

Business opportunities in the Rural Energy Market of China

Hannu Hoviniemi
World Ecological Forum
1.7.2010



Agenda

CAREI and CAREI Platform

Chinese Rural Energy Market

Opportunities per technology

Conclusions



China Association of Rural Energy Industry

Under direct leadership of Ministry of Agriculture

An industry assembly of over 1000 members

Official position defined in Chinese energy law

Importance increasing with the role of rural markets



CAREI roles

Active role in preparation of policies and regulations

Provide direction to provincial Rural Energy Offices

Drafting and disseminating industry standards

Hosting energy conferences, expos, trainings

Promoting industrialization and commercialization of rural energies

Prototyping and demoing rural energy applications

CAREI Platform

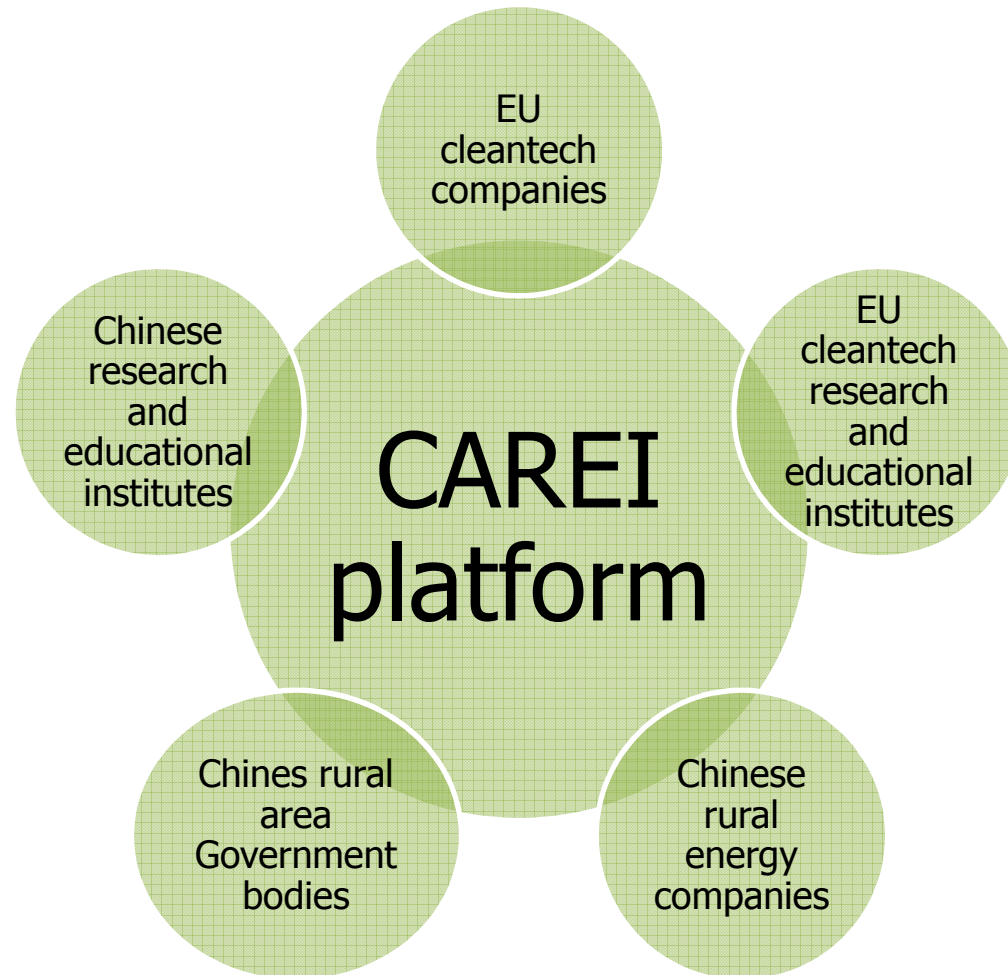
EU representation of CAREI – 1st outside China

Established by CAREI, City of Kouvola and Gaia Group

Establishment financed by European Union

Strong support from China Ministry of Agriculture

CAREI Platform position





CAREI Platform activities

Market
studies

Opportunity
identification

Partner
identification
and
selection

Partnership
building
process
support



Chinese rural energy market

China – a rural society

- 70% of population rural
- 900 million people market

Sizable market (2007)

- 730 million ton CE (Coal Equivalent)
- 27.6% of total domestic energy consumption
- 133 Billion USD



Chinese rural energy market

Polarisation of energy market

- Urbanisation & industrialisation increased prices
- Energy consumption per capita 50% of urban areas

Households rely on traditional sources of energy

- 60.2% burning biomass
- 26.1% burning coal



Key market features

Among most traditional market segments

Market actors local and small

Limited infrastructure

End customers' capability to pay low

Role of government very strong



An opportunity arising

Government investing heavily in rural areas

Energy availability a key area

Market in its early stages

Technology in use today very basic

Projects of reasonable size



Government dedication – investment subsidies 2009

Biogas

- 50%

Biomass (straw utilization)

- 150-500RMB/ton

Energy Saving Stoves

- 20-30%

Solar Heating

- 13%

Wind generation

- 20-30%

Opportunities – biomass

Bioenergy holds a great promise

Unlimited raw material sources

Strong government support

Multi-benefit opportunities



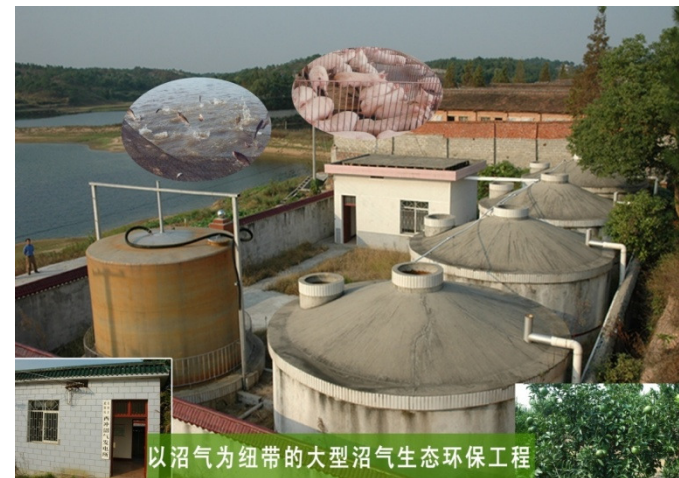
Biogas

A lot done – a lot to do

Household and farm level solutions

From waste treatment to refining

Electricity or fuel...



Biomass burning

Utilisation of straw

Energy efficiency

Clean burning

Logistical efficiency

Heat or electricity...



Opportunities – solar thermal

World leader in technology

Mature products at low cost

Very widely used in rural areas



Opportunities – Solar PV

China world largest producer of solar PV

Boom few years back
– quality range huge

In rural areas mostly in off-grid applications



Opportunities – Small scale wind

Only used in remote off-grid applications

Many rural areas where conditions suitable

Lot of room for technology development





Conclusions

Customer needs and buying criteria different

Natural conditions => technology needs vary greatly

Very strong confidence on own capabilities

Lot of hype and unproven business models

The key to success is the right partner

Market in making

Opportunities for EU technology are now – not in 10 years