



UNITED NATIONS  
UNIVERSITY  
CRIS

Institute on Comparative Regional Integration Studies



## Future Trends Series - GR:REEN Project

### Title of the report

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**The Complex Futures of Emerging Technologies: Challenges and Opportunities for Science Foresight and Governance in Australia**

### Area

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Science & Technology

### Reporter

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Australian Nanotechnology Network

### Type of the Reporter

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Academic Network

### Periodically updated?

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No

### First issued year

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2012

### Latest update

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2012

### Official website

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<http://www.jfs.tku.edu.tw/16-4/A05.pdf>

### Language available

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English

### Short summary

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"This paper outlines trends in the development of high-profile new technologies such as nano- and bio-technology, identifying roles foresight and governance practices must play to enable their usage in addressing 'wicked' problems (e.g. climate change). We explain the notion of emerging technologies, and their expected convergences, and consider both their potential and issues faced in the Australian context. Recent trends and emerging issues – such as slower, more problematic development and adoption than expected, and increasingly global competition to establish 'future industries' – are reviewed to identify a set of imperatives. These imperatives highlight emerging opportunities and challenges, focussing on how examining alternative futures and perspectives may help enable effective responses to emerging technologies."

### Key trends

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- "The futures of emerging technologies clearly depend on the capacity to meet a range of key challenges – technical, social, economic, and political";
- "Trends indicate limited development and take-up of frontier technologies, and continuing conflict and controversy such as about GM crops";

- “Australia is yet to become a nation utilising emerging technologies to meet national goals”;
- “Emerging technologies present national communities with important choices about their future. As the OECD asserts, achieving the full promise of the bioeconomy by 2030 would require a policy framework that can address technological, economic and institutional challenges”, with some areas of biotechnology needing major policy interventions and new policy mechanisms to enable their development”;
- “Potential national choices, and associated futures analysis, present key challenges for both science foresight and governance. Additionally, technological ‘hopes’ provide articulated images of the future which can be deliberated and, potentially, planned for”;
- “One opportunity is that major hopes for new technologies could be more openly debated in interactive platforms (both offline and online).”

## Suggestions

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## Methodology

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Research from primary and secondary sources

## Reference to other trends reports? If yes, which reports?

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