

An insight into Dr Juliet Newson's presentation at WGC 2015

1. What is the future for geothermal energy in the world?

Geothermal energy has a great future. Currently geothermal energy produces 0.25% of the total world electricity generation. This proportion can increase for the following reasons: firstly, there are many natural geothermal systems, where the earth's heat is transported to the near surface by water, which are not yet utilised for energy generation. While not all systems should be used intensively to provide people with energy, there are many systems which can yet be used for this purpose.

Secondly, over the entire globe, there is a heat flow from the centre of the earth, to the surface. Because human beings are creative and inventive, we have been addressing the problem of extracting heat from rocks where there is no natural water circulation. This is simple in theory, but has proved challenging in practice. I believe in the near future, we will work out how to utilize this natural geothermal heat even more efficiently.

Thirdly, I have spoken above about electricity generation. Geothermal energy is a steady, reliable source of electricity because it provides 'baseload' power to the grid, which is not always the case for other renewable sources. But this is only half the story. There is another aspect of geothermal energy which makes it a very valuable energy resource: that the heat can be used directly as process heat for industrial, agricultural, domestic, and resort applications; for all of these the source water can be below the temperature required for electricity generation. In colder countries direct use of geothermal heat is particularly crucial for heating buildings. A particularly efficient use of geothermal heat is to 'cascade' the same fluid through a series of applications, each of which requires a lower temperature than the previous process. So for all the above reasons, geothermal energy has a big future!

2. How does IGA build the worldwide geothermal community?

The objectives of the IGA are to encourage research, the development and utilization of geothermal resources worldwide through the publication of scientific and technical information among the geothermal specialists, the business community, governmental representatives, UN organisations, civil society and the general public.

The IGA's aims, as defined in the Charter of the Association, are to encourage, facilitate and, when appropriate, promote the coordination of activities related to worldwide research, development and application of geothermal resources.

3. How long has IGA existed and what have been its major activities?

The IGA was founded in 1988. Since then the IGA has brought geothermalists together for four World Geothermal Congresses (Melbourne will be the 5th); supported and organized innumerable educational and training events; and established connections with other renewable energy organizations and NGOs, informing national and international policy-makers at a high level.

We at the IGA consider that the World Geothermal Congress is an appropriate venue to celebrate 25th anniversary of the IGA. We plan an evening session and celebration in Melbourne to commemorate this, and to acknowledge the dedication and foresight of early founders of the IGA. We hope you can join us.