The Swedish experience of biomass trade – trade patterns, incentives and policy aspects

Dr. Erik Ling and Dr. Karin Ericsson

STEM - Sweden
Incentives

• Raw material costs
• Production costs
• Tax breaks fuel use
• Costs for alternative “use”
• Energy systems structure
• Currency
Policy level two

Creating competition
Drive market development
Extending the resource base
Hamper domestic biomass sector
Ministry Industry vs Ministry Environment no big clashes on principles
Future issues

• Perverse incentives vs systems optimization
• Import vs export
• Technological driver vs barrier
• Environmental aspects
• What kind of biomass, pellets, waste etc.
Biofuel import

- 1992: 0.5 – 1 TWh
- 1995: 3 – 4 TWh
- 1997: 5 – 9 TWh
- 2001: 5.5 – 8 TWh (new study)
Policy aspects

Market is a Market
# Swedish biofuel import

<table>
<thead>
<tr>
<th>Wood fuels</th>
<th>Energy content TWh</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Pellets, briquettes</td>
<td>1</td>
<td>Canada, Latvia, Finland, Estonia</td>
</tr>
<tr>
<td>Wood chips, chunks of wood</td>
<td>2-4</td>
<td>Latvia, Estonia, Lithuania</td>
</tr>
<tr>
<td>Recycled wood and demolition wood</td>
<td>1-1.5</td>
<td>Germany, The Netherlands</td>
</tr>
<tr>
<td>Total import of wood fuels</td>
<td>4-6.5</td>
<td></td>
</tr>
</tbody>
</table>

| Other biofuels                    |                    |                                              |
| 5. Tall oil                       | 1.5                | USA, Finland, UK, Norway                    |

| Total biofuel import in DH/CHP    | 5.5-8              |                                              |

Total use of biofuels in DH/CHP: 25.6 TWh  
(15 TWh district heating and 1.6 TWh electricity)  

Wood fuels account for 16 TWh