

REN21 Global Renewables Status Report 2010

4. POLICY LANDSCAPE

The literature also shows that market growth often results from combinations of policies, rather than single policies; that not all policies are effective or efficient; that longevity and predictability of policy support is important; that local and state/provincial authority and involvement are important; and that policy mechanisms are evolving as countries gain experience.

Solar and Other Renewable Hot Water and Heating Policies

Mandates for solar hot water in new construction represent a strong and growing trend at both national and local levels. Israel for a long time was the only country with a national level mandate, but Spain followed with a national building code in 2006 that requires minimum levels of solar hot water in new construction and renovation. Solar hot water must meet 30–70 percent of hot water energy needs, depending on climatic zone, consumption level, and backup fuel. Now many other countries have followed suit. India's nationwide energy conservation codes requires at least 20 percent of water heating capacity from solar for residential buildings, hotels, and hospitals with centralized hot water systems.²⁴⁵ South Korea's new 2010 mandate requires on-site renewable energy to contribute at least 5 % of total energy consumption for new public buildings larger than 1,000 square meters. Uruguay mandates solar hot water for some types of commercial buildings with high hot water requirements like hotels and sports clubs. China is planning to mandate solar hot water in certain types of new construction nationwide.²⁴⁶ In 2009, Hawaii became the first U.S. state to mandate solar hot water in new single-family homes.

Municipal governments have been enacting solar hot water mandates as well. Ordinances by more than 70 municipalities throughout Spain preceded the country's national mandate. Barcelona was the first Spanish city with such an ordinance, first enacted in 2000 and subsequently updated in 2006 to cover all new construction and renovations. Barcelona requires 60 percent of the energy for water heating to come from solar. Other municipal examples include the Chinese cities of Lianyungang, Rizhao, and Shenzhen, which mandate solar hot water in all new residential buildings (up to 12 stories in height in Lianyungang and Shenzhen) and in new construction and renovation of hotels and commercial buildings (Lianyungang only). In India, the cities of Nagpur and Rajkot require solar hot water in new residential buildings (larger than 150 square meters in Rajkot and greater than 1,500 square meters in Nagpur). Nagpur also provides a 10-percent property tax rebate as an added incentive. Brazil's largest city, São Paulo, requires solar hot water in new buildings larger than 800 square meters.²⁴⁷ In 2009, other cities were working on solar hot water policies as well, including Rome, Italy, which would require 30–50 percent of hot water energy from solar for new buildings.

In Europe, a new crop of policies supporting renewable heating has emerged in recent years. Germany's Renewable Energies Heating Law, effective in 2009, requires all new residential buildings to obtain at least 20 percent of household heating and hot water energy from renewables, including solar, biomass, and geothermal.²⁴⁸ At least one German state also mandates renewables for existing buildings during building retrofits. Germany's overall goal is for 14 percent of total heating energy to come from renewables by 2020, including district-heating systems. Lithuania has a similar goal for a 23 percent share of heating from renewables by 2020, including 70 percent of central district heating from biomass by 2020. Scotland and the United Kingdom have been providing tens of millions of British pounds in grants for biomass heating. And in late 2009 and early 2010, the European Parliament was working on a directive to require high "energy performance" in newly constructed buildings throughout Europe starting in 2020, including renewable energy sources for building energy needs. The directive also aimed to mandate retrofits of existing buildings and to target the public-sector ownership/leasing of such buildings.

For some years, China was one of the only countries with long-term national goals for solar hot water, with targets of 150 million square meters by 2010 and 300 million square meters by 2020. (Achieving these targets would likely mean that over one-quarter of all Chinese households would employ solar hot water by 2020, along with significant shares of commercial and public buildings.) Building design and construction in many urban areas of China now incorporates solar hot water. Beyond China, other countries with solar hot water targets include India (20 million square meters by 2022), Morocco (1.7 million square meters by 2020), and Tunisia (740,000 square meters by 2012).

Capital subsidies for solar hot water are now a common policy in many states and countries. At least 20 countries, and probably several more, provide capital grants, rebates, VAT exemptions, or investment tax credits for solar hot water/heating investments, including Australia, Austria, Belgium, Canada, Chile, Cyprus, Finland, France, Germany, Greece, Hungary, Japan, the Netherlands, New Zealand, Portugal, Spain, Sweden, the United Kingdom, the United States, and Uruguay. Capital grants or tax credits are typically 20–40 percent of system cost. The United States provides a 30-percent federal tax credit (through 2016) in addition to many state-level rebates and credits. German incentives for large-scale installations include low-interest loans and 30- percent subsidies for large systems (less than 40 square meters) for heating, cooling, and industrial process heat. Many U.S. states and some Canadian provinces also offer capital subsidies. **Some utility companies offer capital subsidies in order to reduce electricity demand, such as ESKOM in South Africa, which incorporated solar hot water into its demand-side management program in 2007 and planned 1 million new systems over five years.**

Other policies or proposals to support solar hot water exist or are under consideration. The city of Betim, Brazil, is installing solar hot water in all new public housing. Italy's renewable energy certificates (so-called "white certificates") also apply to solar hot water. The European Commission is considering promotion policies for renewable heating, including solar, potentially leading to a new directive (and thus a full complement of directives for electricity, transport, and heating). Several countries in North Africa and the Middle East are continuing to develop solar hot water policies, building codes, and/or promotion programs, including Egypt, Jordan, Morocco, Syria, and Tunisia.