

## Policy Considerations for Renewable Energy

Panel 1: Breakthrough Low carbon technologies - with focus on new and renewable energy.

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## What is the “best” form of renewable energy?

- ❑ There is no universal answer to this question.
- ❑ What criteria are used to determine “best”?
  - GHG reduction potential
  - Other environmental impacts
  - Cost, etc.
  - There may be tradeoffs between these criteria
- All forms of renewable energy have some disadvantages.
- The most appropriate form may depend on local conditions.
- So the “best” form of renewable energy may need to be decided on a case by case basis. There is no “one-size-fits-all” solution.
- Which technology is “best” may change over time.
- Policy implication: we need to be careful about policies designed to promote specific technologies.
  - Policy should be flexible enough to adapt to changing conditions, new technologies.
  - It is important to avoid “locking in” policies that may become outdated.

## Policy considerations for renewable energy

Based on IGES research on the implications of economic integration (globalization) for renewable energy.

- ❑ Fears about effects on economic competitiveness is a key obstacle
  - RE is more expensive than fossil energy
  - So if a country increases its RE share, economic competitiveness of energy-using industries will be reduced.
  - Therefore, it is desirable for countries to agree to coordinated increases in targets.
  - This may be changing as countries (like China) come to see RE as a strategic industry, and unilaterally increase their targets as a way to stimulate the renewable energy industry.
- ❑ Electricity is not extensively traded in many parts of Asia (compared to goods and services)
  - ❑ Grid interconnection could be desirable
- ❑ Simply upgrading the grid may increase energy efficiency
  - ❑ But this may require regulatory reforms to create incentives for grid maintenance.

## Other obstacles to renewable energy

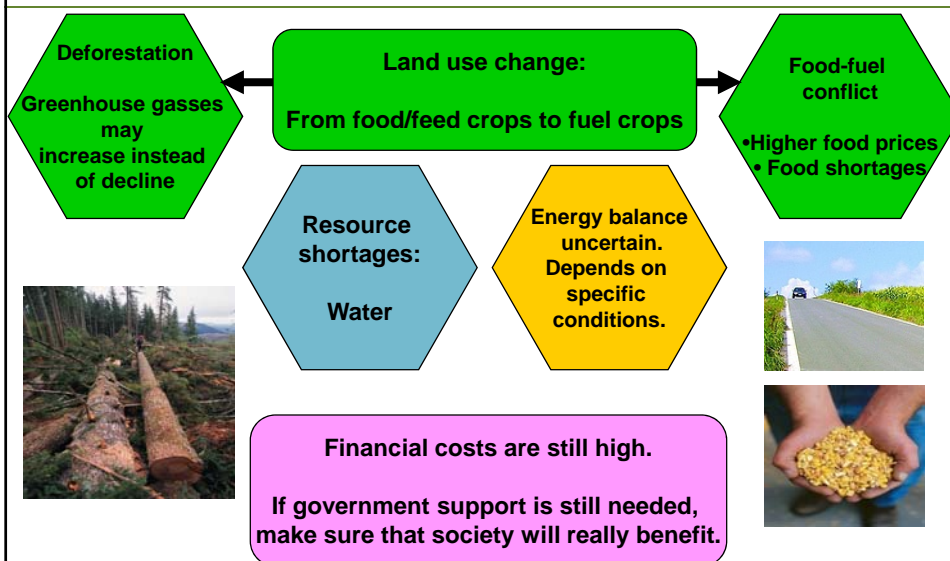
- Actually, many countries – including developing ones – already have reasonably good renewable energy policies on paper.
- But the problem is implementation. Many obstacles such as:
  - Subsidies or preferred regulatory treatment for fossil fuels
  - Lack of capacity in government departments, private sector
  - Lack of knowledge
  - Shortage of financing.
  - Maintenance is important. But local people lack funding or capacity for maintenance.
  - Regulatory structure
    - Power monopolies don't want competition
    - Government departments may lack capacity to regulate
    - Power companies may lack capacity to deal with renewable energy producers even if the regulatory structure were adequate.
- Many projects are donor driven, not self sustaining
  - Donors give money for installation, but not for maintenance
  - Technology may be appropriate for local conditions

## Example of Biofuels: Biofuel fever in mid 2000s -- Expected Benefits:



**Can these benefits be achieved?**

## Concerns about biofuels



## Concluding Thoughts – Biofuels & Sustainability

- ❑ Overall, biofuels appear to have some potential to contribute to GHG emissions reduction, energy security, and rural development. But there is still no consensus on this issue.
  - Potential depends on land use change effects, whether sustainable production methods are used, etc. (Need more research in Asian context.)
  - Therefore, policy should focus on encouraging sustainability in production methods and careful consideration of land use change.
  - This leads to a focus on sustainability standards.
- ❑ But biofuels' potential contributions have physical limitations.
  - Need to emphasize energy conservation and other renewable energy sources, in the context of broader energy and transport policies.
  - Therefore, it is important to make sure benefits can be achieved before committing extensive government support. Better start modestly & focus on research. Don't "lock in" policies that could become outdated.
  - The extent to which biofuels can contribute to the low carbon society has not yet been determined.