

Symposium Biofuel and wood as energy sources – opening

As a warm-up act, chair Stefan Wijers asks the symposium audience to write down on Post-It notes what they regard as the biggest misconceptions of proponents and opponents of the co-firing of wood in power stations. Please see below for a full overview of the collected misconceptions. As can be seen more misconceptions were collected in response to question A than to question B. Issues that were mentioned most frequently in response to question A (mistakes made by supporters of co-firing wood) are: estimation of CO₂ emission, market dynamics and ecological effects. Issues that were mentioned most frequently in response to question B (mistakes made by opponents) are: dynamics and approach discussion, role biofuel may play in transition, availability of alternative energy sources, estimation of effect forest management may have.

	A. What is the biggest mistake made by supporters of co-firing of wood in power plants?	B. What is the biggest mistake made by opponents of co-firing of wood in power plants?
CO₂ emission and efficiency	<p>Think they reduce CO₂ whilst it is not</p> <p>Did they make an <u>integral</u> (total chain) calculation</p> <p>The perceived reduction of CO₂</p> <p>How to account the CO₂ effect</p> <p>Co-firing needs big coal plants which emit lots of CO₂</p> <p>Underestimation of the result of CO₂ reduction</p> <p>Failure to distinguish between carbon storage + sequestration in plants and forests vs carbon emissions from power plants</p> <p>Little effective, efficiency is factor 40 lower than solar energy</p> <p>Sustainable</p> <p>Does not reduce CO₂</p> <p>Energetically wrong start</p> <p>Biofuel refining needs energy</p> <p>The mistake is that it will make a significant contribution as a sustainable source of energy</p> <p>They overestimate the benefits for the carbon-balance</p> <p>Underestimation of logistics</p>	<p>The net carbon emission is lower with biomass, so a lower emission is achieved</p> <p>Other sustainable energy reduces CO₂ fast enough</p> <p>Biofuel also means algae that renew faster than 80-100 years, biofuel can be used for cattle</p> <p>We need all that is possible to curb CO₂-emissions we can get</p> <p>They think it is actually meant to have an effect</p> <p>There may be ... effects than on carbon balance e.g. on biodiversity (in crops), on labour, on use of waste</p> <p>Underestimation of fact that this presents highest efficiency</p>

	<p>They forget perhaps the question of eventual emissions from the burning of biomass</p> <p>Claiming that it is sustainable</p> <p>Long distance that wood often travels</p> <p>Effectively an argument keeping coal-fired power plants</p> <p>Neglectance of energy efficiency and Neglectance of climate effects</p> <p>Biofuels' impact, don't cost energy/resources</p> <p>CO₂ exhaust may not improve. This does not apply for biofuel production.</p> <p>To think that co-firing of biomass is sustainable by definition</p> <p>Biomass can be used in a more efficient way even for energy (especially heat)</p>	
<p>Ecological aspects</p> <p>Sustainability criteria, side-effects, availability biomass</p>	<p>Not enough biomass. <u>Sustainable</u> obtained for great contribution to energy transition</p> <p>The <u>volume</u> available , competing with food and nature, is <u>limited</u></p> <p>Market forces are denied: more wood ...loader?.. for:</p> <ul style="list-style-type: none"> • more <u>intense land</u> use • <u>Loss of nature</u> area <p>The nature and food producing respect is missing</p> <p>They ignore competition with regular use of wood: ignore competition</p> <p>Ecological disaster</p> <p>Lack of sustainable flow/stream of affordable energy efficient biomass</p> <p>No space left for agriculture/food production</p> <p>Be sure about the sustainability of the biomass source</p> <p>Underestimating the spatial consequences of wood-use</p>	<p>To safeguard sustainability of woody biomass by criteria that differ from other forest products</p> <p>The possibility and opportunity to steer wood co-firing to more sustainable direction</p> <p>They seem to think that biomass cannot be produced sustainably in large amounts</p> <p>They do not trust the effectivity of sustainable wood harvesting</p> <p>Not being clear on the criteria. Ecologically sound biomass ≠ FSG</p> <p>It is about sust. managed forests, <u>not</u> indiv.trees</p> <p>To consider a risk as a reason not to support co-firing, instead of something to be dealt with rationally (avoided, minimized) so that co-firing can be supported</p> <p>ILUC</p> <p>Think that co-firing is not sustainable by definition, don't distinct the</p>

	<p>There is no big mistake; the question is how much and how to sustain the bottom fertility, biodiversity etc.</p> <p>Not to take nutrient loss in the forest into account</p> <p>It is not sustainable on a world-scale, there is not enough wood growing</p> <p>Focus only on energy rather than optimal contribution to sustainability</p> <p>They underestimate growing nutritional needs</p> <p>There is enough sustainable wood for energy</p> <p>Take too few factors into account (e.g. ignoring alternative uses of biomass, not taking into account how much biomass our planet can produce, the (env/soc/economic) costs of raising biomass)</p> <p>Find the nuance stimulate added benefits (high value) to create added value (cascading)</p> <p>Assume that burning provides the highest value. Use wood for biodiversity and materials gives better overall performance, remains can be burned</p> <p>Assumption that mainly "waste" would be used for the purpose</p> <p>They are burning valuable material which costs a lot of money and time to produce</p> <p>Hoogwaardige grondstof (hout) wordt vernietigd</p> <p>Waste of biological material more useful for more advance applications</p> <p>Forget other more useful applications of wood & biofuel</p> <p>Supporters fail to explain that co-firing feedstocks >90% (more?) is made from waste material</p> <p>The side effects of co-firing wood: 1) the transportation costs/impacts 2) unwanted use of standing biomass (such as natural trees)</p> <p>Neglect of soil organic matter competition (on the long term)</p>	<p>good from the bad. Simply exclude it as an option in the energy-mix</p> <p>Conviction that increases global hunger</p> <p>They tend to forget that there are other opportunities to – not just co-firing but also direct use of grass/wood pellets to heat buildings (not all direct burning of wood biomass may be bad)</p> <p>There may be ... effects than on carbon balance e.g. on biodiversity (in crops), on labour, on use of waste</p>
--	--	--

<p>Forest management</p>	<p>Failing to make clear what can be done right in forest management to combine vital forest with sustainable biomass use</p> <p>Misunderstanding dynamics of forestry</p> <p>Not being transparent on the impact of demand on forest management</p> <p>Capacity of forests to capture carbon is less than assumed</p> <p>Er wordt geen rekening gehouden met de rol van bomen bij de zuurstofproductie</p> <p>Supporters do not account the photosynthesis process in plants</p>	<p>That it comes from trees. It does not! It comes from residues</p> <p>Neglect that paper industry is declining -> wood pellets can come instead</p> <p>That forests disappear by co-firing wood in power plants</p> <p>Ignoring the benefits of more creative plantation management for carbon stocks</p> <p>Assuming wood means that trees need to be logged for co-firing. Much raw material (e.g. pellets) is made from wood <u>waste</u>. It's recycled.</p> <p>Not understanding how good forest management can deliver sustainable? Biomass and vital forest</p> <p>There is wood available apr. 750 m³/annum in EU also for energy, although it can be better be used for bio refinery there <u>is</u> wood available for energy</p> <p>Insufficient explanation of dynamics of forestry and forestry and real estate</p> <p>Fail to understand it is NOT economic to use valuable wood (waste is used instead)</p> <p>Fail to understand that availability now is limited by restricted harvesting</p>
<p>Innovation, transition and alternatives</p>	<p>It is lengthening the life span of coal in the energy mix -> CO₂</p> <p>Co-firing does not stimulate bio-based innovation</p> <p>Not developing quick enough better options for (biomass waste) co-firing</p> <p>Not at all innovating, waste of money, no future of this energy goal for biomass</p> <p>They believe that it saves the world</p> <p>They must check the innovation stage they are in</p>	<p>It brings biomass under the attention of consumers. When you make mistakes more innovation for other techniques will get a push</p> <p>They underestimate the technological progression that will be made</p> <p>It does save the planet</p> <p>Blocking further innovation</p> <p>Volume is needed to start economically attractive use of biomass for more advanced bio refinery chains</p> <p>Too conservative ideas on biomass potentials and synergies between</p>

	<p>Look further than liquid biofuels</p> <p>Het is geen alternatief. Slechts participeel. Men gaat uit van fossiele brandstoffen ipv verandering mobiliteits system</p> <p>Reinforcement of the institutional “carbon lock-in”</p> <p>Not talking about conditions and that it is a short term option only</p> <p>It is a short term solution!</p> <p>It does not seem to help to solve the climate change problem, only substitutes oil for wood..</p> <p>That is NOT always taken into account sustainability: long term</p> <p>Forgot about better ways to produce “renewable” power</p> <p>They might underestimate future technological progress to make things more efficient</p> <p>In the future (>30 years) we will not use coal anymore</p> <p>No long term option</p> <p>That is regarded as long-lasting contribution to transition to renewable energy. It is short term CO₂ reduction only (provided it follows the sustainability criteria)</p> <p>Clarify that co-firing will be a temporary solution</p> <p>No true transition, burning should stop</p> <p>The notion that it is better for the environment, you are actually extending life and promoting the use of coal fired power plants</p> <p>Short term thinking</p>	<p>bio-power and bio-chemicals</p> <p>It would be okay for the next 10-20 years maybe</p> <p>Neglecting the importance to mitigate fossil energy</p> <p>A step important for transition to get biomass</p> <p>We need a transition to renewed energy to fight climate change and have to start now to ,....change</p> <p>Using wood can be a first start for better options afterwards</p> <p>The under estimate the need to use biomass for co-firing temporary</p> <p>Co-firing may be useful for a transition period to a bio economy</p> <p>Realize that we need to act to renewable sources this is an interim step; find the nuance</p> <p>Not recognizing the importance of co-firing as a stepping stone in terms of: technological development, sustainability criteria, logistics infrastructure</p> <p>They ignore the problem of the end of gas and coal fuel</p> <p>We in time may not have the luxury of choice, again biofuel production is a very different issue</p> <p>Their belief that there is an alternative</p> <p>Excluding options. We need all options for an energy transition</p> <p>Thinking we can do without</p> <p>Waste energy to oppose instead of support better alternative</p> <p>Offer alternatives that are <u>truly</u> green</p> <p>To fail to realize that the alternatives are coal and nuclear</p> <p>Failure to set out a clear and coherent vision of a non-fossil, non-nuclear energy system without biomass</p> <p>Not realizing in the short term there is no other option ... to solar +</p>
--	---	--

		<p>wind</p> <p>They have (for now) no better alternatives on this scale</p> <p>Biomass is necessary on top of green electricity (when no sun, no wind)</p> <p>Opponent's mistake that it is unnecessary</p> <p>Not sustainable</p> <p>Hinder bio based development and underestimating urgency of climate change</p> <p>What else is suitable to cover our energy needs</p>
<p>Economic aspects, subsidies and market dynamics</p>	<p>Any form of subsidy leads to corruption (eventually)</p> <p>Co-firing might be useful but too much subsidy is going to this type of RE</p> <p>Why costly to reduce emissions</p> <p>Weak economic evidence, wrong focus, wasting effort</p> <p>C needs to be taxed to stimulate sustainable alternatives</p> <p>Support mechanism used (subsidy)</p> <p>EUR 6 billion spending in Energieakkoord without <u>any</u> effect for CO₂ reduction</p> <p>Economically scientifically no innovation</p> <p>Too optimistic estimate of costs of bio power vis a vis other renewables (including solar PV)</p> <p>Money</p> <p>Neglecting global dynamics</p> <p>Analyses are too technically oriented: insufficient attention for economic mechanisms and effects (ILUC: food security, energy market effects)</p> <p>SDE+ spoils the market</p>	<p>They forget that people have to make a living <u>now</u></p> <p>Focussing on value in the sense of €€€ rather than societal value</p> <p>Opponents do not take the positive developments such as employment in the forestry sector into account</p> <p>They do not sufficiently take account of the costs to society</p> <p>Economics: there are no economics and never will be</p> <p>Limitation by money induced by the supporters</p>

	<p>Utilities are only driven by money. They do not really care about sustainability and green energy</p> <p>Biomass fuel is only driven by subsidy and therefore becomes a competitor of food production</p> <p>Relying on government support</p> <p>The believe that wood pellet producers have the goal of the world in mind</p> <p>Locking the energy system into an outdated model</p> <p>Costs of transporting biomass</p> <p>Gedelijk gewin geeft risico op onduurzame winning van biomassa</p> <p>Underestimating difficulties in implementing sustainable production of feedstocks</p> <p>Centralized system enhances energy use transport</p> <p>Endless availability of subsidies</p> <p>That new systems for demonstrating sustainable origin must be set up instead of using existing ones e.g. PEFC & FSC</p>	
<p>Discussion & Nuance</p> <p>Dynamics, approach, scientific evidence, perspectives</p>	<p>Both: it is not a yes/no discussion; find the road to act</p> <p>Dogmatic stance towards the subject</p> <p>They did not openly communicate with the opponents</p> <p>Zoeken naar hoe het wel te doen i.p.v. conflicten op de spits te drijven terwijl 'fossiel' gewoon doorgaat</p> <p>Insufficient effort in: Ensuring sustainability; Information supply to the general public/contributions to the public debate</p> <p>Not explained well enough what this is about</p> <p>Don't distinct the good from the bad</p>	<p>Thanks to this issue Shell is open for discussion</p> <p>To assume industry are the bad guys. We <u>need</u> industry to change the way we generate energy</p> <p>The energy problem of our society requires sensible solutions from all possible sides</p> <p>Not being able to enter, timely, in public debate</p> <p>They did not openly communicate with the opponents</p> <p>Being opponent without sufficient methodological back-up -> <u>emotional</u></p> <p>Made not enough effort to convince EU/Government</p>

	<p>Not everything is bad</p>	<p>Both no yes/no discussion act and find solutions</p> <p>That they will be listened to. Big companies cannot be beaten</p> <p>Forgot about public "feel"</p> <p>We should cooperate with possible solutions</p> <p>They way of communication</p> <p>Lack of providing stronger data</p> <p>Zoeken naar hoe het wel te doen i.p.v. conflicten op de spits te drijven terwijl 'fossiel' gewoon doorgaat</p> <p>A too narrow perspective on the energy discussion "only forests matter"</p> <p>Using a global approach in local problems</p> <p>Dogmatic stance towards the subjects</p> <p>Dit vraagstuk vraagt om nuance. Er is veel duurzaam te winnen + inzetbaar biomassa beschikbaar, om te generaliseren</p> <p>Simple opposition/conclusions drawn in KNAW visiedocument is too simple and doesn't account for nuances & complexities in feed stocks</p> <p>Local variation -> sometimes burning wood is the best you can do with it. No better usages</p> <p>That it cannot contribute at all in the energy sector</p> <p>Selective use of the literature on the pro's and con's of biomass use in coal plants (by co-firing)</p> <p>There will be always a (small) amount of waste only suitable for (co)firing</p> <p>Most opponents have an ideological view against 'cutting trees' and are not informed or ignore the facts</p> <p>They are not really true believers</p>
--	------------------------------	---

		<p>Lack of belief we can make the world a better place</p> <p>Not to consider it at all as a solution (as (as it can be a partial solution) there is no only one solution</p> <p>Het biedt (geringe) mogelijkheden als alternatief voor fossiele brandstoffen</p> <p>In some regional cases co-firing of wood is a good solution</p> <p>There should be some limits. Not all the biofuel and wood should be used as an energy source</p> <p>Lack of pragmatism, the real question is the right order of options</p> <p>Just give it a chance</p> <p>There are some opportunities in the world</p> <p>No to acknowledge that it may have virtues (?) in niche markets</p> <p>They take a stand that is to ideological. You should be careful but not categorically against</p>
<p>Other</p>	<p>Burning of high value products -> better to re-use</p> <p>Not looking beyond wood to other sources of biomass</p> <p>Opponents should make a difference between the final products.</p>	<p>No mistakes</p> <p>No mistake</p> <p>None</p> <p>None</p>