Mr. Christian Thompson
WWF-UK
Panda House
Weyside Park
Godalming
Surrey
GU7 1XR

Friday 27th May 2005

Dear Mr. Thompson

I am writing to you on behalf of the British Plastics Federation (BPF) in response to the WWF's recently published report "Window of opportunity – the environmental and economic benefits of specifying timber window frames".

It is clear from the title of this report that its aim is to promote the use of timber windows and therefore one would assume that the report would give evidence supporting the environmental and economic benefits of timber windows over alternative materials.

However, rather than offering as claimed, a report, that could be used by a specifier or buyer to help them make an informed decision on which material they should use for their windows, as is claimed in the introduction, the WWF seems to have collected a limited number of reports and selected conflicting pieces of information from them.

There are many problems with this report, so rather than trying to answer them within this letter, I have attached an annex that highlights them page-by-page.

One specific issue I would like to raise however is the reference in the introduction to the LCA Study commissioned by the European Commission and carried out the respected PE Europe Consultancy. This is independent and does not show bias to PVC-U or timber. This study is not referred to again, which is unfortunate because it produced some very positive conclusions. The study concluded that debating the relative benefits of PVC versus timber as materials was an outdated concept and should no longer be considered. Both materials have their positive aspects and their negative aspects, but the difference between them, in terms of environmental performance at least, is minimal. The use phase of the window is highlighted as the most important factor when it comes to environmental performance, and because of this it is the design of the window which is key, not the whether it is made from PVC-U or timber.

We are all striving for a more sustainable future and the PVC industry has embraced this concept more than most with its Vinyl 2010 initiative and is committed to improving the environmental, social and economic sustainability of its products.

We would be grateful for your comments on the issues we have raised in the attached annex.

Yours Sincerely

Adam Bright
Industrial Issues Executive

Cc - Mr. Robert Napier (WWF Chief Executive)

Cc - Mr. Philip K Law (BPF Public & Industrial Affairs Director)

WWF Report:

"Window of Opportunity - The environmental and economic benefits of specifying timber window frames"

Some key points highlighting the inaccuracies with the above report:

Page 3 - Executive Summary / Introduction

- It is claimed that 8 times more energy is needed to manufacture a PVC window than an equivalent timber window.

  This is not true and the claim does not add up when you examine the energy values quoted in table 10 (page 21).

- The PE Europe study is highlighted, but its findings are not referenced again throughout the rest of the report.

  As the most up-to-date and comprehensive study quoted in the document, should its findings not have been examined more closely?

- It is implied that the report is written to aid specifiers and buyers to help them make the right decision, both economically and environmentally, when choosing windows.

  The report contains many contradictory pieces of information that could add to the reader's confusion on this issue, and as the title implies, this document sets out to promote timber over PVC, not giving a balanced view.

- It is stated that there are many examples of research showing timber windows to be between 14-25 percent less expensive than PVC windows.

  However, there are in fact many more examples of research that show PVC windows to be between 20-30 percent less expensive than timber windows. These include the two independent LCA studies carried out by DEFRA and Manchester City Council which you make reference to later in your report (but not when discussing cost estimations).

Page 4 - Basic Information

- The claim that 8 times more energy is need to make a PVC window is identified as coming from a TRADA report.

  Can a report funded by the timber industry be "accepted" as unbiased? No other reference for this erroneous information is given.

- It is claimed that chemicals involved in PVC manufacturing "tend to disperse into the environment" and can inhibit recycling.

  There are European and UK charters in place (which exceed regulatory requirements) to control the release of pollutants during the manufacture of PVC and we would dispute such an un-quantified claim. We would like to see any evidence of your claims that this "dispersion" can inhibit recycling, because it simply is not true.

- The release of dioxins is raised as an issue which only applied to the PVC industry.

  Countless independent have proven time and time again that the PVC industry is an insignificant producer of dioxins and there are many who view the timber industry as having a greater problem with dioxin release.

Page 6 - Size of market

- It is claimed that just over 80% of timber used for windows is from an "FSC / sustainable" source (Rigby / BWF report).

  Bearing in mind the findings of the Government's Sustainable Construction Task group that only 3% of the timber used on timber framed buildings in the UK is FSC / sustainable, are we to believe that the window industry has a high level of responsibility.

Page 8 - State of resources

- It is stated that over 94% of the timber windows installed in the UK use timber imported from Scandinavia.

  Have the environmental implications of such long transport distances and the impacts on social sustainability in the UK been taken into account?

- The references to Government commitments to reduce our reliance on fossil fuels relate to the use of fossil fuels for transport, power generation and heating (which together consume approximately 90% of the oil used).

  The amount of oil used for the production of PVC windows in the UK could be saved if every car in the UK reduced its mileage by 1 mile per week. Only 4% of the annual world oil consumption is used as a feedstock for the production of all polymers.

Page 12 - Cost of Windows

- Tables 2 and 3 contradict each other on both the lifespan and cost of PVC and timber windows.

  Do timber windows have a 60 or 30 year lifespan? Does PVC last 20 or 25 years? Does a new timber window cost £500 or £300?

- How have the maintenance figures in table 2 been arrived at?

  Assuming a painting cycle of 5 years, can a total of 11 paint applications really only amount to an increase in maintenance costs of £300.

Page 14 - Maintenance and Repair

- It is noted that some timber windows have finish guarantees of 10 years and 30 year rot guarantees and there seems to be an appetite to believe any claims made the timber industry (via TRADA) on lifespan as chapter and verse.

  PVC windows have had 10 year guarantees for many years and will never rot. Why are no independent endorsements of the lifespan of timber windows offered, and why are the views of the PVC industry on the lifespan of their products not considered or reported (as they so readily are from the timber industry)?

- The BPF claims that PVC windows only need an occasional wash and wipe have been proven as unrealistic.

  We would be interested to know the specifics of these claims and when and by whom they have been proven unrealistic.

- PVC windows are disposed of after 18 years on average (Rigby report).

  This is due to changes in fashion, mis-specified windows and upgrades from single to double-glazed, not due to failure of the windows. This trend has been mirror in other European countries, but as in the UK, very, very few windows are replaced because they have reached the end of their useful life.

- Camden Councils claims that PVC windows are extremely difficult to repair.

  The majority of everyday damage to a PVC window can easily be repaired (including cracks and small holes in the profile) by a professional and only severe damage would result in a replacement being necessary.

  We have in fact been in contact with Mr. Chit Chong at Camden Council regarding this issue and we are waiting for him to arrange some sites visits with his maintenance team so that we can discuss their specific repair issues and advise them on the best course of action.

- Camden Council notes that a lot of repairs are needed as a result of vandalism.

  Windows made from any material type are susceptible to vandalism and all can be quite easily damaged beyond repair. Why are PVC windows highlighted as a special case? Are timber windows never vandalised?

- It is claimed that PVC turns yellow and goes brittle and cracks can form after exposure to sunlight. This claim is backed up by the BRE.

  Modern PVC windows do not experience these problems. We would like to see the BRE's evidence of this and also the corresponding evidence on the performance of timber windows (does the necessity for regular repainting not prove the low-durability of timber windows and the paint systems used to protect them?).

- It is indicated that the new generation of water-borne exterior wood coatings now available are potentially extremely durable.

  There is no mention however, on page 12 (Cost of windows) that the windows referred to in the cost estimates use these "new generation" coatings. The studies you referrer to in this section appear to be rather outdated (e.g. National Housing Federation and Carlisle City Council, 1998).

- You rightly highlight low VOC emissions as an important factor.

  Have the VOC emissions from trees whilst they are growing and the environmental impacts of these been taken into account. It is an important factor that needs to be considered.

Page 15 - Performance

- Table 4 claims that timber is more recyclable than PVC and is not hazardous when disposed of.

  This contradicts the recent WRAP study (http://www.wrap.org.uk/templates/temp_publication.rm?id=698&publication=657) that underlined the major difficulties with recycling timber windows, which can often be classed as hazardous waste because of the paints and preservatives that are needed to protect the timber (PVC windows are never classed as hazardous).

- Table 4 also gives PVC and timber the same rating for maintenance.

  Significantly more effort and cost is needed to maintain timber windows, but this does not seem to be borne out in the maintenance costs attributed to the two material types.

- Table 5 compared the thermal performance of PVC and timber windows.

  There is no mention that the glass used is the key issue affecting thermal performance, indeed why are single-glazed windows mentioned, when there are very limited applications (i.e. listed buildings) for them in situations where thermal performance is a consideration. And why are such high U-values stated for double-glazed windows, bearing in mind the Building Regulations requirement that all timber and PVC-U windows have a U-value of 2.0 or better? (http://www.odpm.gov.uk/stellent/groups/odpm_buildreg/documents/graphic/odpm_breg_029577-4.gif).

Page 16 - Waste

- The growth of the PVC window market is used to quantify the PVC waste issue.

How can a sales graph be used to highlight the size the “issue”, when the vast majority of those windows are still in use and will be for many, many years to come?

- The recycling of production waste is not considered for PVC and references are only made to “post-consumer” waste recycling.

  There is no mention of the 90% of factory waste / offcuts that are recycled.

- References are made to the fact that PVC does not degrade in landfill.

  PVC windows help to stabilise landfill sites (simply because they do not degrade), they do not contribute to the evolution of Methane gas (a far more powerful green house gas than Carbon Dioxide) and they do not contribute to groundwater pollution.

- The report claims that there is no “safe” disposal route for PVC windows.

  It has been proven beyond doubt that PVC windows can be readily recycled and it is technologically possible to treat and use even the most contaminated waste. As with any other recycling initiatives, the lack of available post-consumer windows and the difficulty in collecting the windows that are available is the problem, not the recyclability of the PVC.

  The report also mentions incineration, which when carried out with energy from waste technology is a very favourable means of disposing PVC products (as many independent studies have concluded).

Page 18 - Waste

- Claims are made about the recycling of timber window production waste into low grade products.

  PVC production waste can put back into new windows, not downgraded.

- The report highlights that the manufacturing process for timber windows is only 50% resource efficient.

  Is such an inefficient manufacturing process sustainable?

- The report also highlights the lack of data on waste timber volumes and recycling levels.

If you do not know the figures, how can you claim such a high level of recycling / reuse as is stated in table 8 on page 19?

- It is claimed that waste timber represents a huge potential resources.

  This might be true for a few applications of uncontaminated timber, but it certainly does not apply to the waste from timber windows. Bearing in mind the hazardous paints coating them and the inevitable degradation of the timber itself, landfill is commonly the only solution and reuse/recycling is impossible in the majority of cases.

- Emissions problems are highlighted when PVC is incinerated.

  Many independent studies have concluded that PVC does not increase the dioxin problem in a modern energy-from-waste incinerator. Timber also gives off dioxins when burnt and on bonfire night alone, more dioxins are release than are produced by an average PVC manufacturing plant over the course of a year.

- Why are the WWF only calling for hazardous man-made chemicals to be properly regulated? Should hazardous natural chemicals not be regulated also?

  Timber contains natural carcinogens and there are many cases of workers in the timber trade contracting cancer as a result of exposure to sawdust. In fact, the timber trade is a far more hazardous industry to work in than the chemical industry.

Page 20-24 - LCA studies

- The impression is given that degradation in landfill is a good thing because timber degrades and PVC does not.

  Do you really believe that there are no issues with the degradation of timber in landfill? The generation on Methane for instance, which is a far more powerful green house gas than Carbon Dioxide, is contributed to by the degradation of timber products in landfill.

- Tables 9, 10 and 11 show comparisons of environmental impacts from a number of different studies.

  Reviewing these tables highlights how small the differences can be between the environmental impacts of timber and PVC.

- You refer to an FAO study carried out in 2003.

This study is actually based on a 1996 report by Richter, Künninger and Brunner on the ecological comparison of window frames. We would consider this report to be extremely outdated and of limited relevance to the manufacturing and performance of both timber and PVC windows today.

- Much of the data referred to on these pages relates to the manufacture of PVC.

  This needs to be balanced against the lower environmental impact of PVC over its lifespan.

- There is no reference to the findings of the European Commission study carried out by PE Europe.

  This study looked at many more than three LCA studies and concluded that the material used was not important when considering environmental impact. The key factor influencing environmental impact is the performance of the product over its lifespan, in which case the design and maintenance of the windows become the key issues to focus on.

Page 25 - Conclusions

- All of the conclusions damn PVC and praise timber, offering it as the only option.

  The scientific evidence simply does not back-up this view or many of the "conclusions" reached. They imply that there is a real and significant difference between the environmental impact of timber and PVC, which simply is not the case.