



MINISTRY OF ENERGY
MONGOLIA

RE technology Penetration

Small and Mid scale RE technology
penetration to Mongolian Energy
sector

Angarag Myagmar Ministry of Energy . Mongolia

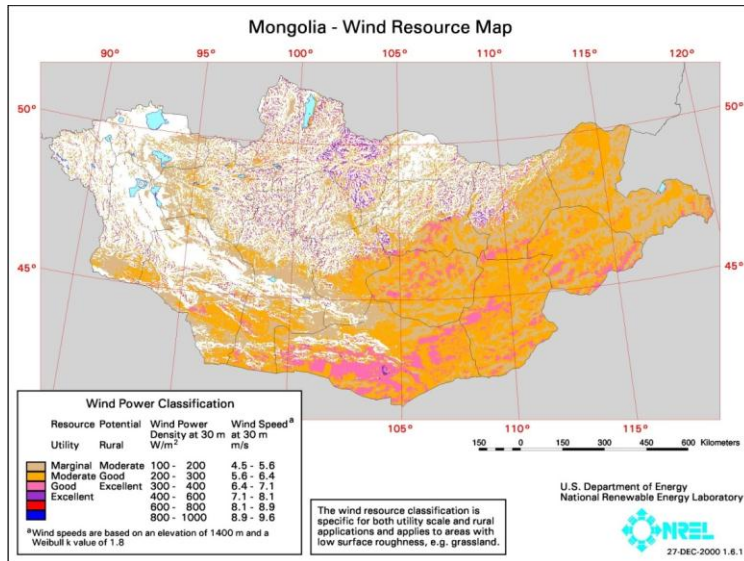
Resources

Rich resources of Solar, Wind and Hydro in Mongolia:

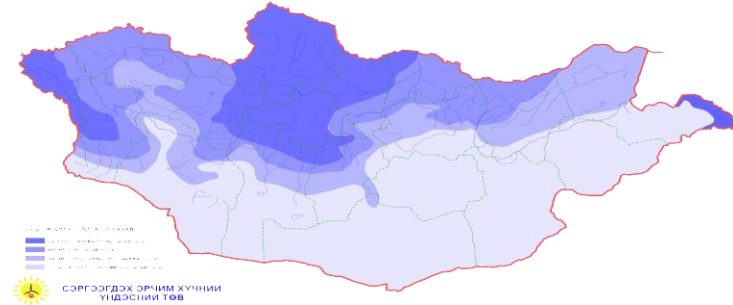
Solar: 270-300 sunny days in a year, 4.3-4.7 kWh/meter or higher per day

Wind: 10 % of the total land area can be classified as excellent for utility scale applications, Power density 400-600 W/m², the resource could potentially supply over 1100 GW of installed capacity.

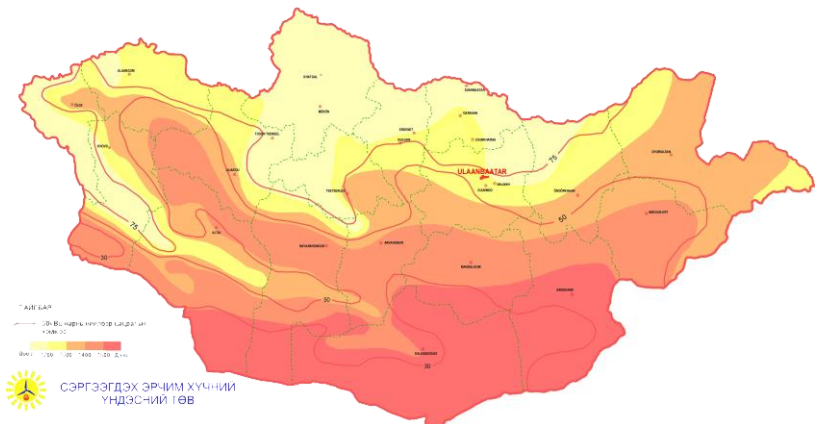
Hydro: Theoretical potential 6.2 GW, more than 1 GW of these has been identified



МОНГОЛ ОРНЫ УСНЫ ЭРЧИМ ХҮЧНИЙ НӨӨЦ



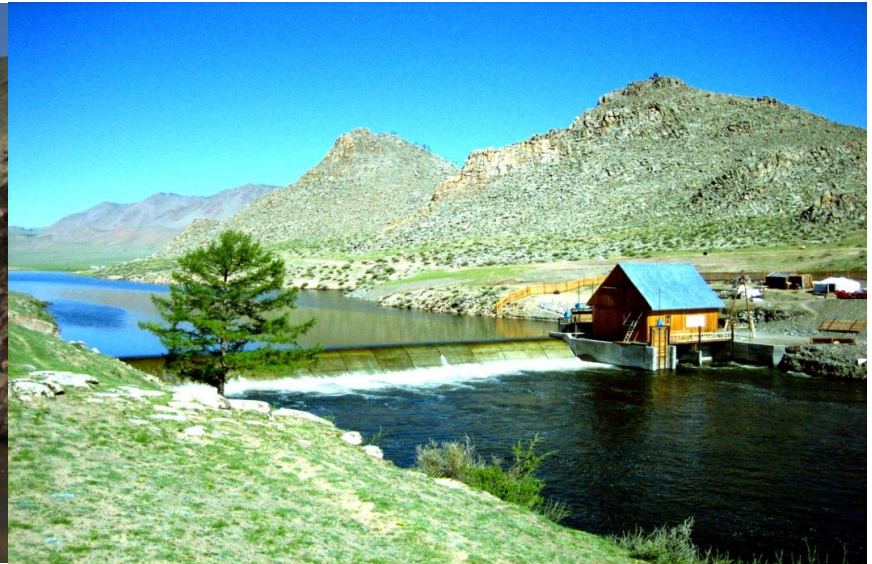
МОНГОЛ ОРНЫ НАРНЫ ЭРЧМИЙН НӨӨЦ



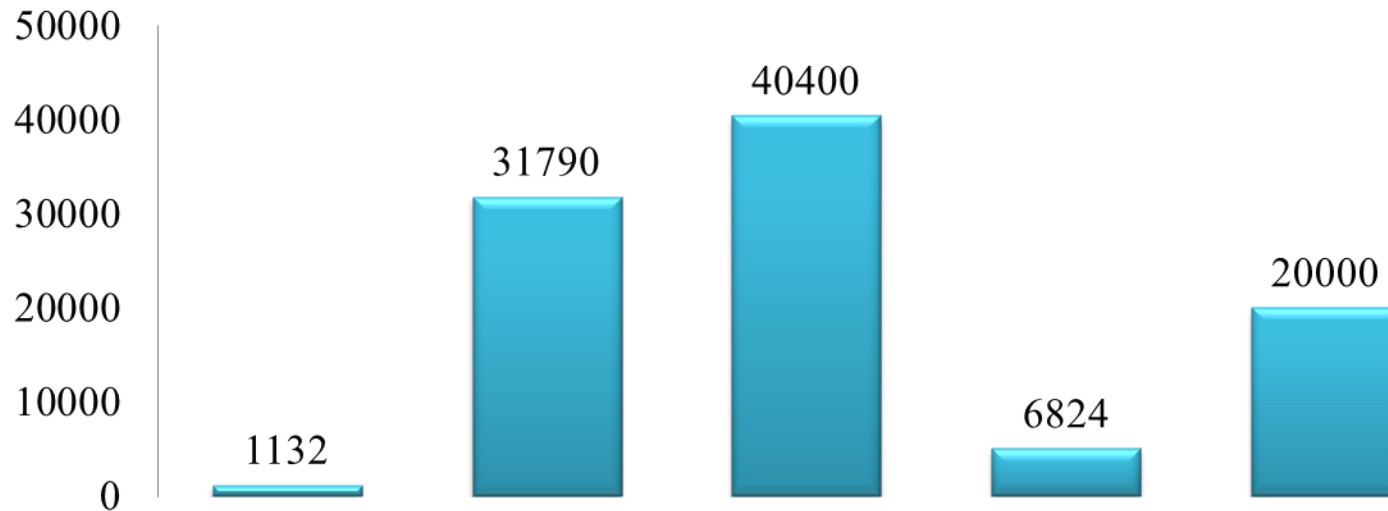
Legal environment

- 2010 Renewable energy Law
- 2005 National Renewable energy program
 - Distribution of 100.000 solar lights 30- 80 W systems
 - Installing 18 soums with Solar –Wind, Solar – Diesel hybrid systems 100-150Kwh
 - 13 small hydropower 100Kwh - 10MW





100.000 Solar program



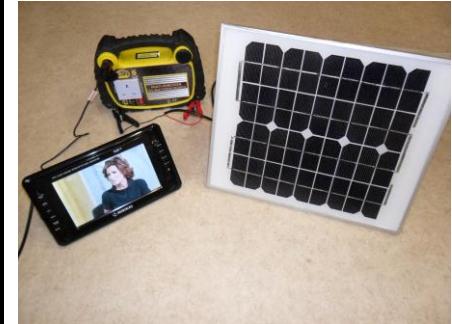
Төрөл	Жил					Нийт
	2001-2002	2003-2005	2007-2008	2010	2011-2012	
Гэрийн нарны зайн систем	1132 ширхэг (50Вт)	31790 ширхэг (25, 50, 75 Вт)	40400 ширхэг (50Вт)	6824 ширхэг (25, 50, 75 Вт)	20000 ширхэг (50Вт)	100146 ширхэг
Хөрөнгө оруулалт	Улсын төсөв	Япон, БНХАУ –ын тусламж	Улсын төсөв -16.4 тэрбум.₮	Дэлхийн банк -0.8 сая.\$	Дэлхийн банк -5.4 сая.\$	

100.000 Solar program

- Overall every Nomad family uses Solar panels
- 174.000 solar panels provided by government
- Continue by private companies 13 distribution companies

Nomad life

- Uses:
 - Light
 - Mobile phone
 - Fell trimmer
 - Satellite TV
 - Refrigerator



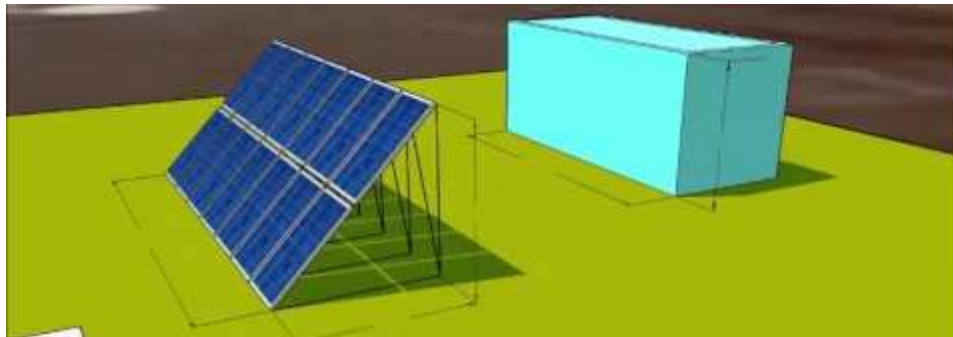
Status Quo?

Needs on Electricity access:

- SME
- Agro irrigation systems
- Road construction
- Production units
- Dairy farm cooling systems
- Nature conservation units
- Border control
- Banking security UPS systems
- Hospital UPS backup systems

Test

- Mobile Container systems 20-100kwh
 - Most equipment technologies uses 10kwh between 20kwh
 - Some are season required



Test

- Batteries NAS
- Batteries Durathon
- -High capacity storage
- -Small size
- Harsh weather conditions

Thank you for your attention

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