Public Attitudes to Science 2014: Social Listening
October – December 2013 report
Ipsos MORI are conducting a year long research exercise into how people talk about science. Using our social media tracking programme we are able to see who is talking about science online, what they are talking about, and when. In essence – what makes science ‘sticky’?

**September – December (Q4) objectives:**

- To continue to examine the mechanics by which particular stories spread over social networks
- Search subjects – animal testing and climate change
Method

Using our in-house social media platform we are able to measure internet traffic volumes on different subjects across a range of online sources, including Twitter, forums, blogs, news sites, etc.

Over this period we searched for mentions relating to the release of the IPCC 5th report on climate change and animal research

Our search terms:

•(("Climate change" OR "Global warming") NEAR/10 (scien* OR expert* OR tests)) AND ("IPCC" OR "International Panel on Climate Change" OR "fifth")

•"animal test" OR "animal testing" OR "animal research" OR "research on animals" OR "tests on animals*" OR "testing on animals"
Headline findings
Climate change and animal research – UK internet traffic

Global warming: Humans 'dominant cause', says UN

Report slams university’s animal research

RT @TRobinsonNewEra: Animal testing, sick and wrong, I'd rather they tested on lee rigby's killer's http://t.co/HOR9SOBsED

Amazing news: China is phasing out mandatory animal testing!
Of the science stories examined over the year, the horsemeat story provoked the most conversations…
The climate change story had a stronger news element than animal testing.

**Climate change**
- Twitter: 35%
- Traditional news: 43%
- Blogs: 14%
- Forums: 8%

**Animal testing**
- Traditional News: 9%
- Blogs/forums: 8%
- BBC: 82%

Topics:
- GM
- Measles
- Horse-meat
- Meteor
- Fracking
- Badger cull
Climate change and the Intergovernmental Panel on Climate Change (IPCC)
Climate change: one peak in conversation

The release of an Intergovernmental Panel on Climate Change report that said human activity is the “dominant cause” of climate change drove most conversation.

27th September:
IPCC climate report: humans 'dominant cause' of warming

7th November – Nick Clegg warns against a Government U-turn on the environment

17th November – Tweet by Andrew Neil, present of BBC Daily Politics, questioning the link between climate change and Typhoon Haiyan.
27th September – the IPCC report release date

More Twitter traffic, but still predominantly news reporting

The Guardian
IPCC #climatechange report: a scientist's story of approving the most important climate change report ever written t.gu.com/pgyQ6

British Medical Journal
Scientists say they are 95% certain that humanity is responsible for climate change @IPCC_CH bmj.com/content/347/bm...

Connie Hedegaard
European Commissioner for Climate Action
It's the science, stupid! Climate change is happening, humans are causing it, and action is urgent #IPCC

Human influence on climate 'clear'
Climate change is on ice: UN scientists reveal the world's barely got any hotter in the last 15 years - but say they are now 95% certain man is to blame for global warming

UN: Extremely likely global warming man-made
IPCC predicts more ferocious storms and rising seas
IPCC: Global warming is getting deeper

Many Tweets simply noted the report release
Scientific debate in forums – who is talking?

Debates on the existence of man-made climate change featured across many forums – they are one of the favourite “off-topic” subjects.

- **Computer engineering forum**
- **Anglers’ forum**
- **Student forum**
- **Daily Mail discussion forum**
- **Gamers’ forum**
Outside scientific forums the debate on climate change is polarised, reflecting broader public debate – there are no shades of grey.

Supporters of the mainstream science position on climate change cite the IPCC and its near-unanimity over man-made climate change. The focus was split between those who defended the scientific approach of the IPCC, and those who questioned the scientific credentials of the critics.

Some argued for the IPCC’s findings using scientific arguments:
- You have no idea how science works...
- The IPCC base their findings on the work conducted analytic processes to come to their conclusions.
- 97% of them accept that humans are the main cause of climate change.

Others argued by questioning critics’ credentials: unscientific, biased:
- Still, you’ve decided to play, and so now we know that your "equivalent" to the IPCC is Marc Morano, a right wing dimwit with a BA in political "science" and (as is usual) no understanding of actual science. He gets paid $150,000 a year by CFACT (a conservative "think tank") to publish anti-science bollocks on his website.
Scientific debate in forums – what are they saying?

A dominant argument amongst those who question the mainstream science position on climate change is that the IPCC and scientific community are politicised and this influences their findings – those lone voices outside this “consensus” should be trusted more. Typically criticism is based on distrust of the source and science-based arguments are less used.

Distrust of the IPCC/UN influencing the validity of the research

- The UN IPCC’s own guidelines explicitly state that the scientific reports have to be “change[d]” to “ensure consistency with” the politically motivated Summary for Policymakers.

- The modelling is broken
- The results biased
- The data hidden to stop that being found out
- A "line" is being agreed and anything contrary to it not disclosed
- And it's being politically motivated

Suspicion of a broader conspiracy is more important than scientific arguments

- The real world. Articles like the one I posted just go to show how wide of the mark they are and I really enjoy seeing their predictions proven false, hopefully these timely reminders will inject a bit of reality into a discourse that has been monopolised by doom-mongers and eco-professionals dependent on 'climate change' for a living.

- shrink again. I think the idea of man made warming is a con to harvest taxes and distract from the real issues such as fracking and globalisation.
Climate change debate – what matters?

For both sides the provenance of scientists matters as much as what the science says – who they work for, what they’ve studied, and what their political leanings are contextualise all findings.

Although both sides use science to reinforce arguments, neither fully distinguished between verified scientific research and less reputable sources.

Those who agree with the IPCC are more likely to use scientific sources, but only those that reinforce their opinions.

There are two factions, one of which outnumbers the other by about 99 to 1. The views do not hold equal weight, however much you might wish otherwise.

What I know is that despite all this global warming and Dr David Viner’s predictions last December we experienced a record amount of snowfall.

Cook's "study" is fraudulent propaganda,

97% Study Falsely Classifies Scientists' Papers, according to Cook’s 97% Consensus Study Game Plan Revealed

The Statistical Destruction of the 97% Consensus

Those who disagree used scientific sources less often, and also only used those that supported their position.
Climate change and personal insult in forums – an argument rather than a debate

Often discussions of climate change took the form of arguments rather than debates. “Trolling”, or saying something controversial designed to insult, frequently occurred on these forums.

Forums have ‘regulars’, so often the people debating know each other already, which usually makes the argument more *ad hominem*.

**Example of trolling:**

- Vinter, not Viner. To paraphrase your final sentence, if you cannot even get the name right, what makes you think that you, or anybody else for that matter is in a position to give a worthwhile opinion on the subject?
- You don’t understand anything thing that is written above. either in support of the argument or against it do you you little cretin?
- 1) You use wikipedia as a source. Lol. Just Lol.
- 2) You believe all sources as fact. 97%? Lol??
- To conclude, you’ve not contributed anything.

**Another absolute classic:** coming from the windbag who subjects anyone who’ll listen to his dice theory over and over again...

- How’s your history thesis on people dropping like flies from *heart disease* in the middle ages coming along? You can’t get any more stupid than that. And you just pulled that one out the ether, and were then taken to task by just about everyone else on the thread. Finally having to admit that you just made it up.
Animal research
Animal research – continuous discussion with small peaks

Unlike some other topics there is always a certain level of discussion on animal testing; these are often strongly held views.

Report slams university’s animal research

RT @TRobinsonNewEra: Animal testing, sick and wrong, I'd rather they tested on lee rigby's killer's http://t.co/HOR9SOBsED

Say no to animal testing pic.twitter.com/IJ3q2rydD7

Animal testing makes me sick

Animal testing being discussed on #bbcbreakfast

The Beauty Shortlist @BeautyShortlist
Finally!! China to phase out animal testing from June 2014 @HumaneSociety @thebuav @RickyGervais

September | October | November | December
A number of types of conversation around animal testing – general public

<table>
<thead>
<tr>
<th>Medium</th>
<th>Average mentions per day (over monitoring period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twitter</td>
<td>64</td>
</tr>
<tr>
<td>News websites</td>
<td>7</td>
</tr>
<tr>
<td>Forums</td>
<td>4</td>
</tr>
<tr>
<td>Blogs</td>
<td>2</td>
</tr>
</tbody>
</table>

Twitter traffic was the largest source of animal testing conversations over the monitoring period.

Many conversations were unprompted from the general public:

- Researching animal testing for my bio coursework is making me sad idk
- Why do people who support animal testing even exist?

I don't understand why animal testing still happens because like surely we as a human race know what is harmful and what isn't by now.

Calgon tests on animals which is so confusing like why on earth would you need to test washing machine products on animals.
A number of types of conversation around animal testing – advocacy groups

Reports from anti-testing organisations on campaigns and direct action were another major source

<table>
<thead>
<tr>
<th>Most Mentioned Tweeters</th>
<th>TWEETS</th>
<th>RETWEETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>@peta</td>
<td>101</td>
<td>391</td>
</tr>
<tr>
<td>@thepoke</td>
<td>14</td>
<td>161</td>
</tr>
<tr>
<td>@earthactivists</td>
<td>4</td>
<td>137</td>
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<td>@trobinsonnewera</td>
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<td>@petauk</td>
<td>32</td>
<td>93</td>
</tr>
<tr>
<td>@allanimalrights</td>
<td>4</td>
<td>89</td>
</tr>
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<td>@thebuav</td>
<td>23</td>
<td>83</td>
</tr>
<tr>
<td>@crueltyfreeintl</td>
<td>17</td>
<td>80</td>
</tr>
</tbody>
</table>

Anti testing organisations such as PETA and BUAV were amongst the most mentioned sources

Lush Fighting Animal Testing: Live Demonstration at Regents Street [fb.me/1MollTer3](http://fb.me/1MollTer3)

Insight on how PETA helps animals by working with industry and regulatory bodies on non-animal research methods [petauk.org/b035](http://petauk.org/b035)

BRAZIL: Activists LIBERATE 178 Beagles from animal testing laboratory [allanimalrights.org/News-901-BRAZI… #AnimalLiberation #BlackBlock #AnimalRights](http://allanimalrights.org/News-901-BRAZI… #AnimalLiberation #BlackBlock #AnimalRights)
A number of types of conversation around animal testing – “naming and shaming” firms

Some firms – such as L’Oreal – were defending themselves on Twitter. Others actively advertised their anti-testing credentials

Lush animal testing protest: Woman subjected to 'experiments' in front of horrified shoppers bit.ly/JnZUba via @MailOnline

The cosmetics firm Lush organised a demonstration to highlight its non-testing credentials

Many other questions and statements:

Out of interest where do UKIP stand on animal testing / cruelty?

Thought of the day: The Body Shop is AMAZING 100% vegetarian Completely FAIR TRADE ZERO testing on animals…. fb.me/S2DVW8wmN
The higher conversation peaks: not only a spike in news coverage, but a spike in Twitter conversations

10th December – a highly critical report is published on animal testing at Imperial College

Revealed, how rats are GUILLOTINED in college's lab: Top university to overhaul animal research after undercover investigation finds appalling conditions

Pushing animal testing further into mainstream conversation provoked increased levels of existing conversations, and new conversations too

More conversation from anti-animal testing organisations

@timeshighered reports ‘Imperial animal testing report ‘should resonate’ across sector’ bit.ly/1gVxYx2

Higher levels of companies offering reassurance on their stance to customers

New, topical debates on news and radio networks, and on forums

New, topical, humorous posts

Imperial College has been caught mistreating animals in their laboratories. Is animal testing unethical & outdated? @theanthonydavis

this logo is to show we are against animal testing. For any further information please visit frame.org.uk

@nextofficial
Twitter traffic on animal testing is strongly anti-testing, often violently so: this topic arouses strong emotions in some organisations such as PETA and BUAV tweet predominantly about animal testing; and many on Twitter share their aversion to it.

<table>
<thead>
<tr>
<th>Most frequently tweeted links – all anti testing:</th>
<th>TWEETS</th>
<th>RETWEETS</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="https://secure.peta.org/site/Advocacy?cmd=display&amp;page=UserAction&amp;id=4965">https://secure.peta.org/site/Advocacy?cmd=display&amp;page=UserAction&amp;id=4965</a></td>
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<td>170</td>
</tr>
<tr>
<td><a href="http://twitter.com/ThePoke/status/410475211960504320/photo/This">http://twitter.com/ThePoke/status/410475211960504320/photo/This</a> humorous tweet was an exception</td>
<td>17</td>
<td>162</td>
</tr>
<tr>
<td><a href="http://twitter.com/TRobinsonNewEra/status/413040192115970048/photo/1">http://twitter.com/TRobinsonNewEra/status/413040192115970048/photo/1</a></td>
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<td>135</td>
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<tr>
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<tr>
<td><a href="http://twitter.com/PamelaDAnderson/status/412691750063333378/photo/1">http://twitter.com/PamelaDAnderson/status/412691750063333378/photo/1</a></td>
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<td>50</td>
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<tr>
<td><a href="https://www.facebook.com/photo.php?fbid=757765920916230&amp;set=a.57428755930735.151001.198519903">https://www.facebook.com/photo.php?fbid=757765920916230&amp;set=a.57428755930735.151001.198519903</a>...</td>
<td>0</td>
<td>47</td>
</tr>
<tr>
<td><a href="http://twitter.com/BeagleFreedom/status/39622987286286337/photo/1">http://twitter.com/BeagleFreedom/status/39622987286286337/photo/1</a></td>
<td>0</td>
<td>47</td>
</tr>
<tr>
<td><a href="http://crueltyfree.org/news/2013/06/africa-ban-on-experimental-animal-testing">http://crueltyfree.org/news/2013/06/africa-ban-on-experimental-animal-testing</a></td>
<td>0</td>
<td>41</td>
</tr>
</tbody>
</table>

The anger over the subject is best exemplified by this tweet from EDL founder Tommy Robinson, which was retweeted 135 times:

Animal testing, sick and wrong, I'd rather they tested on lee rigby's killer's
Climate change and animal research
Science, morality and conspiracy
Climate change is generally assigned greater global importance than animal testing, but conversations online do not fully reflect this fact – although climate change has the higher peak, “background conversation” on animal testing is higher.

The organisations and people who use Twitter and write online about animal testing may be a small group but over time their volume can compete with stories with wider relevance.

Total mentions over monitoring period:

- Climate change: 3,695
- Animal testing: 9,563
Both topics provoked scientific conversations, but other types of conversation were more prevalent

Twitter conversation on animal testing often focussed on the *moral* need to stop it

Climate change Twitter conversation was more science-based, but often focussed on the IPCC scientists themselves rather than the science

Word clouds are a representation of the frequency with which particular terms are present in the data
Different types of argument

Animal research conversations had less of a “debate” element to them – typically conversations were entirely against testing. The level of scientific conversation was also lower – the focus was normally on the ethics or morality of animal research.

News coverage and Twitter conversations around climate change were similarly one sided, but on forums and blogs there was a great deal of debate for and against. This debate was often based in science, with data and articles used to defend individual views. But other factors – particularly political considerations – were given at least equal weight in the argument.

The debate over climate change was closer to a public discussion of science. But few people appeared to change their minds – scientific arguments were used to back up pre-set ideas and attitudes.
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