

# 2011 World Materials Summit: Student Congress Energy Panel Report

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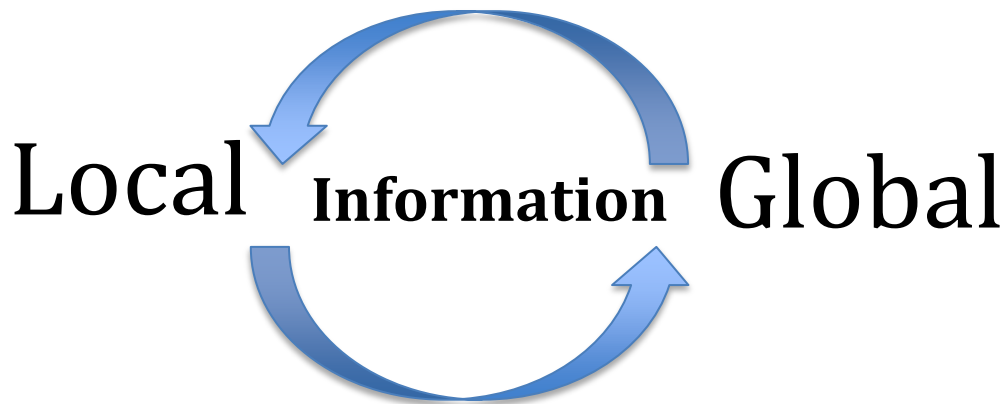
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## Background

The energy panel of the student congress consisted of more than 20 international graduate students and post-doctoral fellows with representatives from: Africa, Asia, Europe, North America and South America. The panel completed two rounds of debate from which the following recommendations to the Materials Societies were unanimously agreed upon.

Representatives from each region believe the best decisions, about the usage of energy sources and technologies in each region, will be better made by local players. Local players do not want intervention but they do want to share the pool of global knowledge. The massive knowledge pool of the international scientific community will help local decision makers to arrive at the best decisions. However, it is generally recognized that local decisions will affect the international community. The international community would want to have the opportunity to be a part of the decision making process done locally. These issues lead to a contradiction from which the following common message emerged:

The scientific community represented by the Materials Societies should strive to facilitate the flow of unbiased information. Information should follow a circular flow between local players and the international community. Local decision makers will use the international pool of knowledge and at the same time report, to the global community, about their experiences with a particular technology.



## Recommendations

- The global environment calls for diversity in both research and deployment of solutions, on different timescales. Members of the panel felt strongly that the materials society should not promote any particular technology over others and should limit itself to only provide unbiased and peer reviewed information about all the energy technologies (as it relates to materials) available. The society should stand firm against strong-minded individuals or entities that want to drive the conversation, as if allowed, it runs the risk of alienating a large segment of the audience. A concrete suggestion is for the society to bring unbiased professional facilitators to lead the panel discussions in the next summit. This will ensure that every participant's opinion is taken.
- The materials community should inform the global community of the technological options with unbiased data and evaluation metrics (e.g. greenhouse gas (GHG) emissions, lifetime cycle analysis, etc). The panel recognized that some of these metrics already exist but do not believe they have been internationally standardized. We believe that the Materials Societies could increase their efforts to standardize metrics such as:
  - GHG emissions (actual, potential reductions)
  - Lifecycle analysis
  - Risk assessment and reduction
  - Region specific assessments of potential technologies

The metric could be expressed as a “sustainability index.” This index will help researchers and decision makers to better report on their technologies and decide what the best option is for their specific needs.

We believe the creation of this standard is a valuable contribution the Materials Societies can make toward global sustainability.

## Key Statement

- Provide unbiased reporting and analysis of energy technologies based on standardized sustainability metrics such as:

- GHG emissions (actual, potential reductions)
- Lifecycle analysis
- Risk assessment and reduction
- Region specific assessments of potential technologies