

## Declaration of Professor Peter A. Strachan

1. My name is Peter Anderson Strachan. I am over 18 years of age and am competent to make the following declaration.
2. I have been an academic member of staff at the Robert Gordon University, Aberdeen, Scotland, since 1993. I am currently Professor of Energy Policy at the Aberdeen Business School. I was appointed Professor of Energy Policy in 2009 and subsequently appointed in 2010 to the role of Group Lead for Strategy and Policy, responsible for a research and teaching group of approximately 20 full-time and part-time academic staff. Following University re-organisation, I returned to my role as Professor of Energy Policy in 2017. My most recent publications are in prestigious peer reviewed journals.
3. As an author and co-author, I have an extensive publication record with my work focusing on the transition to 100% renewable energy in Scotland and the other countries that comprise the United Kingdom. I have edited three books and have also served as a journal Associate Editor. Further, I am an active member of five journal editorial boards. My work by invitation has been presented to the First Minister of Scotland, Holyrood, Edinburgh, Scotland. And to Members of Parliament (MPs) of the United Kingdom Parliament, Westminster, London, England. I also receive regular invitations to present at academic and industry events on renewable energy issues. A full list of articles and presentations is available on request. I have also supervised to successful completion 20 doctoral students, with a number of these on renewable energy deployment, particularly in Africa.
4. My research on renewable energy has been funded by Innovate UK and the United Kingdom Economic and Social Research Council (ESRC). The research I work on in Scotland and Europe is very similar to the work on renewable energy published by Dr Jacobson in the context of the United States. Therefore, I have specific expertise to comment on the papers published by PNAS by Dr Jacobson et al. and Dr Clack et al. in 2015 and 2017, respectively. I am familiar with both papers and have spent some time re-reading and then re-evaluating them in the context of making this statement.
5. I am aware that Dr Jacobson had initiated litigation against Dr Clack on the basis that the Dr Clack PNAS paper and resulting media coverage misrepresented the findings of Dr Jacobson's article. And further that this has had a detrimental impact on his professional reputation and wider standing in the public domain.
6. I am not a co-author, of either of the papers. I have not published with Dr Jacobson or any of the authors of the Dr Clack et al. (2017) paper and have no professional association (joint research funding or PhD supervision) with these authors. Therefore, I am offering the following statement in an independent capacity.
7. On the 10<sup>th</sup> August 2020, I wrote a Court Declaration (available on request) requested by Dr Jacobson about the Clack paper. Dr Jacobson has now requested that I provide an expert opinion on additional questions related to that paper. Below are his questions and my answers to them:
  1. Is omitting data or changing the definition of data to the wrong definition an "interpretation or judgment of data" or is it a "factual error" in the following four cases:
    - a) Changing the definition of values in a table from average to maximum values?  
**My Answer: This is an instance of altering the factual definition of data. With erroneous conclusions then arising. It is my perception that changing the definition of data in this way amounts to reckless / poor scholarship.**
    - b) Omitting the inclusion of Canadian hydropower from total hydropower production?  
**My Answer: This is a further instance of altering the factual definition of data. It is my perception that the Clack paper made a reckless error in this respect. With erroneous conclusions then arising.**

c) Claiming authors made a "modeling error" after wrongly assuming that data values in a paper are maximum rather than average values?

**My Answer: The Clack paper makes spurious claims in this respect. There is no evidence of "modeling errors". It is my perception that this is an example of poor scholarship.**

d) Claiming authors made a "modeling error" with respect to hydropower output after omitting the fact that computer model output both in the paper and externally available to all authors shows no mathematical computer modeling error?

**My Answer: The Clack paper again makes spurious claims in this respect. There is no evidence of "modeling errors". It is my perception that this is an example of reckless or rash scholarship.**

2. Is an author who makes a factual mistake in a review of other people's work following due diligence or acting in reckless disregard for the truth or in bad faith when he or she

a) Fails to request clarification from the authors before publication if he or she is uncertain about an issue in the paper?

**My Answer: When criticising in a significant way an author's paper it is accepted custom and practice to seek clarification on the issue or issues of uncertainty or issues that are in dispute. Such criticisms may involve factual issues contained within a paper, or issues of a substantial nature related to the philosophical approach or methodology employed by an author. Failure to seek clarification from an author, especially where there is a significant rebuttal of a paper would amount to acting in disregard of the truth.**

b) Hides the publication from a student he or she mentored and is now criticizing, until after acceptance of the paper?

**My Answer: A situation like this is almost inconceivable. The mentor is clearly acting in bad faith and is being dishonest. And worse actively (intentionally or unintentionally) working to discredit their mentee. Professional ethics and accepted practice would dictate that the mentor be fully open and transparent in all interactions with a mentee. Clearly the mentor if he/she had concerns regarding a student's published or other work should have highlighted this as part of the mentee process. And clearly explained this to the mentee so that the mentee could avoid making such a mistake in the future. This standard would apply to both current and former mentoring relationships. In my view a mentor hiding publication activity from their mentees (current or former) where criticisms are being made of the mentee is clearly an act of poor judgement, with this potentially even amounting to gross misconduct, but that would be for an investigation committee / Court to ultimately determine.**

c) Refuses to correct the factual mistake when informed about it, with evidence, before publication?

**My Answer: This is clearly unethical behaviour and in contravention of accepted academic norms and values. It is fundamentally dishonest. My perception is that this amounts to gross misconduct, though again that would be for an investigation committee / Court to determine.**

d) Refuses to correct the factual mistake when informed about it, with evidence, after publication?

**My Answer: It would be dishonest for authors not to correct a mistake, when evidence is presented that an error has been made. Once again it is my perception that this amounts to an act of gross misconduct, though again that would be for an investigation committee / Court to determine.**

3. Is it standard practice in the sciences for authors of a paper to issue a correction to the paper AFTER publication if a material FACTUAL error is discovered in their paper?

***My Answer: Professional ethics and accepted practice dictates that authors should issue a proportionate correction, with an explanation, and within a reasonable timeframe after the discovery of a significant error that has been made in a published output. I would go further and state that when such an error is detected that the author (or, for that matter a whistleblower) should then refer the work to the Head of Faculty and consequently for there to be an investigation undertaken to determine the context, circumstances and to determine if any penalties should arise. Following an investigation process there is precedent in the academic community that when an author has acted recklessly or in bad faith that, that author should then request that their paper be withdrawn from the public domain, with an appropriate explanation given of the circumstances. In my view the Clack paper would fall under this category, and it should be retracted.***

4. Is it unethical or ethical for authors of a paper to REFUSE to issue a correction to their paper AFTER publication if a material FACTUAL error is discovered in their paper?

***My Answer: It is my perception that it is unethical for authors to refuse to issue a correction when clear errors are apparent in their paper, as is the case with the Clack paper. In my view, as outlined above professional ethics dictate that the Clack paper should be retracted. This would correct the record for all concerned and further avoid potentially reputational damage to an academic and his employer.***

*I declare under penalty of perjury that the following is true and correct. Executed on 17<sup>th</sup> September 2021.*

*Peter A Strachan*

*Signed: Professor Peter A. Strachan of 2 Henderson Park, Peterhead, Aberdeenshire, Scotland*