



2011 World Materials Summit

Markets and Economics

Ian Murray, Isaac Tamblyn, Antonio Vicente, Gusphyl Justin, Stella Itzhakov,
Marina Mariano, Nicolas Woehrl, He yun Du, Ana Lia Noguera, Ndigui Billong



Global Imbalances

- R&D vs. Manufacturing
- Artificial Market Imbalance due to Externalities
- Natural Resource Availability
- Monetary Resources
- Locality of Problems and Capacity to Solve Them



Understand and Address Imbalances

- Scientific education requires economics
- Additional investment in translating research into products
 - Goal-based prizes for critical technologies (X-prize)
 - Materials-centric business plan competitions
 - Graduate exchanges with companies
 - Increase grants for early stage commercialization
- Communication of technology gaps in developing countries to researchers



Reporting to Address Imbalances

- Increase funding to quantify real costs associated with different energy sources
- Comprehensive reporting of govt. investment
 - R&D vs. manufacturing incentives
 - Clean technology share of R&D
 - Quantify research efficiency
- International targets for key research metrics
 - UN or WTO?



Small and Developing Countries

- Communicate local needs to global research community
 - Competitions to solve humanitarian challenges
- Open access to journals / information
 - i.e. www.arxiv.org
- Assisting business growth in small markets
 - Subsidized licensing of relevant patents



Global Research Funds for Humanity

- Consequences of climate change and resource issues are shared globally
- Multinational funding of research to improve clean energy and water technologies
 - Advances shared globally



Recommendation

- Address global imbalances in innovation and manufacturing through targeted funding to translate basic science into products, encouraging economic education, and initiating goal-based prizes for breakthrough materials.

