AUSTRALIAN GEOTHERMAL ENERGY ASSOCIATION INC
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MEDIA RELEASE

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Australia's World Class Geothermal Energy Industry

Australia has a world class geothermal resource and our industry is actively collaborating with the global industry as part of the effort to develop the component technologies that will mainstream all forms of geothermal energy across the world. Many of our Australian industry and research leaders are also leaders in the international arena.

Geothermal energy is the only form of clean energy with all the following national interest benefits:

- Massive world class resource dispersed throughout Australia
- Predicted to be the future lowest cost energy technology
- Emissions free
- Baseload capability
- Capable of integration with other technologies (e.g. solar and gas)
- Scalable (up to massive) for on and off grid projects
- Australian R&D leadership presenting vast jobs and export opportunities
- Direct Use capability with massive potential to displace the use of grid power, particularly in the Perth and Otway Basins
- Lowest environmental footprint per megawatt output

Australia has an underlying geological structure that can support three main types of geothermal projects:

1. Enhanced Geothermal Systems (EGS) or Hot Rock projects where the underlying hard rocks are fractured 4-5 kms below the surface to create channels for super hot water to flow through. This water is then circulated back to the surface to drive steam turbines and produce electricity.
2. Hot Sedimentary Aquifer (HSA) projects where water is circulated through naturally occurring, porous sandstone basins including the Otway and Perth Basins and bought up to the surface to drive turbines to produce electricity.
3. Direct Use projects where the heat is drawn from the underlying aquifers and used directly in industrial and agricultural processes and for heating and cooling commercial buildings. These projects will significantly reduce our reliance on electricity.

The conventional hydrothermal systems already in operation across the world's volcanic regions are not likely to be developed in Australia as we don't have an active volcanic resource. But the conventional geothermal concept can be further developed with the refinement of the component technologies used in the oil and gas sector to drill deeper wells and create or enhance the underground flow of fluid – in the case of geothermal this fluid is hot water.

The recent *Australian Energy Resource Assessment* produced by GeoScience Australia predicted that geothermal energy will be amongst the cheapest forms of all energy in a carbon constrained economy and Hot Sedimentary Aquifer (HSA) will be the cheapest form of all energy technologies by 2030. AGEA

asserts that this reason alone presents a fundamental imperative for further public investment in the industry. This is consistent with many other industry and government analyses.

Industry and government predictions are that geothermal energy will make a significant contribution to the Commonwealth's Renewable Energy Target (RET) and to future energy supply targets. The industry expects that it can build up to 2400MW of installed generation capacity by 2020 and this will require an investment of around $17b. Much of this development could occur in the La Trobe and Hunter Valleys where coal beds are excellent insulators, effectively trapping the heat in the underlying hot rocks.

The Australian industry has already invested more than $300m and has completed the drilling of seven deep wells. Over the past three years, the Commonwealth has committed $203m to the geothermal energy industry through the approval of 7 applications under the Geothermal Drilling Program (GDP) and $153m through the approval of 2 grants under the Renewable Energy Demonstration Program (REDP). Only about $10m of this has already been provided to the industry alongside its own $300m spend.

It is time for the Commonwealth Government to step up and support the industry's progress in order that it can be ready to meet Australia's intermediate and longer term climate change goals while still ensuring the security of energy supply. Many Government Ministers have often referred to the important role that geothermal energy will play in the future but have not yet backed it with the policy and funds needed. This is not the case for clean coal which has a $2.2b program and solar which has a $1.6b program. And yet geothermal energy is predicted to be cheaper, baseload and emissions free.

AGEA proposes the following policy requirements:

1. A carbon pricing mechanism so that Australian companies can access support from international equity markets.
2. Increased funding to enable the industry to continue to develop projects and access the expensive drilling equipment and other high upfront costs that will drive the early, higher risk stage of the industry's development.
3. Support for the construction of transmission infrastructure to northern South Australia. This can be done through the establishment Scale Efficient Network Extensions (SENEs) under the proposed new AEMC rules.
4. The inclusion of geothermal direct heat as an eligible source under the RET in order to enable the development of the direct use industry, particularly in Western Australia and Victoria. The industry estimates that up to 2,000GWh of electricity could be displaced by the development of direct use projects by 2020 and that as much of this would occur in Western Australia, this will assist WA meet renewable energy targets at lower cost.
5. Support for the R&D effort that the industry and state governments are currently driving.

Further comment on the geothermal energy industry AGEA's CEO, Susan Jeanes can be contacted on 0419 833 556 or 08 8270 7227.