

# The Impact of the Castles-Henderson Critique on the IPCC

Ray Evans, Secretary, The Lavoisier Group, 22 February, 2004

The documents which follow describe the bizarre story of a lavishly funded international organisation, the Intergovernmental Panel on Climate Change (IPCC) trying to ward off criticism by two retired civil servants, Ian Castles AO, formerly Australian Statistician, and David Henderson CBE, formerly Director of the OECD's Economic Research Department.

In early December 2003, the 9th Conference of the Parties to the Framework Convention on Climate Change (COP 9) was held in Milan. It was under the aegis of the FCCC that the Kyoto Protocol was drafted and presented for signature and eventual ratification in Kyoto in December 1997. The IPCC, now chaired by Dr R K Pachauri of India, is the body responsible for advising the parties to the FCCC on climate change, and it is the IPCC which has, over nearly 20 years, steadily increased its so-called "projections" of the magnitude of global temperature increases and greenhouse gas emissions. These are widely but erroneously supposed to be predictions, and the IPCC does nothing to dispel the confusion surrounding them.

About two years ago Ian Castles became interested in the statistical techniques which had been used by the IPCC to predict the course of CO<sub>2</sub> emissions for the next century and he was later joined by David Henderson who was curious to find out why the IPCC's procedures had imparted an upward bias to the projections of output and emissions of developing countries.

These two economists have shown that the calculations carried out by the IPCC concerning per capita income, economic growth and greenhouse gas emissions in different regions are fundamentally flawed, and substantially overstate the likely growth in developing countries. The results are therefore unsuitable as a starting point for the next IPCC assessment report, which is due to be published in 2007. Unfortunately, this is precisely how the IPCC now intends to use its emissions projections.

On December 8, 2003, at the Milan COP9, Dr Pachauri released a press statement which criticised the arguments which Castles and Henderson have been making in this debate. The statement claimed that Mr. Castles is a member of the Lavoisier Group (which is untrue), and that this is **"a group founded in Australia, whose sole mission is to oppose anything that aims to protect the environment"** (which is untrue, ridiculous, and clearly intended to denigrate Ian Castles).

This particular sentence was omitted from the version of the press statement which was placed on the IPCC's website. Perhaps Dr Pachauri had advice as to the vulnerability of the IPCC to legal action if the sentence had been included.

On 7 February 2004, the *Australian Financial Review* published an article by Ian Castles which described the state of the debate with the IPCC and on 8 February, Castles circulated by email a copy of the *AFR* article plus some additional notes.

In what follows, all of these documents are set out in chronological order for the edification of those concerned about the way in which the IPCC behaves when its procedures and behaviour are questioned.

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## IPCC Press Statement of 8 December 2003

[Lavoisier Editor's Note: In the following 'Press Information', **Red type** marks words in the press release handed out in Milan but not included in the Website version. **Green type** marks words that were in the Web version but not in the Press Release.]

Milan, 8 December 2003

### PRESS INFORMATION

The IPCC is an intergovernmental body that assesses all aspects of climate change. It mobilises the best experts from all over the world, who work diligently in bringing out the various reports of this body on a regular basis. The Third Assessment Report (TAR) of the IPCC was released in 2001 through the collective efforts of around 2000 experts from a diverse range of countries and disciplines. All of IPCC's reports go through a careful two stage review process by governments and experts and acceptance by the member governments composing the Panel.

The IPCC has currently embarked on the production of its Fourth Assessment Report (AR4). The global community needs to know that rigorous preparations have been undertaken for structuring the AR4. Two intensive scoping meetings were held in April at Marrakesh and in September in Potsdam respectively to prepare the intellectual underpinnings of various components of the AR4. Over 130 experts participated in the first scoping meeting for three full days and over 150 participants in the second meeting for four days. Collectively, this represented over a thousand person days of teamwork, to which must be added the extremely useful inputs provided by governments and other organisations, involved in this exercise. The outlines developed during the scoping process were adopted by governments at the recent plenary session of the Panel in Vienna, in November this year.

In recent months some disinformation has been spread questioning the scenarios used by the IPCC as developed in its Special Report on Emissions Scenarios 2000 (SRES). Like all reports published by the IPCC, this publication was based on an assessment of peer reviewed literature available at the time of the preparation of the report and subject to the review and acceptance procedures followed by the IPCC. As the work of the IPCC proceeds further any new literature that becomes available in this field will be assessed.

Criticism of IPCC's work has been mounted by so called "two independent commentators" Ian Castles and David Henderson (referred to in subsequent paragraphs as C&H). **Mr Ian Castles is a member of the Lavoisier Group, a group founded in Australia, whose sole mission is to oppose anything that aims to protect the environment.**

Arguments of C&H allege that scenarios used by the IPCC are based on a method of income-gap closure, using Market Exchange Rates (MEX) rather than purchasing power

parity (PPP), leading to unrealistically high economic growth rate assumptions for developing countries. This is factually incorrect. Economic growth rate assumptions were carefully chosen in line with historic data. In translating economic growth into greenhouse gas emissions, PPP was taken into account in the various models that were used. Income projections were expressed in both MEX as well as PPP terms by one of the participating models (IIASA's MESSAGE model). The fact that other model results were expressed mostly in MEX terms reflects the complexities of MEX vs PPP conversions in longer-term projections. It might be recalled that organizations such as The World Bank and the US Energy Information Administration use MEX for their projections. Another point to make is that, over a long period of time as poorer countries increase their incomes, PPP and MEX based income data tend to converge. In the IPCC-SRES scenarios exercise (over a 100 year period) it would not matter much what unit is used. Even more important is the point that the economy does not change by using a different metrics (PPP or MEX), in the same way that the temperature does not change if you switch from degrees Celsius to Fahrenheit.

More recently, in the wake of C&H's unfounded criticism, some further detailed model runs have been carried out by Alan Manne of Stanford University and R. Richels of the Electric Power Research Institute. Their results show very minor differences with PPP in comparison with the use of MEX. The claim of C&H, therefore, that there is an upward bias in the SRES scenarios is totally unfounded.

The criticism voiced by C&H that the scenarios produced in the SRES imply "historically implausible" growth rates in developing countries was obviously put forward in haste. This even contradicts a comment by Ian Castles posted on a website called "Online Opinion" in July 2001 stating that "of the developing world's 4.8 billion people, 2/3rd live in countries that have attained faster growth rates in GDP per head than the United States since 1973". He further states that "growth has been accelerating in the most populous developing countries". More recently C&H in a paper published in the journal Energy and Environment have accepted that a higher growth in per capita income in poorer countries when compared to countries with higher levels of affluence, are both "plausible and well attested in economic history".

C&H equate economic growth to proportionate increase in emissions of GHGs, since the world in their view seems determined by statistical regressions. They completely ignore the fact that higher economic growth generally results in higher R&D, more rapid capital turnover, higher resource use efficiency including energy efficiency and higher preference for pollution controls, all of which could lead to reduction in GHGs emissions. Have C&H looked at the trajectory of China's emissions in the last 20 years? Has China's rapid growth not been accompanied by impressive improvements in energy efficiency and carbon intensity? Have they ever considered that lower GDP growth rates may actually lead to higher GHGs emissions in the absence of climate policy? There is absolutely no reason to believe that, in the longer term, lower economic development would, all other things being equal, result in lower emissions.

IPCC Secretariat

## Climate Work Based on Unsound Economics

Ian Castles

*Australian Financial Review*, 7 February 2004

The Intergovernmental Panel on Climate Change presents itself as the authoritative international source of advice to policymakers and researchers on all aspects of climate change. Unfortunately, however, its huge influence in the debate over the Kyoto Protocol and wider climate change issues is matched only by its implacable resistance to the possibility of error in its widely publicised reports.

I speak from personal experience. In July 2002 the IPCC's newly elected chairman, Rajendra Pachauri, visited Australia and met leading policymakers and climate change scientists. At a meeting in Canberra, I was given the opportunity to explain to him the criticisms I had made of the IPCC's economic and statistical work.

These criticisms focused on the Panel's *Special Report on Emissions Scenarios*. I argued that the 40 scenarios were unsound in that they converted national GDP data to a common measure using market exchange rates, rather than the purchasing power parity rates now favoured by expert opinion. Because of this and built-in assumptions about the extent to which the gap between rich and poor countries may be closed during the twenty-first century, projections of output are improbably high. This is true even of the scenarios that give the lowest figures for projected cumulative emissions of greenhouse gases for the century. Hence the SRES projections do not, as is claimed, encompass the full range of future uncertainties.

Pachauri invited me to write to him about my concerns. In my first letter I drew his attention to a number of errors in IPCC reports, some of which could be attributed to the Panel's uncritical acceptance of statements in reports by United Nations agencies and the World Bank. I noted the Australian Treasury had published a detailed critique of the Bank's analysis, and had cited some of its statements as "material errors in the use of statistics". In a later letter I pointed to the faulty analysis of greenhouse issues in the World Bank's *World Development Report 2003* as an example of the pernicious consequences of using exchange-rate-converted GDP comparisons in the analysis of real phenomena.

After receiving an initial response from Pachauri assuring me that my criticisms were being taken seriously and had been drawn to the attention of all members of the IPCC Bureau, Professor David Henderson, a former head of the economics and statistics department at the Organisation for Economic Cooperation and Development, also wrote to the IPCC Chairman to support my criticisms and to extend my arguments.

At its meeting in Geneva in December 2002, the IPCC Bureau recommended that I and/or David Henderson be invited to discuss the full implications of our criticisms with SRES experts at a meeting in Amsterdam in early January. Following Pachauri's

assurance that “the IPCC as a scientifically objective and transparent organization will go into the issues raised by you with all seriousness”, Henderson and I accepted. The discussions proved to be useful from our standpoint, but did not advance the public debate because the IPCC was unwilling to offer any substantive response, nor even to release a record of the proceedings.

David Henderson and I therefore decided to open up the debate by sending out via the Internet a “swag” of documents, including our letters to Pachauri and the texts of our presentations to the IPCC meeting.

Following an unsolicited proposal from the editor of the UK-based journal *Energy & Environment*, we agreed to the publication of our documents in that journal. At our request, the editor invited Pachauri to arrange for a response to our critique. In the event, 15 of the SRES authors published a dismissive response in the same issue.

The SRES team claimed the reporting of economic development in terms of market exchange rates “continues to be state-of-the-art practice of all organisations preparing long-term economic, energy or emissions scenarios”, including the Paris-based International Energy Agency. Surprisingly, none of the authors knew that the IEA no longer reports exchange rate-based GDP data in its flagship publication *World Energy Outlook*, which it claims has long been recognised as “the authoritative source for projections of global trends in energy supply and ... carbon dioxide emissions”.

In a further article in the succeeding issue of *Energy & Environment*, Henderson and I argued there was an urgent need to review the SRES procedures for measuring the cross-country growth of output and, more generally, to bring a wider range of professional expertise to bear on the economic work of the IPCC as a whole.

Our call was taken up by *The Economist*, which reviewed the debate about the emissions scenarios and pointed to the IPCC’s “dangerous economic incompetence”. Regrettably, the Panel has ignored these calls; it decided in November 2003 that the scenarios in the SRES provided “a credible and sound set of projections, suitable for use in the next assessment report”.

More recently, the IPCC has released a press statement on the state of preparations for its Fourth Assessment Report, to be published in 2007. Its main purpose is to dismiss our critique. The Panel describes us as “so called independent commentators” and charges us with spreading “disinformation”.

The statement is embarrassing in its naivete. For example, it argues that “the economy does not change by using a different metrics (*sic*), ... in the same way that the temperature does not change if you switch from degrees Celsius to Fahrenheit”. This implies that reported regional and global growth rates are independent of the measuring rod used to convert national GDPs into a common currency. But there is ample evidence, including in the SRES itself and the SRES authors’ responses, that this is not the case.



In its press statement of December 8 2003, the IPCC cited the fact that the World Bank uses exchange rate-based GDP in its projections in support of its own approach. But my letters to Pachauri in August 2002, written at his invitation, had recognised that the Bank had sometimes used this discredited method—and had explained why some of the Bank’s analyses had been flawed as a result.

The more important point is that, as an institution, the World Bank has taken a leading role in the development of the internationally recognised *System of National Accounts*, which explicitly proscribes the use of exchange-rate-converted data to measure relative output volumes. The Bank is also the coordinating body for the International Comparison Program, and has emphasised to the United Nations Statistical Commission that the Program is an integral part of the *System of National Accounts*. Without the real output comparisons produced by the ICP over the past thirty years, there would be no sound basis for making long-term projections of the global economy within a national accounting framework.

Henderson and I have outlined the reasons why the economic dimension of the IPCC process should be reviewed and strengthened. Whatever the mechanisms governments may decide upon for this purpose, it is vital that such a review be completed before thousands of scientists and other experts begin their work on the next assessment report. If the Panel persists with its unprofessional approach to economic and statistical issues, it will do grave damage to the credibility of other aspects of its work.

## Letter from Ian Castles, AO

7 February 2004

Dear Colleagues,

In August 2002, I wrote to Dr. R K Pachauri, Chairman of the IPCC, to raise concerns about the Panel's "Special Report on Emissions Scenarios" (SRES) and the economic and statistical content of other IPCC reports. I sent copies of my letter to many colleagues in the international statistical community, government agencies and universities who had been following my ongoing correspondence about the use and abuse of economic statistics in reports by UN agencies and the World Bank. Subsequently some climate change scientists and officials who are involved in climate change issues asked to be added to the list of those who receive my messages. Thus this message is being circulated to a somewhat larger group than my initial letter to Dr. Pachauri. I apologise to any recipients to whom it is of no interest.

My purposes in writing now are to

- (a) send the text of an article in *Australian Financial Review* of 7 Feb 2004, in which I give a brief account of developments in the debate that began with my letter to Dr. Pachauri 18 months ago (click here for: [AFR article](#));
- (b) provide the link to the IPCC's recent press statement referred to in the article (it is available at <http://www.ipcc.ch/press/pr08122003.htm>);
- (c) comment on aspects of the IPCC press statement (click here for: [Comments](#));
- (d) offer some personal views on the relationship of the debate about the emissions scenarios to the wider debates about the science and the politics of climate change; and
- (e) provide links, for those who may be interested in the details of the controversy, to the other documents referred to in my *AFR* article (see under "[References](#)" below).

### Emissions Scenarios and the Science and Politics of Climate Change

On 10 December 2003, two days after the press conference at which he released the IPCC press statement saying, in effect, that there was no conflict between policies to mitigate climate change and economic development (see Comment), Dr. Pachauri said in his address to the UNFCCC conference in Milan:

Overall, climate change is expected to negatively impact development, sustainability and equity. As it happens, the impacts of climate change will fall disproportionately on developing countries and the poor persons within all countries. This is likely to accentuate inequities in health status and access to adequate food, clean water and



other resources. The increased exposures of populations in developing countries to relatively high risks of adverse impacts from climate change and their low capacity to adapt combine to make populations in developing countries generally more vulnerable than populations in developed countries.

These claims may be supported by statements in IPCC reports, but they are misleading in that there is an implied assumption that the future capacity to adapt of developing countries will be less than the present capacity to adapt of rich countries. The contrary is likely to be true.

A “scenario”, according to the SRES, is “A plausible description of how the future may develop, based on a coherent and internally consistent set of assumptions ... about key relationships and driving forces ...” (p. 594). In their response to Castles & Henderson, the SRES Team give an example to illustrate the need to maintain coherence and internal inconsistency:

“Mr Castles and Mr Henderson obviously consider scenarios of a long term closure of the North South-income gap highly unlikely, and many (including a larger part of the SRES authors) would agree with them. But does this make it illegitimate to explore in a “what if ... then” scenario exercise the implications in terms of GHG emissions if indeed such development were to take place? ... The answer is obviously that such scenarios need to be considered ... The special value of the criticized A1 and B1 scenarios resides precisely in the insight that such an income gap closure might not necessarily be associated with extremely high GHG emissions but could also unfold even in the absence of climate policies with comparatively low emissions” (vol. 14, nos. 2-3, p. 196).

Of course it was not illegitimate to explore in the SRES the implications of developments that “a larger part of the SRES authors” thought to be highly unlikely. But it IS illegitimate to use these unlikely scenarios to project increases in temperatures; then to treat these projections as FORECASTS of increases in temperatures; and then to examine the implications that would have followed from those improbable increases in temperatures if the huge increases in average incomes assumed in the projections had not occurred. This is precisely what Dr. Pachauri did in his speech at the UNFCCC, and what IPCC Working Groups II and III repeatedly did in their respective contributions to the Third Assessment Report (TAR).

It is possible that scenarios will be used in a more consistent fashion in the AR4 than in the TAR, but the conclusions will still be flawed as a result of the IPCC’s decision to persist with the unsound SRES scenarios in its next assessment report.

The world has been seriously misled as a result of the IPCC’s temperature projections being treated as if they were forecasts, without regard to the assumptions underlying the emissions projections upon which the temperature ranges were based. For a particularly blatant example, see the summary of the WHO’s publication (in collaboration with the IPCC’s parents, the WMO and the IPCC) “Climate Change and

Human Health: Risks and Responses” (2003), which is available at <http://www.who.int/globalchange/climate/summary/en/>

Note, in particular, the label “IPCC (2001) FORECAST” (EMPHASIS added) in Figure 1.1; the description “21st century: very rapid rise” within the yellow block on the same Figure; the statement immediately under the Figure that “The IPCC (2001) has ESTIMATED that the global temperature WILL rise by several degrees centigrade this century” (EMPHASES added); and the statement in the text preceding the figure that “Climatologists FORECAST further warming ...” (EMPHASIS added).

Now contrast the 21st century segment of Figure 1.1 in the WHO publication with the corresponding segment of Figure 16 at the end of the World Meteorological Day Address 2003 by Dr. John Zillman, Australia’s Director of Meteorology from 1978-2003 and President of the World Meteorological Organization from 1995-2003. This address is available at [http://www.bom.gov.au/announcements/media\\_releases/ho/20030320a.shtml](http://www.bom.gov.au/announcements/media_releases/ho/20030320a.shtml)

In the text of his address, Dr. Zillman said that “In the IPCC community, ‘climate change’ means change on all time-scales, irrespective of the cause, and it thus includes both natural variability and any change that may result from human interference with the working of the climate system”; and that his chart “presents a number of possibilities for the twenty-first century ranging from substantial greenhouse warming on top of a naturally occurring warming trend to a future with only limited greenhouse warming offset by strong natural cooling which dominates the temperature trend through the second half of the century.”

The range that the WHO Figure describes as an IPCC forecast is not a forecast at all. It is the IPCC’s PROJECTION of the change in mean global temperature which would be attributable to anthropogenic causes if the modelled assumptions about climate forcing are valid and the projections of the driving factors influencing human-induced forcing are realised. To point this out is not to split hairs: the lower limit of the “band of uncertainty” that the WHO wrongly labels an IPCC forecast is well above the (negative) change at the lower end of the range of “possibilities” in Dr. Zillman’s schematic chart.

Attention should also be drawn to the following sentence in section 1 of the WHO publication:

“During the twentieth century, world average temperature increased by approximately 0.6 deg. C, and approximately two-thirds of that warming occurred since 1975”.

This is the IPCC’s estimate from the instrumental record. But it is misleading to quote it without noting that, according to the same section of the WG I report, FIVE-SIXTHS of the increase of 0.6 deg. C in the twentieth century is estimated to have occurred between 1910 and 1945. The mean temperature is estimated to have DECREASED between 1945 and 1975. The WHO text gives the false impression that there was an

exceptional surge in the last quarter of the century. With the additional information, it becomes clear that there is not a close match between the growth of GHG emissions and in estimated global mean temperatures.

Finally, note the last two sentences in section 5 of the WHO publication:

“Focusing attention on extreme events may also help countries to develop better means of dealing with the longer-term impacts of global climate change, although this capacity may itself DECLINE because of cumulative climate change. For example, increased food imports might prevent hunger and disease during occasional drought, but poor, food-insecure, countries may be UNABLE TO AFFORD such measures indefinitely in response to gradual year-by-year drying” (EMPHASES added).

These generalisations are grossly misleading, because the WHO focuses on the impact of changes in climate that (given other assumptions) would only occur in circumstances where average incomes and adaptive capacity would have greatly increased—but then asserts that this capacity may decline because of cumulative climate change. It is unscientific to focus on the implications of projected climate change and to ignore the implications of the factors that have been assumed to bring that change about.

## References

The texts of letters that David Henderson and I sent to Dr. Pachauri in 2002, our presentations in Amsterdam in January 2003 and our other papers written at that time are available at [http://www.economist.com/finance/displayStory.cfm?story\\_id=1579333](http://www.economist.com/finance/displayStory.cfm?story_id=1579333) (Click on the link in the footnote to the article). This swag of documents subsequently appeared in “Energy & Environment”, vol. 14, nos. 2 & 3: 159-85. The response by 15 SRES authors in the same issue of “Energy & Environment” (pps. 187-214) is available [350k PDF] at <http://crga.atmos.uiuc.edu/publications/ipcc-sres-revisited.pdf>

A further article by Castles and Henderson in “Energy & Environment”, vol. 14, no. 4: 415-35 can be found [here](#) [65k PDF]. The second article in “The Economist”, supporting the Castles/Henderson critique and criticising the IPCC, is at [http://www.economist.com/finance/displayStory.cfm?story\\_id=2189568](http://www.economist.com/finance/displayStory.cfm?story_id=2189568) A further response by 18 SRES authors will be published in “Energy & Environment, vol. 15, no. 1. (I do not have the text of this article in electronic form).

With best wishes

Ian Castles

## Comment on the IPCC Press Statement of 8 December 2003

Ian Castles

The IPCC statement criticising two “so called independent commentators Ian Castles and David Henderson” was released at a press conference during the ninth Conference of the Parties (COP 9) to the UNFCCC in Milan in December 2003 (COP 9 was attended by 5000 participants from 170 governments, 312 other organisations and 191 media outlets).

Only a month earlier, the IPCC session in Vienna (attended by 440 delegates) accepted the recommendation of the Chair (Dr. Pachauri) that “It would not be desirable for the IPCC as a body to respond to any criticism on SRES” (Annex 5, recommendation 1). There does not appear to be any document in the public domain that explains why the IPCC responded as a body to the Castles and Henderson (C&H) criticism in December, when it had agreed in November that it would not be desirable to respond to any criticism on SRES.

The press statement (which is one of only two such statements in 2003 available on the IPCC website) claims that “The criticism voiced by C&H ... was obviously put forward in haste” because, according to the IPCC, our statement that SRES scenarios imply “historically implausible growth rates in developing countries” contradicts a comment that I posted on a website in July 2001 that “of the developing world’s 4.8 billion people, 2/3rd live in countries that have attained faster growth rates in GDP per head than the United States since 1973”.

There is of course no contradiction between the two propositions. The statistics I quoted in 2001 were correct, and they DO contradict many statements in IPCC reports, including the “material errors” which were published in the WG II, WG III and SRES reports as a result of the uncritical acceptance by IPCC authors and reviewers of claims made in the UNDP’s *Human Development Reports* (HDRs). I identified several of these in my first letter to Dr. Pachauri (paras. 5-7), and noted that “The HDR Office of the UNDP accepted the [expert report to the UN Statistical Commission], and has made major improvements in statistical presentation and reporting in subsequent issues of the HDR” (para. 4)

The UNDP does not claim to be objective in its statistical reporting. In fact, HDR 2000 noted with satisfaction that “Working together, governments, activists, lawyers, statisticians and development specialists are breaking ground in using statistics to push for change—in perceptions, policies and practices” (p. 89). But the UNDP did mend its ways when statistical experts pointed to its errors, and corrected the record in its succeeding report (HDR 2001, p. 20).

By contrast, the IPCC, which claims to be a scientific body making assessments on an “objective, open and transparent basis”, has attempted to perpetuate the myth of its infallibility by pointing in its press statement to an authority which is supposedly higher than science. (“All of IPCC’s reports go through a careful two stage review

process by governments and experts and acceptance by the member governments composing the Panel”). It says little for the IPCC’s vaunted objectivity that it has not acknowledged its “material errors”, while the UNDP willingly did so.

At its meeting in Vienna in November, the IPCC also decided to “make efforts to interest reputable scientific publications to write on the subject [of the emissions scenarios] in an objective manner by consulting if necessary the Chair, the Co-Chairs and, most importantly, experts who have worked on the SRES”. It is difficult to imagine a process that is more certainly calculated to encourage the “kind of intellectual restrictive practice” to which “The Economist” referred in its article of 6 November last, under which “flawed or downright shoddy work [acquires] a standing it does not deserve.”

The IPCC press statement asks rhetorically “Have C&H looked at the trajectory of China’s emissions in the last 20 years? Has China’s rapid growth not been accompanied by impressive improvements in energy efficiency and carbon intensity?” The short answer is “Yes”. In fact I circulated a chart showing China’s impressive improvement in energy efficiency at the discussions with IPCC experts in Amsterdam, in order to correct the faulty comparison made in Figure 3-13 in the SRES. As the IPCC has now decided to persist with the SRES scenarios for the next assessment round, researchers and policymakers will now continue to use the erroneous comparisons in this Figure for several more years. This represents a victory of politics over science. Dr. Pachauri refused my request that he arrange for the release of the agreed draft record of the discussions (to which my chart was attached).

The IPCC’s press statement also claimed that (a) “In the IPCC-SRES scenarios exercise (over a 100-year period) it would not matter much what unit [MER or PPP] is used”; and (b) “There is absolutely no reason to believe that, in the longer term, lower economic development would, all other things being equal, result in lower emissions”. These statements are consistent with the views of the SRES Team, and may have been drafted by them: their article “IPCC SRES Revisited: A Response” in “Energy & Environment” includes the following:

“In A1 scenarios per capita income in ASIA increases by a factor of 143.8 between 1990 and 2100 when measured in MER . . . but ONLY by a factor of 37.8 when measured in PPP” (p. 194, emphasis added).

I do not agree that it would not matter much whether average incomes in Asia increase by a factor of 38 or 144 by the end of the century. But an increase by a factor of “only” 38 would still mean that average incomes in the whole of Asia would be substantially higher by 2100 than those of the richest countries in the world today. Even for the B1 scenarios, which include those with the lowest cumulative emissions of the century, the SRES projections of output, however interpreted, have Asian incomes in 2100 higher than the present “rich countries” average.

8 February 2004