Group 3 Summary
Resource eco-efficiency and cascading use

Challenges

1. While bioenergy use in developed economics is primarily used for industrial applications (or leisure use of charcoal), in non-developing countries it is a matter of livelihoods and basic day-to-day existence; lack of viable alternatives
   - Background paper could bring out this dichotomy more clearly
2. In developed countries, the bioenergy sector is 'formalised' and part of the mainstream economy, while in developing countries it is largely 'informal' - regulations not applied; taxes not remitted
3. As a result, while technological interventions exist (e.g. higher yielding tree varieties, better forestry techniques, improved charcoal kilns), there is little incentive to improve efficiencies in supply and production
4. Root cause? Absence of political will (due to negative perceptions towards bioenergy, links with environmental degradation, feeling of backwardness, etc)
5. To bring a structure into the bioenergy sector - EUEI/GIZ developed the bioenergy strategy guide ('BEST').

Agreements

1. Principles of cascading values is valid
   - Applicable in both industrialised *and* non-industrialised countries, where bioenergy is a 'by-product' (not a 'waste'!)
   - In most markets, bioenergy markets complement higher value end-uses (e.g. sawn timber for furniture and construction; transmission poles)
   - In some contexts, bioenergy competes for the by-products or replaces previous markets (e.g. market from US pulp & paper industry replaced by pellet demand)
2. in developing countries, intervention opportunity exists in the *urban charcoal sector*, because of high demand; squeeze on nearby supply; idea of 'hotspots' around major African cities
   - This is where farm forestry could work, with energy as a by-product

Contested Assumptions

1. It is not disputed that higher demand for higher bioenergy will require input from more trees
   - But while some say this is inherently a bad thing…
   - … others say it is the only way sustainable forest management can be viable
   - Basic disagreement over the principle of whether commoditisation enhances sustainable production, or leads to over-exploitation of the resource
   - Mixed messaging (e.g. REDD+ community & conservation community, vs. commercial forestry sector)

3. Rod

Revised question:

Under which conditions should industrial wood be used in the energy market (heat and power) at industrial scale?

2 areas of discussion

- Up to the forest gate
- Beyond the forest gate

Up to the forest gate

- Is a forest sustainability requirement a given?
  - Yes, SFM is a prerequisite
  - Test is at the forest gate, i.e. it's blind to end use
  - Wood as a fuel is a traditional use for wood globally
  - Identify the potential for perverse outcomes, e.g. peatland deforestation or overharvesting could deliver negative outcomes
  - LCA has a role to play
  - How can we avoid e.g. overharvesting, conversion to "plantations", etc.
  - How to demonstrate SFM, especially for small owners where certification (FSC, PEFC) is burdensome - $ and management input
  - SBP = gap-filler
  - Carbon management aspects are beginning to be included in management schemes (e.g. FSC now recognizes high-carbon value and sequestration issues)

Beyond the forest gate

- How to determine whether carbon balance is positive or negative = challenge
- Characterized by “carbon debt” and “dirtier than coal”
- Payback period compared to other forms of GHG mitigation is key:
  - Function of species, climate, etc.
  - Thinning and etc. prompts increased sequestration rate
  - LCA needed
- Counterfactual scenarios are complex:
  - Counterfactuals on energy side, e.g. coal, gas, etc.?
  - Counterfactuals on land use side – can’t assume the forest will stand as previous markets may no longer exist
- Focus on emissions reduction by 2020 – choice of technologies available, e.g. hydro, wind, biomass, etc. so non-fossil fuels comparators may be more valid. Governments make choices through regulations, subsidies, etc.
- Potential perverse outcomes – hydro a driver for deforestation in Brazil; wind farms in the UK

Beyond the forest gate – part 2

- Baseload issue – grids need standby capacity when no wind is blowing. Biomass provides this and allows utilization of existing assets.
- Need to consider economic considerations – high energy costs can simply push energy intensive industrial activity to different countries
- Issue of projections for future use of woody biomass for energy over the next 50 years:
  - No clarity of what energy balance will be
  - So what will demand for biomass be?
  - Can biomass production volumes be sustained?
- “Subsidies” issue:
  - Complex range of positive and negative incentives
  - Coal supported in many complex ways
  - Does subsidized biomass market increase market price paid by biomass producers?
  - Forest industry level - pulp & paper complain

Beyond the forest gate – part 3

- Promoting wood as a building material highly beneficial in carbon terms – c.f. aluminium, UPVC, steel, etc.
  - Is this a better use for wood?
    - Not mutually exclusive
    - Unease at the idea of close directed use
    - Building standards favoring wood will lead to more use in construction, more residues for potential biomass
- Technology choice – how should this be influenced?
  - Incentives?
  - Carbon tax?
  - Market-led decisions?

Actions to move forward:

- Worthy of further exploration:
  - Look at sustainability of energy system
    - LCA of forests and other options
    - Security of supply
    - Optimal structure and shape for generating capacity and grid
    - Place of woody biomass within structure

Actions to move forward – part 2

- Structured dialogue to produce fact sheet on issues and perspectives on carbon debt
  - Draw together existing findings to develop shared understanding on forest level
  - Transparency is a key
  - How to help people to understand the debate, the models, system boundaries, etc.
  - Factsheets, e.g. what IPCC says, what others say
  - What conditions are not appropriate for use of woody biomass?