

25 March 2003

**PRESS RELEASE**

**NEW 'NATIONAL SURVEY OF DE IN CHINA - 2003':**

**CHINA – SUBSTANTIAL PROSPECTS FOR CLEAN AND EFFICIENT  
DECENTRALIZED ENERGY SYSTEMS.**

**NATURE OF POWER SECTOR REFORM IS CRITICAL IN DETERMINING  
GROWTH**

The first national survey of decentralized energy (DE) development in China, published today by the World Alliance for Decentralized Energy (WADE), reveals that its share of national power generation is about 15%. With a world average of only 7%, China is one of the world leaders in the field.

DE systems produce electricity at or close to the point of consumption and include high efficiency cogeneration (regardless of fuel, size or technology) and decentralized renewable generation (including PV, small hydro, on-site wind).

The survey also states that China's demand for electricity continues to grow and that low emission DE can play a substantial role in satisfying this demand. If DE is able to increase its overall share of the power market by 2010, this would mean an additional 30-50 GWe of DE capacity by 2010, amounting to \$30-50 billion of new investment. This would lead to significant reductions in both emissions and investment costs (through transmission and distribution network savings) compared to a central power dominant scenario.

High efficiency cogeneration systems comprise the majority share of DE in China, the vast proportion of this being based on coal. Fuel diversification for future cogeneration development is likely to be significant with biomass, biogas and natural gas providing new opportunities for developers.

Critical to the continued successful development of DE in China will be the shape of future power sector reform. In particular, WADE believes that:

1. DE generators should be permitted grid access on transparent and non-discriminatory terms;
2. The locational benefits of DE should be recognised in system charging;
3. Emerging industry structures should not entrench market control in the hands of incumbent utilities;
4. The transmission and distribution costs associated with central generation should be fully taken into account in any system planning;
5. Fuel and power pricing should as far as possible be determined by markets;
6. Private and foreign DE investors should face no undue commercial, legal or regulatory barriers in carrying out their business;
7. The overall output efficiency (including usable heat) of utility plants should be rewarded;
8. The Clean Development Mechanism should be encouraged to contribute significantly to China's power demand requirements.

If some or all of these measures can be achieved, the scale of new DE development in China could exceed that of central power and go beyond 100 GWe by 2010.

**The report can be downloaded from [www.localpower.org](http://www.localpower.org). 'Notes for Editors' follow on p 3-4.**

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NOTES FOR EDITORS:

### **WADE**

WADE works to accelerate the deployment of decentralized energy systems worldwide.

### **What is Decentralized Energy?**

WADE defines decentralized energy (DE) as the high efficiency production of electricity (and heating/cooling where possible) at or near the point of use, irrespective of size, fuel or technology. Two key divisions of DE are:

- High efficiency cogeneration with capacities from 1 kilowatt to over 400 megawatts (and which include reciprocating engines, gas turbines, steam turbines, Stirling engines, fuel cells and microturbines).
- Many renewable energy systems and energy recycling technologies which capture otherwise wasted energy. These can include photovoltaic and biomass systems, on-site wind and water turbine generators.

### **WADE Membership**

WADE members include national cogeneration and DE organizations in Europe (including COGEN Europe), the USA, China, India and Brazil. Company supporters include Solar Turbines, Wartsila, Private Power, Caterpillar, Capstone Turbine Corporation and FuelCell Energy. In total, WADE's direct and indirect membership support includes over 200 corporations around the world.

### **DE advantages over Central Power**

The traditional model of centralized power generation has some drawbacks compared to DE:

- The world's central fossil-fired plants cannot recycle by-product heat and thus waste about 70% of fuel energy. State-of-the-art CCGT plants waste about 50%.
- Transmission and distribution (T&D) system losses are around 10% of global power supply. These losses are growing due to transmission congestion. Global T&D waste exceeds the combined annual electricity consumed by Germany, the UK, Spain and France).

- Economies of scale increasingly favour smaller plants. Decentralized electricity generation at or near users requires only half the capital of new central power generation plus new transmission and distribution, and DE plants can be substantially more efficient.
- Power failures due to T&D congestion are inevitable. Existing transmission and distribution wires in many countries are already loaded, but new networks are costly and unpopular.
- The central power model is vulnerable to system disruption or destruction, including terrorist attack.

### **WADE's Activities**

WADE is the only organization in the world which:

- Serves as a worldwide forum for all parties working to accelerate the deployment of DE systems;
- Assembles cogeneration and DE data and statistics’;
- Produces economic and environmental assessments of decentralized energy;
- Provides direct advocacy on DE issues to key international agencies and organizations;
- Works to ensure that worldwide power sector reform creates real market opportunities for DE;
- Supports the creation of new national groups for cogeneration/DE;
- Nurtures and supports existing cogeneration/DE groups throughout the world.