

Reaction on the 10 points of criticism from MIPIGGs

General:

The MIPIGGs comments suggest that IPCC has failed to focus its assessment on producing recommendations to eliminate HFCs and implicitly allows HFC use to grow significantly.

response: IPCC is never making recommendations, but lays out the options based on a thorough assessment of available information and an extensive review process in two rounds, with several hundreds of experts and governments contributing. It provides the basis for informed decision-making.

Specific comments:

1. *This report is a huge missed opportunity that will probably make climate change worse not better because it will lead governments to allow HFC emissions to increase vastly, when they could be largely eliminated.*

response: The IPCC/TEAP Report assesses, based on available literature, a range of options to reduce or prevent emissions of HFCs. One of the options is eliminating the use of HFCs and replacing them with other gases or not-in-kind technologies. Other options include improved containment, reduced refrigerant charge and better recovery, recycling and destruction.

2. *By mixing up HFCs, CFCs and HCFCs in its discussion and diagrams the Executive Summary will confuse many politicians and officials who often don't appreciate the differences, and disguises the fact that HFCs are an emerging, growing problem while the other gases are already in industrial decline. The HFC threat is being cloaked in the ODS agenda.*

response: The Summary for Policy Makers presents aggregated information on all halocarbons, because they contribute to ozone depletion and climate change. It points for instance to the emissions of CFCs from existing equipment that are not controlled by the Montreal Protocol. However, the report clearly specifies the findings for HFCs separately from CFCs and HCFCs. It does so for emissions under a Business-as-Usual (BaU) scenario (threefold increase of HFC emissions between 2002 and 2015), as well as for the reduction potential under the chosen Mitigation scenario (60% reduction of HFC emissions compared to BaU by 2015, or residual HFC emissions by 2015 slightly above 2002 emissions).

3. *It hugely and consistently underplays the scope for avoiding and reducing HFCs through NIK (Not In Kind) alternatives. This is despite the fact that in the original decision to commission the study in 2003 the IPCC said it was responding to 'The need for a scientific/technical, policy neutral, comprehensive and user-friendly and complete information package'*

response: The estimated potential for reducing HFC emissions in the Mitigation scenario is based on published literature and data from the various chapters (assumptions are clearly spelled out in the report). The report also contains information on additional options to reduce HFC emissions, which go beyond the assumptions in the Mitigation scenario.

4. *It fails to set out clear policy options for decision makers*

Response: In a Summary for Policymakers it is not possible to lay out all options for the various sectors and applications. The report itself, in the various chapters and the Technical Summary, does discuss all available options in much more detail.

5. *Given that HFCs are, as it notes, increasing at 13 - 15% (or more) a year in the atmosphere, its reliance on supposed success in containment in reducing future HFC emissions is pie in the sky optimism, not borne out by experience. In reality containment is a failed policy.*

response: The increase of HFC concentrations in the atmosphere (13-17% per year in the period 2001-2003) is a result of sharply increased use of HFCs as a result of the phase-out of CFCs and HCFCs under the Montreal Protocol, while Kyoto Protocol controls have not yet been implemented. Published literature documents improvement in containment of equipment operating on halocarbons. Further reduction of leakage from equipment has been shown to be possible. An important source of HFC emissions is the release during servicing and disposal. While some countries have implemented specific regulations regarding recovery, recycling and destruction, the report documents possible options for improvement.

6. *On p2 it says the 2015 threshold used throughout the report is chosen because "reliable literature on replacement options" exists up to but not after that time. This makes no sense in a report designed to protect climate, as there are already proven NIK technologies for almost every HFC use, so there's no scientific or technical excuse for assuming that HFCs have to be used in the 2005 - 2015 period. It compounds this error by saying that it ignores SRES scenarios showing increasing HFC emissions (on BaU) after 2015 despite their showing 'significant growth'. This is an historic mistake because it will mislead politicians into thinking that HFCs are not a serious threat.*

response: The 2015 time horizon was chosen in view of the limited availability of reliable literature on the implementation of replacement options in these dynamic markets. For the period up to 2015 the report shows many opportunities to eliminate HFC emissions (by 2015 60% of Business-as-Usual emissions could be avoided). The report does refer to the (Business as Usual) HFC emission projections according to the IPCC SRES scenarios that show a significant increase in HFC emissions beyond 2015", but the report notes that these projections are likely to be very uncertain due to growing uncertainties in technological practices and policies."

7. *In its BaU scenario it foresees a threefold increase in the large emissions of HFCs from refrigeration but this could be avoided by use of NIK such as NH3 and HC or CO2 or in some cases water systems.*

response: The report describes opportunities in the refrigeration sector to reduce emissions (almost 60% of BaU HFC emissions). The report does lay out the options to replace HFCs with ammonia, hydrocarbons or CO₂, and notes the market limitations in view of toxicity, safety and costs. These options contribute to the emission reduction potential by the year 2015. It is important to note that the phase-in of alternatives is directly related to the lifetime of the existing equipment, which is often much longer than 10 years. This implies that, after 2015, larger reductions may be possible in the Mitigation scenario compared to BaU..

8. *Its section 4 on options to reduce use and emissions of F-gases is seriously inadequate and its greatest weakness. Government reviewers should have picked this up as it contains elementary*

errors. For example its description of NIK technologies is relegated to a footnote (17) and even then, focuses on the minor replacement uses of MDIs, deodorant aerosols and foam/mineral wool insulation (largely done in the UK for example), and completely fails to mention the massive potential to use HC, CO2 or NH3 to avoid F-gases in refrigeration or air conditioning. This section reads like a policy text from the F-gas industry. Containment is put first as an option and NIK last. Three of the five options all involve continued use of F-gases.

Response: The report makes a distinction between replacement of refrigerants/blowing agents, i.e. replacing HFCs with ammonia, hydrocarbons, CO2 or other non-greenhouse gas alternatives, and “not-in-kind technologies” (achieving the same objective without the uses of halocarbons or replacements, such as when moving from spray pump deodorants to deodorant sticks or the replacement of insulating foam with mineral wool). Both the replacement of HFCs by non-GHG gases as well as by NIK technologies are assessed in the report.

9. *On page 12 S4 it says there are 'relatively few transparent comparisons' of alternatives - what about the massive German EPA study showing scope for replacement of HFCs, sector by sector? The Danish Government (for one) has also done extensive research into the viability of alternatives which is how it was able to come up with its phase out programmes. What works in Austria, Germany, Denmark or Switzerland can work in the US, UK or France*

response: The Special Report refers to the same studies as summarised in the German study. This study contains limited cost data, and presents few comprehensive comparisons of options in terms of contribution to global warming.

10. *The whole report mixes data based on the objective scientific appraisal of the impact of emissions with data based on wholly political assumptions about technology choices and market development. The picture created is spurious. These are not technical questions but the result of politics and the influence of the f-gas industry on politics and policy. As a result the report is a prescription for un-necessary continued HFC pollution, storing up a completely avoidable addition to climate change*

response: The report uses a Mitigation scenario to evaluate reduction potential. The assumptions for this scenario reflect the different circumstances that exist in various regions of the world. For example, there are differences between Europe and the USA in terms of acceptance of hydrocarbon refrigerants and there are differences between industrialised and developing countries in terms of penetration of new technologies and end-of-life recovery and destruction. The report does present options that are not included in the Mitigation scenario, for example additional replacement of halocarbon refrigerants with ammonia, hydrocarbons or CO2 in commercial refrigeration, and the replacement of HFC based Metered Dose Inhalers (for asthma treatment) with Dry Powder Inhalers.