

SUBMISSION FROM THE SCOTTISH CLIMATE AND ENERGY FORUM

Summary

There are now numerous substantial risks for any investor in renewables in Scotland, but the main risk can not at present be quantified or made manageable. Unless we have a robust public debate the Scottish Government do not have any chance of meeting its 2020 target.

The main risk is due to the high Scottish public and political support which is out of line with the current evidence making a precipitous and unquantifiable fall in support very likely. This is because evidence supporting the Scottish Climate & Energy Forum's pragmatic views has not been discussed in Scotland due to the predominance of pro-warming media like the BBCⁱ which has led to prejudice against usⁱⁱ and due to the history of the Scottish Parliament which was set up when concern over global warming was at a maximum.

In this environment public support could suffer a sudden substantial decline leading to a loss of support from policy makers. We have already seen the virtual collapse of the Spanish wind sectorⁱⁱⁱ and the sudden removal of solar energy support in the UK^{iv}. Given the growing body of evidence in favour of our view^v, we feel there is a substantial risk to renewable energy support in Scotland. This risk makes investment in any but the shortest payback renewable projects non-viable at this time. As such the 42% target by 2020 looks quite impossible without a considerable increase in subsidy to increase return on investment which would be prohibitively expensive and even counterproductive. It would give the appearance of a sector with their "snouts in the trough" because the legislation is untargeted and does not allow subsidies to be directed only to new entrants where it is needed.

Whilst SCEF do not support the view that the small rise in CO₂ is likely to be a problem^{vi}, we recognise that MSPs must balance all the competing claims. Our aim is to support policy makers, to make the best decisions on climate and energy. Therefore we offer the following suggestions which may assist government to achieve its policy objectives.

△ To reduce the uncertainty created from the lack of public debate, the government should manage a process of encouraging debate with the intention of gradually making the public aware of all evidence and encouraging a pragmatic view of the effects of CO₂. This will reduce the risk of a precipitous fall in support and the potential for a backlash.

△ The current renewable support is ineffective in a situation of rising risk because it cannot focus enhanced support to new projects where it is needed without also incurring considerable costs supplying enhanced subsidies to older projects where higher support is not needed. This needs to be changed.

△ It is inefficient for commercial markets to take on what is mainly a political risk over which they have no control and for which investors will rightly require higher payments. It is therefore advisable for government to take on this risk by effective nationalisation of renewables.

The investor risk

Any sensible investor will naturally take account of the prevailing economic, political and social environment in which they invest and the prospect for those risks in the future. Renewables are not a market commodity. The Scottish Government creates the market. The government have the power so that at any time they may reduce support so that there is no return on investment for renewable energy. Therefore investors must judge the potential for such a political change leading to policy change.

The political risk is now real and substantial. There are now multiple dangers from the failure of climate models to predict the current lack of warming to the legal challenge to EU law. These will make any potential investor worried. But the particular circumstances in Scotland make investment all the more riskier: relatively high level of support without any history of substantial debate. The pragmatists argument that CO₂ only leads to modest and largely unharmed warming is untested by debate. Where there has been debate (like the US) support is much lower. So, debate is very likely to move support toward the levels in the US. The higher the level, the further it is likely to fall. If this fall is large enough and sudden enough, in the absence of previous debate, could there be a backlash against the policy? Could a generally pro-policy public & media become hostile to wind & other renewables if they feel (even if not true) that they have been deceived?

It should be remembered that many large companies invested in renewables to enhance their reputation^{vii}. In these recessionary years, green no longer has the same kudos. The PR benefit is now small, and now the risk is substantial. No big company can risk being tarnished by a sector that is likely to be embroiled with allegations of malpractice^{viii} and having their "snouts in the trough"^{ix} for public money.

International risks

Investment decisions in Scotland are strongly influenced by International European policy on "climate change", by available EU funding and given the large European content of renewables, by currency stability.

The EU is pro-renewables^x, so it could be felt at least EU law requiring action is secure. However the EU is a party to the Aarhus Convention which is enforced by EU law and recently the Compliance Committee of the United Nations Economic Commission for Europe (UNECE), which enforces the Aarhus Convention issued draft findings that the EU did not comply with the provisions of the Convention in connection with its programme "20% renewable energy by 2020"^{xi}. As Pat Swords (who took the action) says:

"as the Convention is part of EU law, there is now a legal ruling that this law has not been complied with. There are long established legal procedures where if a Member State does not comply with EU law, the citizen can seek 'damages made good'"

This seems to suggest that anyone affected by the 20% target can seek compensation. SCEF do not know enough to say how this will affect Scotland.

It cannot have escaped anyone that Europe is in a crisis^{xii}. There is no long term settlement to the Euro which continues to bump from crisis to crisis. Both funding and currency uncertainty create another area of risk for a long term investment like

renewables.

Scottish Independence

Whether or not Scots vote for independence, the uncertainty involved creates yet another area of risk^{xiii xiv}. Will a Scottish Government want or even be allowed to join the Euro? Will it have a strong enough economy to afford renewables subsidies let alone the huge infrastructure costs. Will the harsh economic reality of independence strengthen right wing parties who tend to be more pragmatic/sceptical (depending on your own view)? Will England really buy Scottish renewables at inflated prices when the wind blows and then sell back electricity to Scotland at below this price when the wind is not blowing? Each unanswered question increases the risk for investors.

Excessive targets & excessive supply, increase investor risk

There is no requirement in law to support any particular renewables, and no general requirement above the EU/Westminster target levels. The Scottish Government for reasons best known to them have far exceeded their fair quota^{xv} and put a huge unnecessary burden on consumers. In particular, for almost a decade Scotland's consumers have been paying for renewables they didn't need to meet our international obligation because we oversupplied with 8-10% of hydro^{xvi xvii}. This over-enthusiasm now allows plenty of headroom to cut renewable subsidies making future investment very dependent on Scottish political will and creating another huge area of risk for developers.

Miscellaneous risks

Death or injury from ageing windmills

Although large windmills have safety concerns^{xviii}, there has been an almost reckless disregard for safety in the placement of windmills in urban environments and particularly those close to schools or where large numbers of people gather during the day. As windmills age, they become increasingly unreliable and sooner or later, one is going to cause injury to persons or property potentially causing death. Recently Highland Council halted 16 windmills^{xix} in schools for just this reason. It will only take one death to significantly and unpredictably change public perception & attitudes to wind safety and lead to a perception that they are unsafe in areas accessible by the public. This could add hugely to the costs of wind.

Decommissioning Costs

We have already seen the only Scottish windmill manufacturer close suddenly due to safety concerns for their windmills with huge impacts on owners^{xx}. Eventually, the public and policy makers will wake up to the risk of abandoned windfarms^{xxi} realise that there is no effective way to force decommissioning except to force wind developers to lodge some kind of bond to cover decommissioning costs^{xxii}. This could include a requirement to remove 100s of tonnes of concrete from the base of each windmill, remove trackway and power lines pay for their disposal and generally restore the landscape.

Power cuts (outages)

The more the Scottish Government push renewables, the less reason there is to invest in or even maintain older fossil fuel plant^{xxiii}. Older plant will become increasingly less reliable and require longer and longer downtime for maintenance at

a time that more and more are required to cover the periods when wind e.g. is not blowing. Eventually a combination of circumstances with a large fossil-fuel plant down for maintenance and a breakdown of one or other ones, at a time of low winds will lead to widespread power cuts^{xxiv}. Just one such event will change public opinion^{xxv}. It could certainly bring down the Scottish Government and result in a sudden change in policy.

Compensation – health Impacts.

There is substantial evidence of adverse infra-sound in at least some properties near wind farms (Bowdler^{xxvi} 2010). There are reported health effects many kilometers from the windmills (e.g. Hanning^{xxvii} 2009). SCEF does not have the competency to assess this health evidence, but we are aware that similar claims have been made about technologies from mobile phones to electricity pylons. However, infra-sound from wind has the potential to affect large numbers of properties with no simple solution short of moving the wind farm or everyone affected.

Compensation – tourism

There have been some ridiculous claims by some lobby groups^{xxviii} that industrialisation through windmills will have a beneficial impact on tourism. This is nonsensical:

“Most individuals appear to prefer a landscape from the hotel bedroom without a wind farm (63%)”^{xxix}

However, whilst the detrimental impact may be small when public support for renewables is high, the adverse impact will grow as the public “honeymoon” with renewables comes to an end and they are seen like any other man-made structure in the wilderness. Growing public hostility will increase demands for compensation.

The lack of debate creates an unquantifiable risk.

Paradoxically, when many campaigners have stifled any debate^{xxx xxxi xxxii xxxiii xxxiv xxxv} that might reduce support, it is this very lack of meaningful debate in Scotland, which is the biggest danger for investors and very likely to prevent substantial investment.

All five of Scotland’s main political leaders have pledged to ensure Scotland delivers on its world-leading climate change targets, it was announced today. (WWF^{xxxvi})

Unlike the US for example, where there are vocal proponents for the pragmatic viewpoint, in Scotland (before SCEF) there was no organisation willing & able to put the pragmatic view. Whether or not those views are “correct” is less important than that pragmatists appear to win when there is a free and fair debate. For example when Lord Monckton has debated the issue at the Oxford Union^{xxxvii} or St.Andrews^{xxxviii} he won the motion.

So, it is not unreasonable to assume, that large numbers of people will change their mind when they are allowed to hear the evidence. But Scotland is very different from other countries like the US where there has been this debate. Does this mean far fewer people or far more will be persuaded by the debate when it finally happens in Scotland? Who knows? The pragmatists case has not been heard outside a few

small debating chambers so the likely impact on Scottish public opinion and policy makers is unknown.

So any investor in renewables now faces a potentially massive and unquantifiable risk. How does one quantify the risk of a massive public reaction against the malpractice^{xxxix xl xli xlii xliii xliv xlv} in climate science? Where would a public that feels it has been misled by climate science turn for moderation and reassurance? To the scientific establishment that colluded^{xlvi} to prevent adequate investigation after Climategate? To the politicians who were so fulsome in their support and against debate? To the BBC who had a policy denying those with a pragmatic view of the climate a hearing? This is very dangerous. The only mainstream UK political party to be overtly anti the global warming campaign is the UK Independence Party^{xlvii}, one whose support is growing^{xlviii}, but one that is not a strong party in Scotland. SCEF, with relatively few members and little money cannot lead the public debate. Does this leave a huge gap, which may be filled by extremists as repugnant to SCEF as they are to the major parties?

Climate scepticism could easily be taken up by extremist groups in Scotland which may fan the flames of discontent rather than moderate it. Unlike Westminster where elections excludes the extreme, the Holyrood voting system can see the dramatic and almost overnight success of hitherto unknown groups^{xlix} propelling them into coalition power.

No one has any idea how the Scottish public will react when they learn that they have been lied to about “sceptics” who far from being “deniers” are in fact on the side of sound science (Science is by nature sceptical!) Who will the public blame? The politicians, the climate scientists, the BBC even SCEF may be blamed for not doing more sooner. But the one group who will be blamed most are those with a commercial interest and this is a huge & unquantifiable threat to investors.

History & background

In the 1970s the lack of predicted global cooling led some researchers to suggest increasing CO₂ was causing Global Warming^l. Temperatures rose from 1970 to 1998, alongside the anti-capitalist movements. Dislike of fossil fuels united Greens and anti-capitalists into a campaign against “global warming”. They were quick to use the new media of the internet to promote this campaign and push it up the political agenda.

So, when the Scottish Parliament reconvened in 1999, many people were (reasonably) concerned over rising global temperatures. The power to set renewables targets was one of the few substantial powers given to the Scottish Parliament in devolution. This new administration, elected by a new proportional voting system had very few other ways to “do something”. Scotland had a huge potential renewable resource and needed jobs so this policy was eagerly supported by most politicians. The result was that the policy came into law without any real political debate about the truth or otherwise of catastrophic “global warming”.

Concerns about the science began to emerge. There were accusations that climate science was run by a clique of extremists who were “fixing the data”. But it was not until Climategate (concerning the University of East Anglia) that the true nature of the

stranglehold of this group on the subject became apparent. It was revealed that they blocked external scrutiny even going as far as breaking FOI law by deleting information requested under the act. Whilst the inquiries were said to have “vindicated”^{lii} those involved, the accusations that the University falsified historic temperature reconstructions was not adequately investigated^{liii liv}.

The BBC, who dominate UK media, are rightly known for the quality of their output, particularly wildlife programs. But this strength creates an institution which is excessively pro wildlife and so pro environment. In 2011, after numerous complaints, the BBC reacted by asking Prof Steve Jones to investigate. After a thorough investigation when he did not approach any leading sceptic to ascertain their real views, he produced a report saying:

They [people like us], with many others, practise denialism: the use of rhetoric to give the appearance of debate.^{lv}

In other words: “don't give 'denialists' so much air-time”^{lvi}. However, the BBC charter agreement is very clear and gives no room for denying air time to anyone in a controversial subject. BBC staff have no more right to deny air time to religions (even minority religions) they don't like, than scientific interpretations (even when in a minority) that they don't like as BBC agreement which accompanies the charter makes clear:

44. Accuracy and impartiality: The BBC must do all it can to ensure that controversial subjects are treated with due accuracy and impartiality in all relevant output.^{lvii}

This attitude could be compared to the BBC asking a doctor to investigate complaints the BBC were favouring medics in the debate about “over-medicalising of childbirth”^{lviii lix lx}. Then claiming that because a doctor (who clearly has an interest) said advocates of “natural” childbirth like midwives were “anti-medical science” denying proponents of natural childbirth any air-time at all, whilst airing numerous gynaecologists demanding they should control births whilst making false claims such as midwives etc. are “anti-medicine”. Fortunately, for mothers, the “patient” is able to speak for themselves and prevent pregnancy being medicalised as an illness, but not mother earth. The BBC's continue to play an important role stifling debate in Scotland^{lxi}, demonising our members² and falsely portraying our members as being anti-science.

In 2012, despite reassurance by the University of East Anglia to comply with FOI requests, they continued to refuse FOI requests^{lxii lxiii} until another judgement by the Information Commissioner^{lxiv lxv} forced the University of East Anglia to release more information. This showed the University misled⁸ the Climategate inquiries and appears to substantiate the original Climategate allegations that it intentionally falsified a key temperature reconstruction^{lxvi lxvii}. This was the impetus for the formation of SCEF.

The Importance of public debate

For the purposes of addressing the issue at hand, it does not matter whether we pragmatists are right or wrong, or whether MSPs believe us, only whether investors

in renewables are likely to believe us. Many members of SCEF come from an engineering type background. Engineers are an under-represented group in politics^{lxviii}. Renewables are essentially heavy engineering. We think investors will be far more sympathetic to our arguments than most MSPs.

We attract engineers, because our view is pragmatic. This is very similar to the debate about natural versus medical childbirth. Being pragmatic, does not mean we are anti-science any more than proponents of natural childbirth are “anti-medicine”^{lix} or “anti-doctor”. We can take the analogy further. Medicalised childbirth is criticised for seeing this natural event as an “illness”^{lxx} requiring medical intervention. Likewise, climate scientists view a small change in the climate as an “illness”^{lxxi} for which they must prescribe a “cure”.

We think climate change is natural, unless or until there is a compelling proven connection to human activity. To put this scientifically, the “null hypothesis” is that any change has a natural cause. There is no compelling link between the majority of the 20th century warming and human causes. This is shown by the way the climate change in the early 20th century when rising CO₂ had little effect is almost identical to the change in the latter 20th century which CO₂ was supposed to have caused⁵. If nature caused the early 20th century rise, because it is almost identical to the latter 20th century rise, it follows that nature is the most likely cause of the later 20th century rise.

Even so, whilst most of the warming is very likely to be natural, we support the view⁶, that a minority of warming is more than likely due to CO₂. This is because this assertion, is based on sound proven science. This science suggests that doubling CO₂ will cause about 1°C of warming (well within the “target” of 2°C). However even 1°C is a change and like the good midwife we don't turn a blind eye to the potential of adverse effects of even this modest warming. So we look to see whether there are adverse symptoms. We are now 40 years from the 1970s start to the normal date used from predictions of 2110. 30% of the way into this “catastrophe”, we should have a very good idea of what awaits us. When we look at the evidence (not predictions or one-off events) we do not see any conclusive evidence of adverse trends^{lxxii}. Those events that are often heralded as adverse impacts like the drought in Australia are often followed by floods^{lxxiii}. Warnings like that of Dr Viner of the Climatic Research Unit of the University of East Anglia that:

within a few years winter snowfall will become "a very rare and exciting event". "Children just aren't going to know what snow is," he said. (Independent 20 March 2000^{lxxiv})

have been followed by winters with record cold^{lxxv} & snow^{lxxvi}. To the average person in Scotland all anyone can see of this “catastrophe” is that snowdrops come a few days earlier^{lxxvii} – something that may reflect increased heating in our urban areas^{lxxviii lxxix} rather than any wider climatic change.

When the boy cried wolf^{lxxx}, it did not need a canine trained veterinary to diagnose the absence of a wolf? No! But what if the one who cried wolf was the expert? Who then claimed you had to be the expert to spot the wolf? Just because there is a consensus amongst all the great people in the Kingdom, it didn't mean the emperor

was wearing clothes^{lxxxix} or that the boy was wrong to ask why he was naked.

It does not need an expert to see that since 2001 the globe has not warmed^{lxxxii lxxxiii} and no amount of consensus can change the fact the predicted warming did not happen. Why 2001? That is when we were told it was certainly going to warm^{lxxxiv}. Not, "it may warm" but that warming was certain or as they put it in 2007

"All models assessed here, for all the non-mitigation scenarios considered, project increases in global mean surface air temperature"^{lxxxv}.

We did not choose the date, we did not force them to commit to a forecast they could not deliver. They set the test of their theory, and that test has shown^{lxxxvi} their models and predictions to be unsupported by the evidence or invalid^{lxxxvii lxxxviii lxxxix xc}.

That is our position.

The nature of belief in Catastrophic Global Warming

The risk of a sudden change in public opinion is all the greater because few people supporting catastrophic global warming base their views on first hand reading of the evidence. Like all good scientists we actively seek out evidence, but find it does not support the idea of catastrophic global warming. In contrast, we find our critics when confronted by the evidence usually resort to an argument along the lines of "pumping out all that carbon dioxide can't be good"^{xcii} as if CO₂ were intrinsically harmful (it is not^{xcii xciii}). But they do not likewise say that "plants pumping out all that oxygen (from photosynthesis) must be bad". Studies show that plants benefit from increased levels of CO₂^{xciv}. It isn't harmful! But there is a profound belief in the "evil" of CO₂ & fossil fuel like oil which seems to equate to the Christian concepts of the sin of gluttony.

One of the frequent (and false) accusations levelled at our members are that we are in the pay of "big oil"^{xcv} as if oil were intrinsically evil. This is genuinely absurd in a country founded on Christian morality. The literal translation of "Christ" (christos from chrio) is "anointed with oil". If oil is bad, then Christ is bad. Or to use an engineering example: oil is what lubricates every engine. Far from being bad we would argue that fossil-fuel is one of the great advances of modern civilisation giving us a society with unparalleled freedom from the great causes of death and famines in the past.

One such famine occurred in the 1690s^{xcvi} when there was a decade of extreme cold during a period known as the Maunder Minimum. Estimates suggest that up to a quarter of the Scottish population died. This (along with Darien) led directly to the loss of independence of Scotland. This was a hugely important climatic event that shaped modern Scotland. There are now suggestions we are entering a new Maunder-type Minimum^{xcvii}. Will a quarter of Scotland's population die today? Certainly Not! Even if there were another period of extreme cold our modern fossil fuel powered economy has the transport infrastructure to bring food right across the globe.

So, this idea of the harm of CO₂ & fossil fuel is pseudo-religious in nature. The problem for an investor in such pseudo religious markets is that they are tied to the evidence and so can change rapidly without a change in the evidence.

Who we are

The Scottish Climate & Energy Forum is an association based in Scotland. We are run by volunteers who have no commercial interests. Our members are mainly present or former professionals and academic in energy or climate areas. Most have engineering or science degrees. We are united by an interest in climate and energy which has led us all to look at the evidence and become sceptical of the claims of catastrophic global warming. We want an open and honest debate and we want to stop the false claims that we are a group who “deny” global warming or worse are against good science.

We are pro-science, but through our professional experience we know that the simplistic application of “science” doesn't always provide the right answers in real life (e.g. theory says that bumblebees cannot fly! ^{xcviii}). There is good scientifically valid reasons to accept CO₂ warming of around 1°C. But we are sceptical of much of the other claims of the “global warming” campaigners particularly when there are repeated and well substantiated accusations of malpractice and attempts to cover up that malpractice. Our views are based on the verifiable science that supports the small & so far largely harmless warming effect of increased CO₂.

We are aware that most of our concerns are not within the competency of the Scottish Government. The Scottish Government are not responsible for the University of East Anglia, the inquiries or the BBC and it is bound by external EU targets. However whilst the Scottish Government is not responsible for these areas, they impact Scottish policy as they substantially increase the risk for developers.

Sources for more information

ⁱ**Daily Mail:** The BBC became a propaganda machine for climate change zealots, says Peter Sissons... and I was treated as a lunatic for daring to dissent
<http://www.dailymail.co.uk/news/article-1350206/BBC-propaganda-machine-climate-change-says-Peter-Sissons.html>

ⁱⁱ**SCEF:** BBC Thought for today 11th May
<http://www.scef.org.uk/index.php/news/1/103>

ⁱⁱⁱ**Bloomberg Business Week:** Spain Ejects Clean-Power Industry With Europe Precedent: Energy
<http://www.businessweek.com/news/2012-05-29/spain-ejects-clean-power-industry-with-europe->

-
- precedent-energy
- ^{iv} **Guardian:** UK solar subsidy to be cut
<http://www.guardian.co.uk/environment/2012/may/24/solar-power-subsidy-cut>
- ^v **Prof Richard S. Lindzen:** Global Warming: How to approach the science. (Climate Models and the Evidence?) http://i.telegraph.co.uk/multimedia/archive/02148/RSL-HouseOfCommons_2148505a.pdf
- ^{vi} **SCEF:** The Sceptic View
<http://scef.org.uk/index.php/component/content/article/54-general/96-the-sceptic-view>
- ^{vii} **BSR:** Understanding and Preventing Greenwash: A Business Guide
http://www.bsr.org/reports/Understanding%20_Preventing_Greenwash.pdf
- ^{viii} **Wattsupwiththat:** East Anglia Climatic Research Unit shown to be liars by results of latest FOIA ruling and investigation
<http://wattsupwiththat.com/2012/05/06/east-anglia-climate-research-unit-shown-to-be-liars-by-results-of-latest-foia-ruling-and-investigation/>
- ^{ix} **Spectator:** The winds of change
<http://www.spectator.co.uk/essays/7684233/the-winds-of-change.shtml>
- ^x **Roger Helmer MEP:** The De-industrialisation of Europe
<http://rogerhelmermep.wordpress.com/2012/03/22/the-de-industrialisation-of-europe-2/>
- ^{xi} **Wattsupwiththat:** EU violates Aarhus Convention in '20% renewable energy by 2020 program
<http://wattsupwiththat.com/2012/05/19/eu-violates-aarhus-convention-in-20-renewable-energy-by-2020-program/>
- ^{xii} **Scotland on Sunday:** Scottish risk management consultancy lifted by euro crisis
<http://www.scotsman.com/scotland-on-sunday/business/scottish-risk-management-consultancy-lifted-by-euro-crisis-1-2306021>
- ^{xiii} **BBC:** Citigroup urges caution over Scottish green energy
<http://www.bbc.co.uk/news/uk-scotland-scotland-politics-15548775>
- ^{xiv} **Telegraph:** Alex Salmond's £46 billion green 'gamble' with Scotland's economy
<http://www.telegraph.co.uk/news/uknews/scotland/9301048/Alex-Salmonds-46-billion-green-gamble-with-Scotlands-economy.html>
- ^{xv} **Institute of Mechanical Engineers:** Scottish Energy 2020? A target too far?
http://www.imeche.org/Libraries/2011_Press_Releases/IMechE_Scottish_Energy_Report.sflb.ashx
- ^{xvi} **University of Strathclyde:** The Renewables Obligation Scotland (ROS)
http://www.esru.strath.ac.uk/EandE/Web_sites/01-02/RE_info/ros.htm
- ^{xvii} **British Hydro Association:** Diving the Low Carbon Economy
http://www.british-hydro.org/downloads/Legislation_and_Policy/Low%20Carbon%20Economy%20%28BHA%20SR%20-%20Oct%2010%29.pdf
- ^{xviii} **M.Raghd:** Safety of Wind Systems
<http://windfarmaction.files.wordpress.com/2011/10/safety-of-wind-systems.pdf>
- ^{xix} **SCEF:** Safety Concerns for School windmills
<http://www.scef.org.uk/index.php/news/1/102>
- ^{xx} **Scoraigwind:** Proven Wind Turbines go bust.
<http://scoraigwind.co.uk/2011/09/proven-wind-turbines-go-bust/>
- ^{xxi} **Tory Aardvark:** 14000 Abandoned Wind Turbines In The USA
<http://toryaardvark.com/2011/11/17/14000-abandoned-wind-turbines-in-the-usa/>
- ^{xxii} **National Wind Watch:** Wind Decommissioning Costs — Lessons Learned
<http://www.wind-watch.org/documents/wind-decommissioning-costs-lessons-learned/>
- ^{xxiii} **Telegraph:** Britain 'faces power cuts' due to wind turbine plan
<http://www.telegraph.co.uk/earth/energy/windpower/8949361/Britain-faces-power-cuts-due-to-wind-turbine-plan.html>
- ^{xxiv} **Guardian:** Grid blackout threat weighs on renewables take-up
<http://www.guardian.co.uk/environment/2012/feb/10/grid-blackout-threat-renewables>
- ^{xxv} **Public Finance:** Anger as PFI contractor cuts power to hospital
<http://www.publicfinance.co.uk/news/2012/04/anger-as-pfi-contractor-cuts-power-to-hospital/>
- ^{xxvi} **Institute of Acoustics Bulletin** Vol 33 no 4, Dick Bowdler
<http://www.dickbowdler.co.uk/wp-content/uploads/2010/03/AM-of-Wind-Turbines.pdf>
- ^{xxvii} **Dr Christopher Hanning** BSc, MB, BS, MRCS, LRCP, FRCA, MD: Sleep disturbance and wind turbine noise
<http://docs.wind-watch.org/Hanning-sleep-disturbance-wind-turbine-noise.pdf>
- ^{xxviii} **BWEA:** Wind Farms and Tourism: A valuable addition to the landscape

-
- <http://www.bwea.com/ref/tourism.html>
- ^{xxix} **Caledonian University:** report for Scottish Government
<http://www.scotland.gov.uk/Resource/Doc/214910/0057316.pdf>
- ^{xxx} **Climate Depot:** 'Execute' Skeptics! Shock Call To Action: 'At what point do we jail or execute global warming deniers' -- 'Shouldn't we start punishing them now?'
<http://climatedepot.com/a/1096/Execute-Skeptics-Shock-Call-To-Action-At-what-point-do-we-jail-or-execute-global-warming-deniers--Shouldnt-we-start-punishing-them-now>
- ^{xxxi} **Prison Planet:** Global Warming Alarmist Calls For Eco-Gulags To Re-Educate Climate Deniers
<http://www.prisonplanet.com/global-warming-alarmist-calls-for-eco-gulags-to-re-educate-climate-deniers.html>
- ^{xxxii} **Herald Sun:** Milne's vow to punish critics is an echo of Stalinist censorship
<http://www.heraldsun.com.au/opinion/milnes-vow-echoes-stalinist-censorship/story-e6frfhqf-1226102391516>
- ^{xxxiii} **Guardian:** Put oil firm chiefs on trial, says leading climate change scientist
<http://www.guardian.co.uk/environment/2008/jun/23/fossilfuels.climatechange>
- ^{xxxiv} **Independent - Dominic Lawson:** Kill a schoolchild. How hilarious
<http://www.independent.co.uk/opinion/commentators/dominic-lawson/dominic-lawson-kill-a-schoolchild-how-hilarious-2097680.html>
- ^{xxxv} **Prison Planet:** James Cameron and Google CEO: Questioning Warming Science is "Criminal"
<http://www.prisonplanet.com/james-cameron-and-google-ceo-questioning-warming-science-is-criminal.html>
- ^{xxxvi} **WWF:** Party leaders pledge to deliver Scotland's climate targets
http://ni.wwf.org.uk/what_we_do/campaigning/vote_earth/index.cfm?5838
- ^{xxxvii} **Wattsupwiththat:** Lord Monckton wins global warming debate at Oxford Union
<http://wattsupwiththat.com/2010/05/24/lord-monckton-wins-global-warming-debate-at-oxford-union/>
- ^{xxxviii} **Robert A. Cook, PE:** St Andrews University: Global Warming Loses Formal Debate (AGW Can't Argue Facts, Must Insult)
<http://www.freerepublic.com/focus/news/2200792/posts>
- ^{xxxix} **The Heartland Institute:** Statement by The Heartland Institute on Peter Gleick Confession
<http://heartland.org/press-releases/2012/02/20/statement-heartland-institute-peter-gleick-confession>
- ^{xl} **Telegraph:** Pachauri: the real story behind the Glacieregate scandal
<http://www.telegraph.co.uk/comment/columnists/christopherbooker/7062667/Pachauri-the-real-story-behind-the-Glacieregate-scandal.html>
- ^{xli} **Times Education:** UEA broke FoI law
<http://www.timeshighereducation.co.uk/story.asp?storycode=410209>
- ^{xlii} **Wattsupwiththat:** Climategate intensifies: Jones and Wang apparently hid Chinese station data issues
<http://wattsupwiththat.com/2010/02/01/climategate-intensifies-jones-and-wang-hid-chinese-station-data-issues/>
- ^{xliiii} **Wattsupwiththat:** <http://wattsupwiththat.com/2010/08/23/government-report-canadian-climate-data-quality-disturbing/>
<http://wattsupwiththat.com/2010/08/23/government-report-canadian-climate-data-quality-disturbing/>
- ^{xliiv} **Competitive Enterprise Institute:** Govt-Funded Research Unit Destroyed Original Climate Data
<http://cei.org/news-releases/govt-funded-research-unit-destroyed-original-climate-data>
- ^{xli v} **Dr Richard North:** And now for Amazongate
<http://eureferendum.blogspot.co.uk/2010/01/and-now-for-amazongate.html>
- ^{xli vi} **Bishop Hill:** Sir John B and the IPCC
<http://www.bishop-hill.net/blog/2011/5/17/sir-john-b-and-the-ipcc.html>
- ^{xli vii} **UKIP** introduces sceptical eco stance
<http://www.ukip.org/content/latest-news/1462-ukip-introduces-sceptical-eco-stance>
- ^{xli viii} **Telegraph:** Is Ukip's Farage poised for an election breakthrough?
<http://www.telegraph.co.uk/news/politics/ukip/9218814/Is-Ukips-Farage-poised-for-an-election-breakthrough.html>
- ^{xli ix} **BBC:** Greens in seven heaven
<http://news.bbc.co.uk/1/hi/scotland/2996719.stm>
- ⁱ **UK Skeptics:** What is Skepticism?
http://www.ukskeptics.com/what_is_skepticism.php
- ⁱⁱ **Wallace S. Broecker:** Are We on the Brink of a Pronounced Global Warming?

-
- <http://blogs.ei.columbia.edu/files/2009/10/broeckerglobalwarming75.pdf>
- ^{lii} **UEA: "Vindicated"**
<http://www.uea.ac.uk/mac/comm/media/press/CRUstatements/independentreviews>
- ^{liii} **Climate Audit - Steve McIntyre:** Oxburgh and the Jones Admission
<http://climateaudit.org/2010/07/01/oxburgh-and-the-jones-admission/>
- ^{liv} **GWPF - Andrew Montford:** The Climategate Inquiries
<http://thegwgf.org/images/stories/gwgf-reports/Climategate-Inquiries.pdf>
- ^{lv} **BBC Trust:** Review of impartiality and accuracy of the BBC's coverage of science
http://www.bbc.co.uk/bbctrust/our_work/other/science_impartiality.shtml
- ^{lvi} **Telegraph:** Steve Jones tells the BBC: don't give 'denialists' so much air-time
<http://www.telegraph.co.uk/earth/environment/globalwarming/8656765/Steve-Jones-tells-the-BBC-dont-give-denialists-so-much-air-time.html>
- ^{lvii} **An Agreement Between Her Majesty's Secretary of State for Culture, Media and Sport and the British Broadcasting Corporation**
http://www.bbc.co.uk/bbctrust/assets/files/pdf/about/how_we_govern/agreement.pdf
- ^{lviii} **BBC:** Controversy over home births in the Netherlands
<http://www.bbc.co.uk/news/health-12043693>
- ^{lix} **Alyson Henley-Einion:** The Medicalisation of Childbirth
<http://www.radcliffe-oxford.com/books/samplechapter/5545/11-2e8f624rdz.pdf>
- ^{lx} **Mail:** Is an obsession with natural birth putting mothers and babies in danger?
<http://www.dailymail.co.uk/health/article-2044875/Is-obsession-natural-birth-putting-mothers-babies-danger.html>
- ^{lxi} **BBC Scotland coverage:** [nothing could be found = no debate]
- ^{lxii} **Climateaudit – Steve McIntyre:** CRU Refuses FOI Request for Yamal Climategate Chronology
<http://climateaudit.org/2011/04/25/cru-refuses-foi-request-for-yamal-climategate-chronology/>
- ^{lxiii} **Guardian:** Climate scientists shut out sceptics by turning down data requests
<http://www.guardian.co.uk/environment/2010/feb/03/climate-scientists-freedom-information-act>
- ^{lxiv} **Climate Audit – Steve McIntyre:** Yamal FOI Sheds New Light on Flawed Data
<http://climateaudit.org/2012/05/06/yamal-foi-sheds-new-light-on-flawed-data/>
- ^{lxv} **UEA letter to Steve McIntyre**
http://www.climateaudit.info/correspondence/foi/cru/yamal/20120427%20List%20release%20letter_047_120427%20%282%29.pdf
- ^{lxvi} **Wattsupwiththat:** The pre-Climategate issue that is the issue
<http://wattsupwiththat.com/2011/04/09/the-pre-climategate-issue-that-is-the-issue/>
- ^{lxvii} **Bishop Hill: The Yamal Implosion**
<http://bishophill.squarespace.com/blog/2009/9/29/the-yamal-implosion.html>
- ^{lxviii} **New Zealand Herald - Obituary:** Jack Ridley
http://www.nzherald.co.nz/arnold-pickmere/news/article.cfm?a_id=65&objectid=10401471
- ^{lxix} **Ina May Gaskin (2003).** *Ina May's Guide to Childbirth*. New York, New York: Bantam Dell, a Division of Random House. pp. 184–203.
- ^{lxx} **The Legal Soapbox:** Pregnancy is not an illness...
<http://legalsoapbox.wordpress.com/2008/03/07/pregnancy-is-not-an-illness/>
- ^{lxxi} **BBC – James Lovelock:** The illness in Planet Earth
<http://news.bbc.co.uk/1/hi/sci/tech/5153722.stm>
- ^{lxxii} **Wattsupwiththat:** Another paper shows that severe weather/extreme weather has no trend related to global warming
<http://wattsupwiththat.com/2012/05/27/another-paper-shows-that-severe-weatherextreme-weather-has-no-trend-related-to-global-warming/>
- ^{lxxiii} **Telegraph (Australian):** Slippery when wet - Tim Flannery's climate warnings questioned after recent flooding
<http://www.dailytelegraph.com.au/news/sydney-news/slippery-when-wet-tim-flannerys-climate-warnings-questioned-after-recent-flooding/story-e6freuzi-1226355256833>
- ^{lxxiv} **Independent:** Snowfalls are now just a thing of the past
<http://www.independent.co.uk/environment/snowfalls-are-now-just-a-thing-of-the-past-724017.html>
- ^{lxxv} **Telegraph:** Six inches of snow blankets Scotland as bad weather moves south
<http://www.telegraph.co.uk/topics/weather/9182395/Six-inches-of-snow-blankets-Scotland-as-bad-weather-moves-south.html>

-
- ^{lxxvi} **BBC:** M8 motorway in Scotland reopens after big freeze
<http://www.bbc.co.uk/news/uk-scotland-11924238>
- ^{lxxvii} **Daily Mail:** All things white and beautiful: Why climate change is a good thing in the case of the snowdrop
<http://www.dailymail.co.uk/home/gardening/article-1118062/All-things-white-beautiful-Why-climate-change-good-thing-case-snowdrop.html>
- ^{lxxviii} **University of Maryland:** City UHI makes spring bloom earlier
<http://wattsupwiththat.com/2012/03/09/city-uhi-makes-spring-bloom-earlier/>
- ^{lxxix} **University of Manchester:** 'LITERATURE REVIEW: Impacts of Climate Change on Urban Environments'
http://www.sed.manchester.ac.uk/research/cure/downloads/asccue_litreview.pdf
- ^{lxxx} **Mythfolklore.net:** perry's index to the aesopica - The boy who cried 'wolf'
<http://mythfolklore.net/aesopica/perry/210.htm>
- ^{lxxx1} Hans Christian Andersen : The Emperor's New Clothes
http://www.andersen.sdu.dk/vaerk/hersholt/TheEmperorsNewClothes_e.html
- ^{lxxxii} **New Statesman:** Has global warming stopped?
<http://www.newstatesman.com/scitech/2007/12/global-warming-temperature>
- ^{lxxxiii} **Skeptical Science:** Phil Jones - Warming Since 1995 is now Statistically Significant
<http://www.skepticalscience.com/phil-jones-warming-since-1995-significant.html>
- ^{lxxxiv} **IPCC:** Climate Change 2001: Working Group I: The Scientific Basis
http://www.grida.no/publications/other/ipcc_tar/
- ^{lxxxv} **IPCC:** Climate Change 2007: Working Group I: The Physical Science Basis
http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch10s10-es-1-mean-temperature.html
- ^{lxxxvi} The Blackboard: NOAA/ NCDC: April Warmer than March
<http://rankexploits.com/musings/2011/noaa-ncdc-april-warmer-than-march/>
- ^{lxxxvii} **Clive Best:** Day of reckoning draws nearer for IPCC
<http://clivebest.com/blog/?p=3303>
- ^{lxxxviii} Wattsupwiththat: Scafetta prediction widget update
<http://wattsupwiththat.com/2012/03/11/scafetta-prediction-widget-update/>
- ^{lxxxix} **Openmarket.org:** Policy Peril Segment 5: Is the Science Debate "Over"
<http://www.openmarket.org/2009/08/05/policy-peril-segment-5-is-the-science-debate-over/>
- ^{xc} **Cfact:** UN warming report deemed 'scientifically invalid'
<http://www.cfact.org/a/1305/UN-warming-report-deemed-scientifically-invalid>
- ^{xc1} **Sacredtrust.org - Comment:** "As important a role as they play, there has to be a better alternative to coal-fired plants. That huge amount of carbon dioxide they emit can't be good for the environment."
<http://www.sacredtrustnm.org/p/threats-to-northwest-nm.html>
- ^{xcii} **Science Daily:** Can Carbon Dioxide Be A Good Thing? Physicist Explains Benefits Of Carbon Dioxide
http://www.sciencedaily.com/videos/2007/0603-can_carbon_dioxide_be_a_good_thing.htm
- ^{xciii} **Science and Public Policy Institute:** The Many Benefits of Atmospheric CO2 Enrichment
<http://www.co2science.org/education/book/2011/55BenefitsofCO2Pamphlet.pdf>
- ^{xciv} **Buy the Truth:** CO2 Enrichment and Plant Nutrition
<http://buythetruth.wordpress.com/2009/08/15/co2-enrichment-and-plant-nutrition/>
- ^{xcv} Wattupwiththat: What triggered Dr. Peter Gleick to commit identity fraud on January 27th?
<http://wattsupwiththat.com/2012/02/25/what-triggered-dr-peter-gleick-to-do-identify-fraud-on-jan-27th/>
- ^{xcvi} **Dr. Karen Cullen:** Famine in Scotland - the 'ill Years' of the 1690s
<http://www.amazon.co.uk/Famine-Scotland-Scottish-Historical-Monographs/dp/0748638873>
- ^{xcvii} Wattsupwiththat: New paper suggests sun may be headed for a Maunder minimum
<http://wattsupwiththat.com/2011/12/02/new-paper-suggests-sun-may-be-headed-for-a-maunder-minimum/>
- ^{xcviii} Science News: Flight of the Bumblebee
http://www.sciencenews.org/view/generic/id/5400/title/Math_Trek__Flight_of_the_Bumblebee