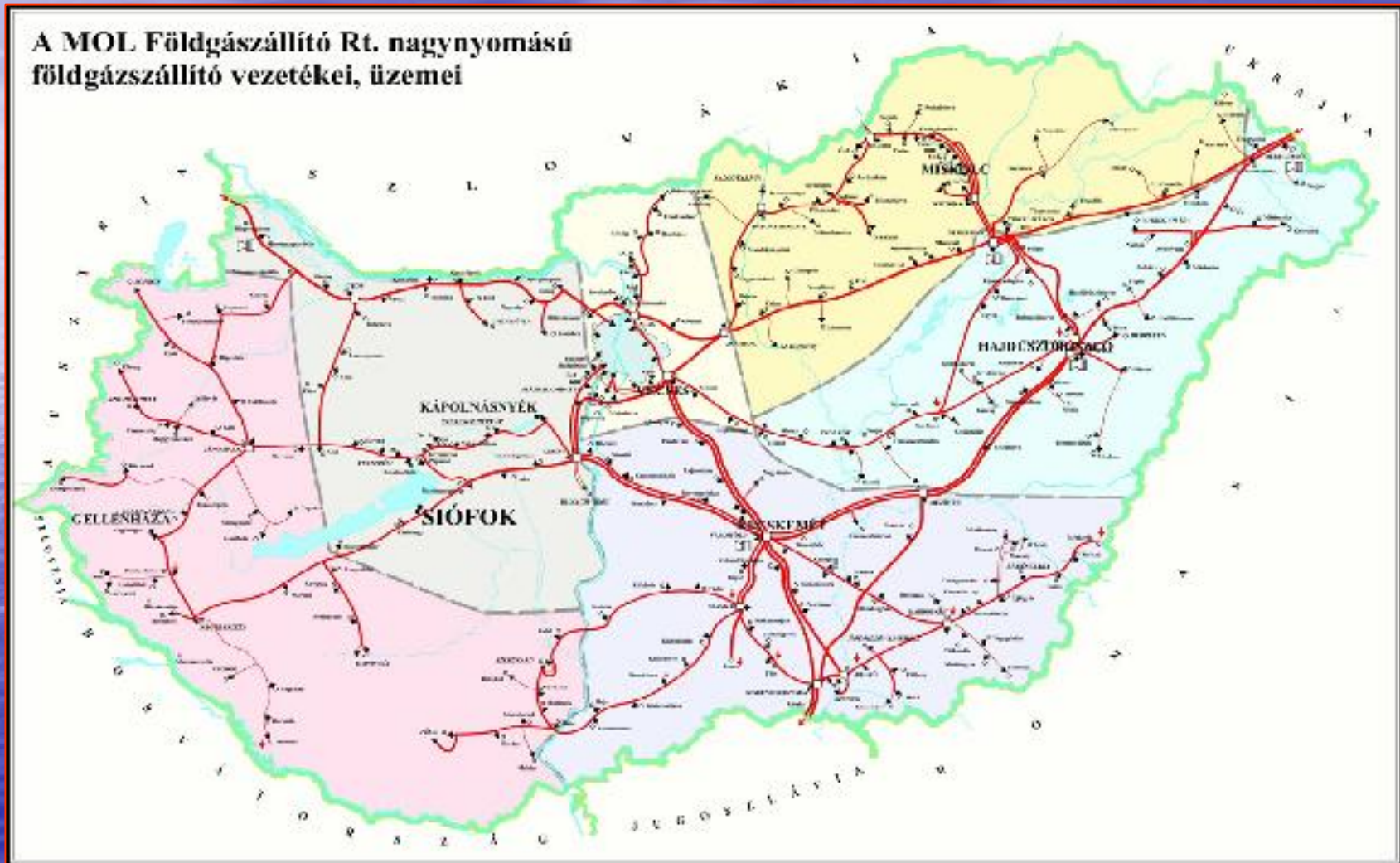
HUNGARY BASICS: The National Power Grid



HUNGARY BASICS: Wind Potential at 110 m



HUNGARY BASICS: National Gas Supply Network



HUNGARY BASICS:

Gas Supply System

- 93% of towns and villages have continuous gas supply via the gas distribution system
- Consequence: gas suppliers want to keep gas-based district heating systems and...
- ... not interested in biomass-based heating systems
- Actual problem: increasing gas price, relatively large influence of gas suppliers + relatively smaller financial resources from EU funds

HUNGARY BASICS:

Price Comparisons

Net prices HUF /GJ (Approx)

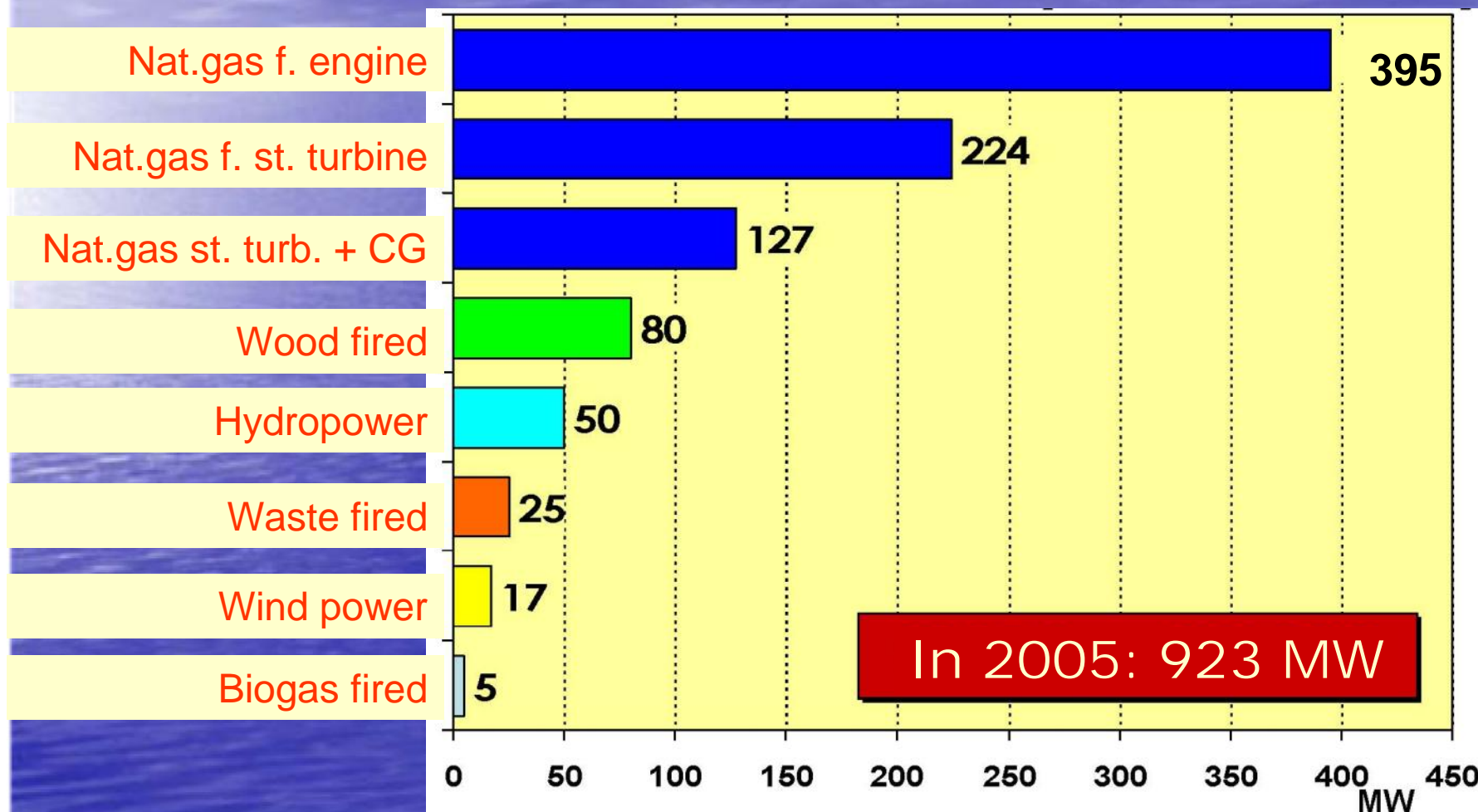
Wood	1,900
Wood Pellet	2,000
Propane/Butane gas	5,700
Oil	5,700
Electricity	7,400

SHARE OF RENEWABLES

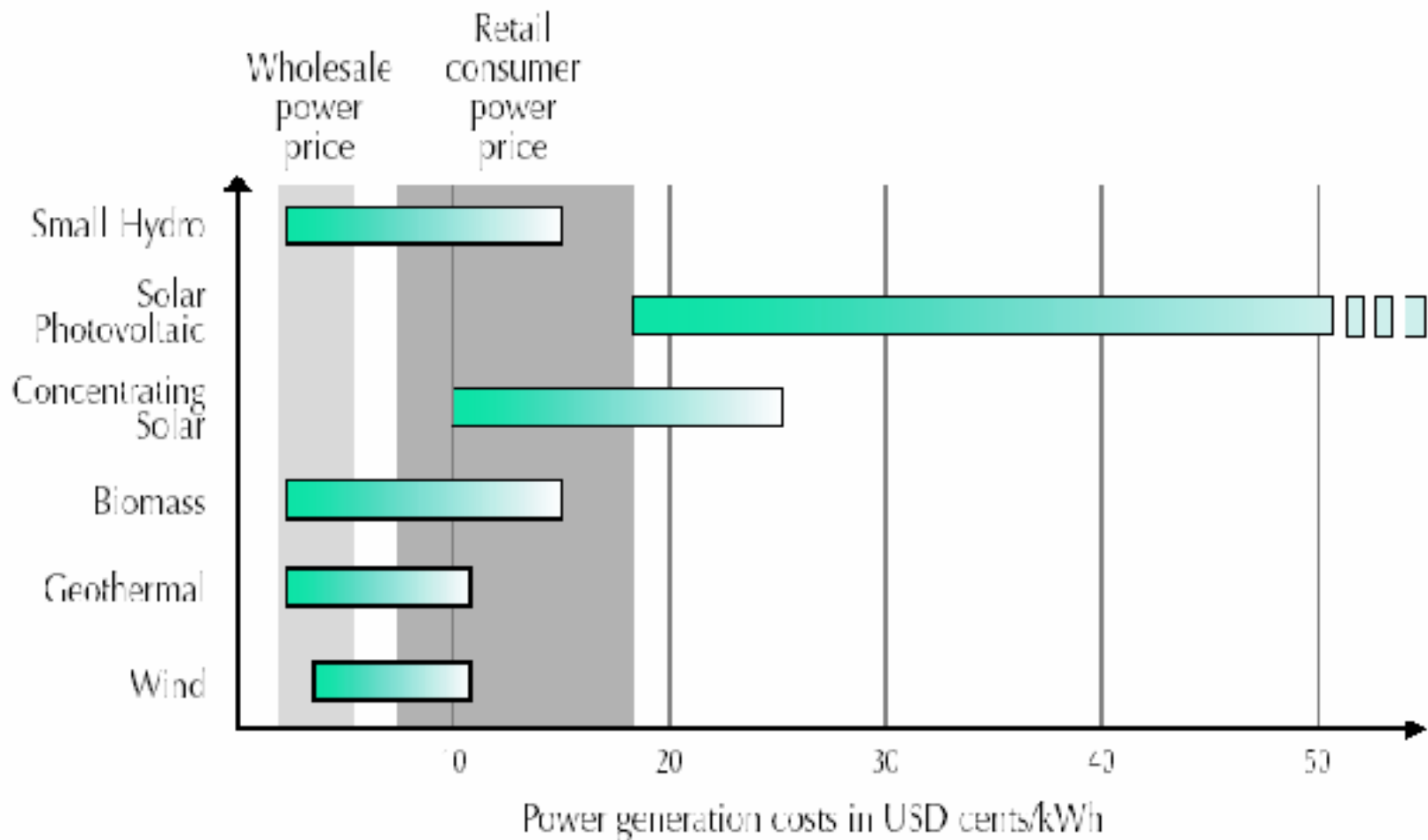
in Power Generation & Consumption (GWh)

	2001	2002	2003	2004	2005
Water	186	194	164.6	194.7	160
Biogas	7.6	11.2	15.6	15	16
Wind	0.9	1.1	3.3	5.4	38
Biomass (wood)	0	0	74.8	654.7	1,500
Total renewable	195	206	258	869	1,714
Total electric consumption	39,588	40,415	41,270	41,830	42,400
Renewable %	0.5	0.5	0.6	2.1	4.1

SHARE OF SMALL POWER PLANTS (2005)



COST-COMPETITIVENESS OF Selected Renewable Power Technologies



Source: *Renewables for Power Generation, Status and Prospects, OECD/IEA 2003.*

AGRICULTURAL AND WASTE BIOMASS

Facts and Figures

- Due to new EU corn and maize regime 1 million hectare land will be available for biomass production in the next 3-4 years
- 400 000 hectares for bioethanol, 250 000 hectares for biodiesel production, 4% for biofuels until 2010
- Others: energy woods, energy plant farms

RENEWABLE ENERGY UTILISATION

Regulatory Environment

- **Parliament: Legislation - Electricity, Gas, District Heating, etc**
- **Government: execution decrees**
- **Ministry of Economy and Transport: detailed provisions, grant schemes**
- **Ministry of Agriculture: allocation of farming subventions**
- **Hungarian Energy Office – regulatory-supervisory role, licensing, wind farming quotas, subsidies**
- **Various other authorities and local governments environmental, building permissions and local supervision**

RENEWABLE ENERGY UTILISATION

What We Would Like To See

- **Long term, coherent, normative, transparent regulations, efficient enforcement**
- **Vital liberalised market**
- **More transparent rules for network availability; easier connection of small power plants**
- **Less discrimination in operation of our TSO**
- **Harmonisation of biomass production – rural development**
- **Increase of utilization of geothermal potential**
- **Better use of market potentials in industry**
- **Balanced support of energy production versus energy saving**
- **Increased support for renewable players versus wood-fired conventional power plants**

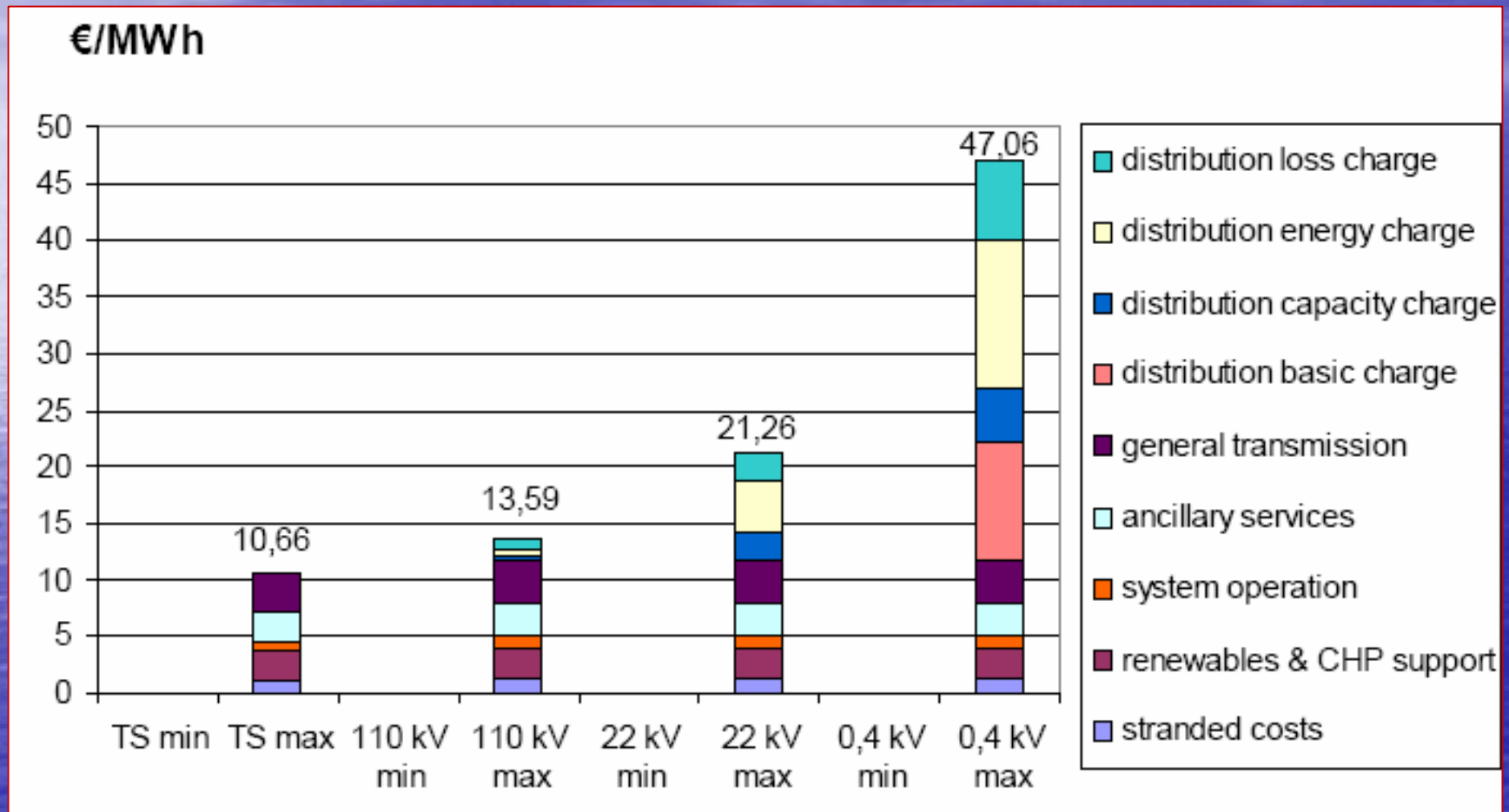
RENEWABLE ENERGY UTILISATION

Partnership Opportunities

- **Projects are in different phases:**
 - **Wind farming - quotas are given at 330 MW level due to system balancing requirements**
 - **Biomass: projects - about 250-300 MW in the pipeline (mainly agricultural cogeneration projects)**
 - **Biogas: approx 20-25 MW under preparation**
- **“Green Electricity Support Scheme”: fee built into system operation charges. In 2005: approx HUF 35 billion (£97 million) accumulated to provide financial support for renewable and cogeneration based electricity**
- **CO2 trading**
- **Good opportunities for equipment supply**
- **EU and national investment support**

RENEWABLE ENERGY UTILISATION

Structure of Network Tarrifs



RENEWABLE ENERGY UTILISATION

Advice to Foreign Partners

- **Hungary has different**
 - **legislation,**
 - **licensing,**
 - **financial support schemes.**
- **Once you get a license, no guarantee to get it next**
(More than one license needed for each power plant)
- **Local presence is advisable**
- **Involve domestic partner in preparation and implementation**
- **Language difficulties may arise**

THE HUNGARIAN ASSOCIATION FOR RENEWABLE ENERGY SOURCES

- **Established in 2004 in the frame of a Spanish - Hungarian PHARE project**
- **Non profit NGO, financed by members**
- **14 other associated NGOs involved – ARE acts as umbrella organization**
- **Members: 47 middle-sized enterprises**
- **Sectors: small and large wind, biomass, biogas, geothermal, solar collectors and photovoltaic**

PARTNERSHIP OPPORTUNITIES

How Can We Help?

We (the Association) ARE here to help you by:

- **Selecting the right area, site, partner;**
- **Exploring available financial support schemes, liaising with local authorities**
- **Advice to Hungarian users on choosing the necessary equipment and facilities and where to get these from**
- **Taking part in project preparation, feasibility studies, licensing process, financing solutions, etc.**

Thank you for your
attention!

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