

Natural energy to help power exploration of the universe

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The Federal Government has announced today that the CSIRO will receive \$47.3 million for the development of solar and geothermal energy technologies to power a radio-astronomy observatory and its supporting computer centre.

The Sustainable Energy for SKA facility will be funded through the Sustainability Round of the Government's Education Investment Fund (EIF).

The funding will support [renewable energy](#) infrastructure projects for the Murchison Radio-astronomy Observatory and the Pawsey High-Performance Computing Centre for SKA Science in Perth.

CSIRO Chief Executive Dr Megan Clark said the new project will accelerate the development of renewable energy technologies in Australia.

"The Sustainable Energy for SKA project will fund solar and photovoltaic technology to help power the Murchison site and the nation's largest direct heat geothermal demonstrator to cool the Pawsey Centre supercomputer," Dr Clark said.

"This project will also allow the practical application of research by scientists and students from all over Australia in renewable energy as well as in astronomy, computer science, engineering, geology and environmental management.

"It is a unique opportunity for many different areas of science to come together and work on something that will benefit all Australians, the development and application of renewable energy technologies."

The Pawsey Centre in Perth, co-located with CSIRO's Australian Resources Research Centre, will become one of Australia's largest direct heat geothermal demonstration sites. Researchers plan to address the heating and cooling requirements of not only the SKA data centre but the entire geosciences facility. They will also conduct research on the performance and longevity of geothermal wells.

The Pawsey High Performance Computing Centre for SKA Science will process more data from ASKAP every day than is contained in the world's largest library.

The Square Kilometre Array is a global \$2.5b program to build the world's largest radio telescope. Two sites have been shortlisted to host the telescope, one in Australia and New Zealand, and one in Southern Africa.

"Innovation Minister Senator Kim Carr is in Europe now promoting Australia's bid, including at the International SKA Forum in the Netherlands," Dr Clark said.

"A decision on the site is expected in 2012, so it is essential that we make as much progress as we can over the next two years - both technologically and diplomatically."

A full scale hybrid solar storage and generation plant, coupled with sophisticated energy management systems, will also be built to service the CSIRO-managed remote Murchison Radio-astronomy Observatory about 700km north of Perth.

The Murchison Radio-astronomy Observatory and the CSIRO Australian SKA Pathfinder at the Observatory are important parts of the infrastructure for Australia and New Zealand's bid to host the Square Kilometre Array (SKA) radio telescope.

Both of these facilities have high electricity demands so the ability to feed that demand using on-site geothermal and solar renewable energy technologies will provide multiple benefits.

Web-accessible monitoring infrastructure will be part of the project so that students and researchers alike can observe the project's progress.

Partnerships will be essential in delivering these projects, and CSIRO is excited at the opportunity to work with industry partners Horizon Power, Geothermal Power and DirectEnergy, its research partners through the Western Australian Geothermal Centre of Excellence, the Geological Survey of Western Australia and the WA Government.

CSIRO is also a member of the EnergyAustralia consortium which was recently announced as the successful bidder for the Federal Government's \$100m Smart Grid Smart City initiative to build Australia's first commercial scale smart energy grid in Newcastle.

These projects are all part of CSIRO's contribution to large-scale demonstrations of renewable energy technologies that will benefit Australians.

Provided by CSIRO

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