Adrian Larking
Comments on IPCC Geothermal Paper
(via e-mail: received 16 June 2008)

Comments on IPCC Paper – June 14, 2008

1. In addition to Ladsi Rybach I would have liked to see some others working on EGS systems included as authors such as Roy Baria and Jeff Tester or other co-workers who have contributed substantially to current understanding of EGS status.
2. I agree with the opinion of Garnish that there should be an executive summary making the elements of EGS more easily accessible in the text and clearer in the abstract
3. I agree with the opinion of others (Baria, Tester, Wyborn) that EGS potential may be substantially understated in the report, especially given that that the essential technological ingredients required to commercially exploit EGS resources already exist even thought they can and should be improved on (e.g. drilling, fracking, pumping).
4. The report could define EGS as "Engineered Geothermal System" rather than "Enhanced Geothermal Systems". Using EGS to mean enhanced may give the impression it the potential is mainly related to enhancing known hydrothermal systems.
5. While there are extensive areas in the world having great potential for high enthalpy EGS resources (eg parts of mid-west USA and Cooper Basin, Australia) the paper does not adequately indicate that even larger areas of the world having lower enthalpy resource potential may be increasingly economic as prices increase or as technological efficiencies improve with time (eg improved drilling and fraccing and power conversion), in contrast to fossil fuels where carbon costs are likely to increase costs. Competitiveness will also be enhanced where governments create price incentives or bonuses to favour EGS because it is renewable and produces zero emissions (such as the new price rises for geothermal energy based power in Germany from August this year).
6. I understand the Soultz power plant has been commissioned (refer para 2, page 18). The power outputs stated in the paper for the Soultz and Landau plants should specify if it is gross or net output (eg after pumping requirements) for each plant.
7. Page 18, first paragraph – the word "commercial" should be placed before the words "realisation of EGS systems".
8. There a lack of recognition in the paper that EGS techniques are successfully being used to enhance the productivity of conventional hydrothermal systems (eg by ENEL in Italy and at Landau, Germany).
9. The statement in the conclusion on page 33, namely that 'the development potential of geothermal energy 'will be limitless if EGS can be commercially proven conflicts with the suggested upper limit (which is likely to be too low) of EGS potential expressed in the paper.
10. Page 31, 4th paragraph suggesting that "Future developments are limited to certain areas worldwide, particularly under current technologies" is too vague. What could be stated is that many areas where there are no current developments of geothermal energy but where there is untapped or undiscovered EGS potential are likely to be developed in the future and areas expanded substantially into hot rock areas adjacent to hydrothermal systems.

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