

Implications for Energy Planning



distribution. decisions. development.

Planning For Our Energy Future

- It is commonly accepted that conventional (fossil fuel) and mineral endowments vary significantly across countries.
- The TMSI-ESI study shows that significant variations also exist in alternative energy endowment.
- The upper limits on potential are imposed by constraints controlled by location and land area.
- For some regions, alternative energy is the low-hanging fruit.
- Some regions will face natural limitations.

GLOBAL ALTERNATIVE ENERGY POTENTIAL
distribution.
decisions.
development.

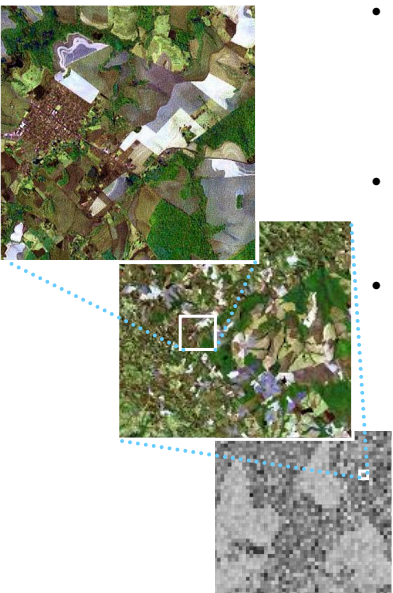
Putting Energy Resources In Context


- Global/regional treatment puts alternative energy in context.
- No “one size fits all”. Countries need a sense of their own resources and regional resources.

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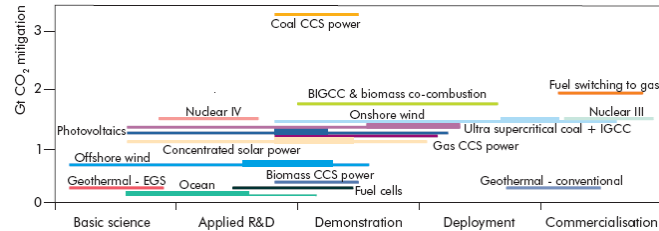
Putting Energy Resources In Context



- Global studies should not aim to replace high-resolution, localised site assessments.
 - A power provider or project financier would need to look at a different scale of geography
- Before micro-scale decisions are taken, governments and energy planners must remember to look at macro tradeoffs
- Our study adopts a supply-side perspective. It does not detract from the message that demand-side measures such as energy efficiency are important



Maximising Opportunities Working Within Constraints



- Research, Development & Demonstration
 - Technology could be improved, made more efficient
 - New alternatives could be developed
 - Distributed efforts, global benefit:
 - Ensure a conducive environment for innovation; the breakthroughs will diffuse outwards to the benefit of all
 - Countries need to have plans tailored to their own endowments and energy profiles

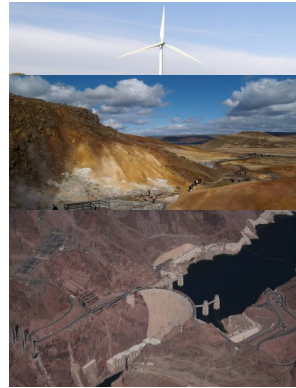
Image from IEA Energy Technology Perspectives (2008)

Maximising Opportunities Working Within Constraints

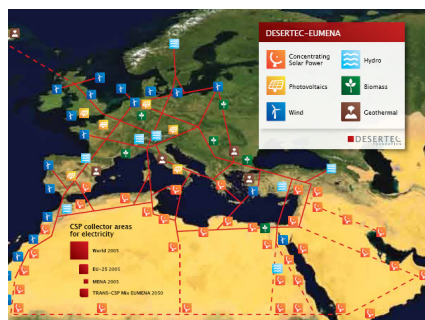
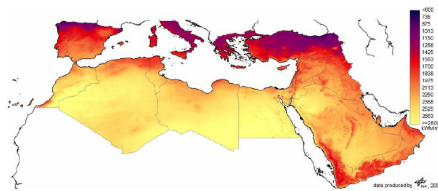
- Can we bridge resource gaps?
- Interconnect resource-poor regions with high quality resources (e.g. [DESERTEC](#))
- Requirements:
 - Again, global and regional resource characterisation is key
 - Resource must be high-quality, projects must be in proximity to users
 - Significant capital and technology resources required
 - Infrastructure needed – power grid, balancing intermittent alternatives with baseload alternatives
 - Committed international cooperation
 - Critical mass in demand

Implications for the UNFCCC

- Convention Article 4.10 recognises that countries face varying degrees of difficulty in making alternative energy a significant portion of their fuel mix
- LDCs and other vulnerable developing countries have to further grapple with the costs of adapting to climate change
- We need to put more resources into looking at **alternative energy potential** when considering a country's ability to reduce its dependence on fossil fuels



DESERTEC Project



- Interconnect rich solar resources in deserts with populations living in adjacent areas
- Discussed for many years, slow progress though it shows great promise
- This option is not available to all regions...

Images from DESERTEC Red Paper & White Book

Singapore & Alternative Energy Potential

- Singapore has been studying alternative energy potential as part of efforts to reduce our emissions.
- This lack of alternative energy potential is something that many countries also face.
- We hope this study will help raise awareness, and thereby allow countries to seek solutions to address their lack of potential to harness alternative energy.

We welcome suggestions for
further work and collaboration.

Please contact

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Thank You

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