

| Organization                                           | Your name          | Your affiliation | Please write freely in the box below your comments and/or suggestions, in general or any aspect, for the topic "Assessing the Contribution of Products to Avoided GHG Emissions".                                                                                                                                                |
|--------------------------------------------------------|--------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KTH – Royal Institute of Technology, Stockholm, Sweden | Miguel Brandão     | Academia         | Seems fine.                                                                                                                                                                                                                                                                                                                      |
| The Joint Graduate School of Energy and Environment    | Shabbir Gheewala   | Academia         | I think this is a very important venture; but care must be taken to look at the economy-wide effects from a sustainability point of view.                                                                                                                                                                                        |
| Universidad Nacional de Lujan                          | leila schein       | Academia         | it is fundamental to be able to measure avoided emissions from a consequential LCA perspective in terms to internalize externalization of environmental burdens and depict the real "value" of natural resources in order to take better, informed decisions to enhance policy development towards true sustainable development. |
| University of Bordeaux                                 | Guido Sonnemann    | Academia         | Assessing the Contribution of Products to Avoided GHG Emissions is a methodological challenge but a real opportunity for underlining the benefits of new chemical products to mitigate climate change.                                                                                                                           |
| Tuscia University                                      | Giampiero Grossi   | Academia         | I think that it could be a good opportunity to increase the consumers awareness regarding the importance of what they choose in supermarkets, and at the same time it could become a green marketing slogan that producers could use in order to increase sales.                                                                 |
| CIRAIG – Ecole Polytechnique de Montreal               | Hassana Elzein     | Academia         | We should know how the contribution is done and if it really leads to a decrease in the emissions not a shifting of impacts between stages                                                                                                                                                                                       |
| Chalmers University of Technology                      | Holger Wallbaum    | Academia         | We need to validate the potentials of such products in a real-world set-up with user interaction. Many products, unfortunately fail, do not have a long term impact or/and are associated with negative rebound effects, such as high embodied GHG emissions on the production stage.                                            |
| IGIDR AND ISLCA MUMBAI                                 | VINOD KUMAR SHARMA | Academia         | RATHER THAN ASSESSING FULL LIFE CYCLE OF PRODUCTS, IT WOULD BE BETTER TO FOCUS ON THOSE LIFE CYCLE STAGES WHICH CAN ASSESS 75-80% OF THE EMISSIONS OF GHG.                                                                                                                                                                       |
| Chalmers University of Technology                      | Bengt Steen        | Academia         | It is a relevant goal for an LCA on a product system. Such a study requires a reference, where there may be a challenge to find good data.                                                                                                                                                                                       |
| University of Edinburgh                                | Matthew Brander    | Academia         | Consequential methods, e.g. consequential LCA, or baseline-and-credit methods, can be used to quantify the reduction in emissions caused by a change in product production/use.                                                                                                                                                  |

| Organization              | Your name      | Your affiliation | Please write freely in the box below your comments and/or suggestions, in general or any aspect, for the topic "Assessing the Contribution of Products to Avoided GHG Emissions".                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------|----------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -                         | -              | -                | Comparing previous products with current and quantifying 'avoided GHGs' for that is not really helpful to achieve the actual goal for 2 degrees: negative emissions. We have to look forward to achieve negative emissions instead of looking backward and lauding ourselves that we are better than the past. The past is the past, we need the future, and for a sustainable future we need so much more than comparing today's technologies with versions from the past. I also don't see how such analyses help us: they actually tell you that the more you consume from our current product, the more GHGs you avoid, which in reality is simply a lie. |
| Aalborg University        | Bo Weidema     | Academia         | No useful additions compared to ISO 14044. The idea of allocating responsibility (contribution ratio) among the actors in the value chain / life cycle is an additional unnecessary complication. The choice of reference/baseline could be made less open.                                                                                                                                                                                                                                                                                                                                                                                                   |
| SMaRT Eco Consulting Firm | Ik KIM         | Consultancy      | As the circular economy becomes one of the important issues, I think that the production and consumption of products using recycled materials can reduce indirect CO2 emissions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SELF EMPLOYED             | TANNOUS        | Consultancy      | Contributes to improving environmental performance of products                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| -                         | -              | Consultancy      | Avoided GHG emissions through LCA in comparison with a baseline, such as industry benchmark.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Diade design sas          | Luigi Barbiero | Consultancy      | I think it could be a "must" for all product developers and producers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| thinkstep AG              | Martin Baitz   | Consultancy      | The Contribution of Products to Avoided GHGs Emissions – if determined under realistic and harmonized rules – is an opportunity for innovative products, core element of the success and survival of today's society and companies and is therefore a necessity to be fostered by politics in a reproducible and consistent way.                                                                                                                                                                                                                                                                                                                              |
| Ecoe                      | Pia Wiche      | Consultancy      | Haven't tried it yet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Ecoinnovazione srl        | Paolo, MASONI  | Consultancy      | GHG emissions is just one of possible environmental impacts of products. Assessing "Contribution of Products to Avoided GHGs Emissions" is necessary but not sufficient.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PRé Sustainability.com    | Mark Goedkoop  | Consultancy      | I find it a misleading concept, There is no avoidance, when things were first badly designed and later replaced by a less badly designed product. The concept assumes that the old products were the "normal" but the old products caused the problem and this is not "normal". I of course understand companies would like to have a "reward" for their efforts and report this. My worry is that society will feel confused and misled if companies are reporting avoided GHG, and this will only create confusion, which is also not good for the image of industry.                                                                                       |
| Ecoinnovazione srl        | Davide Tonon   | Consultancy      | Products are a big part of the total contribution to the GHG emission. Improving their eco-design can be a challenging but very important action to mitigate their total impact to the environment.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Organization                       | Your name           | Your affiliation | Please write freely in the box below your comments and/or suggestions, in general or any aspect, for the topic "Assessing the Contribution of Products to Avoided GHG Emissions".                                                                                                                                                                                                                                                                   |
|------------------------------------|---------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| treeze Ltd.                        | Rolf Frischknecht   | Consultancy      | Classical comparisons of different product/service alternatives reveal the most climate friendly products/services. The "avoided GHGs emissions" concept opens the door to "creative carbon footprinting" and to arbitrary and misleading information. The "avoided GHGs emissions" concept does not help in monitoring the success of implementing the Paris Agreement, which requires more than 80% reduction of current GHG emissions worldwide. |
| ESU-services                       | Niels Jungbluth     | Consultancy      | I do not believe that selling of new products can avoid emissions. Every production process is associated with certain environmental impacts. In order to reduce environmental impacts to sustainable level the specific emissions need to be reduced and the amount of sold products has to decreased.                                                                                                                                             |
| US Environmental Protection Agency | Wesley Ingwersen    | Government       | 1. Recommend a connection to ISO/TS 14067:2013 and to ISO/TS 14027:2017. 2. Need to address how to handle product categories where PCRs are present and in use in Japan or elsewhere to align with those PCRs. 3. Regarding the baseline, currently these guidelines do not provide strict enough guidance in the establishment of the baselines for a product category.                                                                            |
| Malaysian Palm Oil Board           | Vijaya Subramaniam  | Government       | It is about how products are used to avoid the GHG emissions by displacing some other product.                                                                                                                                                                                                                                                                                                                                                      |
| -                                  | -                   | Government       | It is the good start for industries to try the bigger step of being green.                                                                                                                                                                                                                                                                                                                                                                          |
| MoEF                               | Tri Hendro A. Utomo | Government       | Product with LCA approach can give contribution in production and consumption stage to avoid impact to the environment. One of impact is form GHG.                                                                                                                                                                                                                                                                                                  |
| -                                  | -                   | -                | The guideline is needed to provide stakeholders (government, producers, consumers) with transparent methodology to compare the environmental performances of products. It can improve credibility of the information.                                                                                                                                                                                                                               |
| -                                  | -                   | -                | Challenging with a high risk for greenwashing and double counting of benefits. Moreover the approach might allow to create/communicat high potential avoided burdens for products, which are not even close to what one could call sustainable or which are worse than other comparable products.                                                                                                                                                   |

| Organization                                        | Your name           | Your affiliation | Please write freely in the box below your comments and/or suggestions, in general or any aspect, for the topic "Assessing the Contribution of Products to Avoided GHG Emissions".                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------|---------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Canadian Wood Council                               | Rodney McPhee       | Industry         | <p>It seems that this subject is one 'perspective' that can be taken when conducting consequential LCA's as a basis for declaring comparative assertions. Contextually, in the case of an individual manufacturer, it is seen as somewhat synonymous to the concept of 'tracking reports', which is mentioned, inter alia, within the ISO standards related to footprints (e.g. ISO 14026) and, in particular, ISO/DIS 14067 on Carbon footprint of products. Like any other approach where environmental information is intended to be communicated to the public, the rules for both undertaking such calculations / determinations and then communicating them needs to be consensus based and developed based on common principles. In the case of 'climate change' / 'GWP' as the subject area, it would seem that ISO/DIS 14067 should be taken into consideration, as a minimum. And the most critical element in this exercise is seen as being the 'baseline' that is currently applied within the market, and the rules, including the system boundary, for establishing it's 'GWP/CFP' as a starting point. Some of the complexities in this regards includes the issues of how to address emissions attributable to land use and land use change, the biogenic versus fossil carbon issues, and the effect of delayed emissions due carbon stored in long-life biobased products. The end-of-life stage of the life cycle of the different 'product systems' being compared is also critical in regards to, inter alia, further emissions that can be avoided as the products/materials pass through the waste stream and enter either a reuse, recycle, recovery for energy or landfill disposal final step.</p> |
| radicigroup                                         | filippo servalli    | Industry         | <p>in term of economic value of GHG emission, it's not enough the effort. Today is necessary increase the calculation of environmental cost.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PlasticsEurope                                      | Guy Castelan        | Industry         | <p>Highly important for the industry and particularly chemicals and materials which provide solutions.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Covestro Deutschland AG                             | Birgit Himmelreich  | Industry         | <p>Calculating avoided emissions is important in order to show the contribution of new developments and to find solutions for climate change challenges. We also use this method to find out if new developments will lead to higher emissions and are therefore not worth to follow up.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| -                                                   | -                   | Industry         | <p>good tool for LCA of innovation pipeline and new products; problem: what is the relevant reference you compare with? Savings may not be balanced with emissions in making of the products; each participant in value chain counts benefits for himself, so more than double counting of savings occurs</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Delta Electronics (Thailand) Public Company Limited | Saroj Ruangsakulraj | Industry         | <p>In present, to promote GHG or Energy reduction is not enough to cope with Climate Change. It is the time on Investment for any innovations on Climate Change eq. Design Green Product and Solutions, Enhance Green Minds for People, Promote Green Building, etc.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Organization                                     | Your name        | Your affiliation | Please write freely in the box below your comments and/or suggestions, in general or any aspect, for the topic "Assessing the Contribution of Products to Avoided GHG Emissions".                                                                                                                                                                                                                                                   |
|--------------------------------------------------|------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Swerea SWECAST AB                                | Raul Carlson     | Industry         | Assessment need to cobine 1) life cycle assessment (to ensure that the product enable less resource use and less energy than any alternative service or function.), 2) attractiveness assessment (to ensure that the Product is truly selected by customer) and 3) market share assessment (for the product to replace a worse alternative)                                                                                         |
| -                                                | -                | Industry         | Important to estimate future savings/reductions but challenging and highly dependent on a range of factors such as future sales/growth, energy grids, and suppliers                                                                                                                                                                                                                                                                 |
| Braskem S.A.                                     | Yuki Kabe        | Industry         | It is very useful to assert the contribution of the chemical industry for a low carbon economy and should be used by policy makers to guide the society towards the needed GHG emission reduction                                                                                                                                                                                                                                   |
| Confederation of Finnish Construction Industries | Ari Ilomaki      | Industry         | In construction sector we already have the concept of "Module D" to describe "avoided emissions" (loads and benefits) beyond the system boundary                                                                                                                                                                                                                                                                                    |
| Consumers Federation of Australia                | John Henry       | NGO/NPO          | Some useful insights.                                                                                                                                                                                                                                                                                                                                                                                                               |
| WRAP                                             | Keith James      | NGO/NPO          | The assessment process is easy to follow, some guidance on public claims should be used in conjunction with this.                                                                                                                                                                                                                                                                                                                   |
| SMART Research Institute                         | Joni,Jupesta     | NGO/NPO          | Its possible but quite costly                                                                                                                                                                                                                                                                                                                                                                                                       |
| WRF                                              | Sonia Valdivia   | NGO/NPO          | It is about estimating the opportunities to avoiding GHG when purchasing/consuming products. To me this is relevant for decision makers especially for consumers. The challenge is how to communicate this.                                                                                                                                                                                                                         |
| Consumer Interest Alliance, Inc., Canada         | jennifer Hillard | NGO/NPO          | 2 key issues that will determine whether this can be done successfully: Setting realistic boundaries so that industry is willing to participate. Ensuring accurate communication with all purchasers – it will only take a few misleading claims to loose the confidence of the marketplace                                                                                                                                         |
| -                                                | -                | -                | Many issues impact the credibility of avoided emissions estimates and, for many of these issues, there is little consensus on accounting best practices. This is particularly true when a company moves beyond simple product comparisons to claim that emissions have actually been avoided in the marketplace. Credible accounting approaches will take time to develop, but are sorely needed for many applications and sectors. |
| KIWA CERMET ITALIA                               | Claudio Bruno    | Other            | Future                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Organization                             | Your name   | Your affiliation | Please write freely in the box below your comments and/or suggestions, in general or any aspect, for the topic "Assessing the Contribution of Products to Avoided GHG Emissions". |
|------------------------------------------|-------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Korea Institute of Industrial Technology | Yo-Han CHOI | Other            | Although a single impact factor may have a risk to mislead the audience, some instrument such as CFP may be helpful to customer wanting to find goods with less GHG emission.     |