How to Give a Good Presentation

By Richard Green

I don't think anyone wants to give a bad presentation at a conference (or anywhere else), but it is sadly true that many people do. In most cases, I'm sure that this is not due to a lack of thought or preparation, but it may be due to not thinking about the presentation in the right way. I believe the key questions are "what am I aiming to achieve?" and "how can I get information across to give myself the best chance of achieving this aim?"

A typical conference presentation may only last for 15 minutes, followed by a couple of minutes for questions. This means that you cannot expect to tell the audience every detail of your research, or hope for in-depth discussion of (say) econometric techniques. Instead, you want the audience to hear your key messages – what have you discovered, how do you know it, and why is it important and/or interesting?

I suggest you start by saying what you are looking at, and why it is important. Many of the people coming to a parallel session at an IAEE conference will have a good background in the area of your paper, but some may not, particularly if the papers in your session are not very close to each other. In my most recent presentation (of a paper with Joachim Geske, at the Singapore international conference), we set the scene by pointing out that both energy storage and demand response are potential solutions to the variability of renewable electricity generation, and that our aim was to ask whether demand response could also be seen as a kind of storage – storing consumption rather than energy. You don't need to go back to the real fundamentals – we didn't spend time on why renewables are being adopted as a response to climate change.

This gets me back to the second question I posed at the start of this article, but perhaps in a different form: "what is the right amount of information to give my audience?" If I give them too little information, they won't be able to properly understand my research. If I try to give them too much, they won't be able to absorb it all, and this will also make it less likely that I achieve my aim. Everything I put in a presentation has an opportunity cost – either I have to take something else out, or I have to put the information across faster, which may be too fast for easy understanding. A long introduction to set the scene gives me less time to talk about my own contribution. For this reason, I rarely include a formal "outline" slide.

I probably spend too little time putting things in the context of existing research. As well as giving credit to those who have gone before, this can help reassure your audience that your techniques (if previously used by others) are sensible, and that others also felt your topic deserved attention. When I do have a "literature slide", however, I try not to use a reference like "Newbery (1995)". Some people will immediately recognise the article, but if you don't, the Harvard style doesn't give much help for finding it – and what if the author has a common name? Give slightly more information: "Newbery (Energy Journal, 1995)" – that's enough to quickly note down and easily find after the conference. But do not put the full reference – the paper's title and page numbers – on a slide appearing in the middle of your presentation.

The point that this illustrates may be my most important advice. Whenever something new appears on the screen, your audience will start to look at it, and won't be paying full attention to what you are saying until they have processed the new information. If you give them lots of words to read, or several equations, or a complex diagram, you will distract them for quite a long time. It will be even worse if the font sizes are small enough to make things hard to read. The conference venue may give you a relatively small screen in a large room – don't choose font sizes that would only work with a large screen in a small room. And please don't argue that you didn't choose your font size, but took the one that came with your institution's template. Imperial College Business School has a template that looks very nice, but uses relatively small fonts as its default option, and draws lines on graphs in similar colours that are hard to tell apart. Since I want my audience to see what I've done, I make the fonts big enough to read easily, change the colours and make the lines thicker until the differences are clear.

I can give my audience more information, and they will absorb more of it, if I break it up and present it in small pieces. If I have "bullet points" with lots of text (which can be helpful for people who have less experience of listening to spoken English) I may get them to "appear" one at a time. (I would never use the trick, sometimes seen in pdf presentations, of distracting the audience by putting everything on the screen in a hard-but-just-possible to read light colour.) I put "appear" in quotations to show the

Richard Green is the Alan and Sabine Howard Professor of Sustainable Energy at the Imperial College Business School in London. He may be reached at r.green@imperial.ac.uk

PowerPoint command that does exactly that; fancy entrances are available, but I don't want to distract my audience.

If a diagram is made up of many separate PowerPoint items, I may get them to appear at different times, starting with something simple. If I have imported it as a single picture, I may cover parts of it with shapes in my background colour, and make them "disappear" as I discuss those things. I don't think it is possible to make part of a PowerPoint chart "appear", and so I copy the slide with the final version of a graph, change one (or more) series to "no line" and cover its legend entry with a box in the background colour. As I move from this altered slide to the next, my series and its legend appear, focusing the audience's attention on the thing I want them to look at, while nothing else should move. I might want a slide to end with two graphs side by side, but that doesn't mean they both have to be there as soon as the slide is shown.

Equations can be difficult – will the audience understand your notation? It may be standard – but every electrical engineer "knows" that p indicates the amount of (real) power, and π is its price, as opposed to the economists who "know" that I've just written the symbols for price and profits. In many presentations, I use words to describe what I am optimising, but don't actually give the equation – remember that I am using the presentation to tell the audience what my research is about and why it is worth their while to follow up by reading the paper. I can't communicate all of the information that a referee would need, or someone trying to replicate my results, and the audience would probably remember less of my presentation if I tried to do so. If it is a more theoretical paper, where the results depend on the equations, I will naturally show and explain them, but can make the presentation easier to follow by highlighting particular parts in turn.

For numbers, remember again that "less can be more". Please don't try to persuade me that the difference between 123456789 and 123456788 is important in the context of most energy research. Writing the number as 123.4 million will usually be accurate enough, and the shorter number takes less time to process. I could quickly see that 123.2 million is (slightly) different in a way that long strings of digits hide. Axis labels on a chart should probably have between two and four digits – it can be a good idea to multiply or divide the numbers in your data source by 1,000 (or more) to get to units that allow this. It is much better to show that annual electricity consumption in Great Britain is around 300 TWh than to present it as 300,000 GWh. Make sure your tables are aligned on the decimal point (or last digit if you don't have one), especially if the numbers differ by an order of magnitude or more.

After you have told the audience what you believe you have discovered, and why, conclude by reminding them of why it is important. If your paper has a specific setting, can you draw out themes or lessons that apply more generally? This will make your paper more interesting to the non-specialists in the room, but don't go overboard – people will know if you are over-claiming.

When it comes to the presentation itself, try to look at the audience as much as possible, as eye contact helps engage them. It can be better to use the computer's mouse arrow to highlight things on screen (which you can do while basically facing forward) than to turn your back and use a laser pointer. This is especially important if you are giving a talk in a room with two screens and an audience scattered in front of both of them.

A good session chair will be sitting somewhere you can easily see them, and will be holding a card or piece of paper to show when you have five minutes left, and when you have two minutes. Do practice your presentation to check that you can finish within the time allowed, and if you are behind schedule at the five minute warning, that is the time to speed up – rushing just the last two minutes, or overrunning by more than a few seconds, won't give a good impression. If you do finish on time, there will be a chance for a couple of questions or suggestions, which I hope you find useful. Don't allow your answers to get bogged down in detail – the next presenter will be anxious to start – but feel free to ask the questioner if you can carry on the discussion at the end of the session.

After the session, the organisers may want to post your slides. I often create a new pdf for this – it allows me to "tidy up" slides that had boxes covering up things I didn't want to show at first, or to show only the final version of a chart that grew over several slides. I can also add extra notes to make it clear what I am using a graph to show, or explain short bullet points at greater length. If I am using a lot of these, I write them in the PowerPoint "notes" screen, and print the document to pdf in this format.

May I offer one final piece of advice? Please don't read your slides out loud. Your audience can read them faster than you can speak, and so they will quickly get bored – you are giving them too little information. It's even worse if you turn your back on the audience to do so. I realise that one reason many people read their slides is that they find it difficult to present in a foreign language – this is something

that I myself would find impossible. In the early years of my career, however, after a couple of very poor presentations, I realised that I (then) needed to write out what I wanted to say, read it through a few times, and have a copy ready for use in the presentation. The key thing, though, is that I never wrote out just the words on the slides, but something different, so that the audience had a reason to listen to me. So my advice would be that if having a piece of paper with the words you might use gives you confidence, bring it with you – but make (most of) those words different from the ones on your slides.

I have an unfair advantage, for English is my first language, but this brings risks. I may speak too quickly, or use obscure words, or put in jokes that only work for people who have seen my favourite TV programme. If I have done so in your presence, please accept my apologies.

IAEE/Affiliate Master Calendar of Events

(Note: All conferences are presented in English unless otherwise noted)

Date	Event, Event Title	Location	Supporting Organization(s)	Contact
2017				
October 12-14	2nd IAEE Eurasian Conference *Energy in Eurasia: Economic Perspectives On Challenges, Risks and Opportunities*	Zagreb, Croatia	IAEE	Gurkan Kumbaroglu gurkank@boun.edu.tr
November 12-16	35th USAEE/IAEE North American Conference *Riding the Energy Cycles*	Houston, TX, USA	USAEE	David Williams usaee@usaee.org
2018				
April 22-24	11th NAEE/IAEE Conference Theme to be Announced	Abuja, Nigeria	NAEE/IAEE	Wumi Iledare wumi.iledare@yahoo.com
June 10-13	41st IAEE International Conference *Security of Supply, Sustainability and Affordability: Assessing the Trade-offs Of Energy Policy*	Groningen, The Netherlands	BAEE/IAEE	Machiel Mulder machiel.mulder@rug.nl
September 23-26	36th USAEE/IAEE North American Conference *Evolving Energy Realities: Adapting to What's Next*	Washington, DC, USA	USAEE	David Williams *usaee@usaee.org*
November 2-4	6th IAEE Asian Conference Energy Exploitation and Cooperation in Asia	Wuhan, China		Xiao Jianzhong xjianzhong@cug.edu.cn
2019				
May 26-29	42nd IAEE International Conference *Local Energy, Global Markets*	Montreal, Canada	CAEE/IAEE	Pierre-Olivier Pineau *pierre-olivier.pineau@hec.ca*
August 25-28	16th IAEE European Conference *Energy Challenges for the Next Decade: The Way Ahead Towards a Competitive, Secure and Sustainable Energy System*	Ljubljana, Slovenia	SAEE/IAEE	Nevenka Hrovatin *nevenka.hrovatin@ef.uni-lj.si*
2020				
June 21-24	43rd IAEE International Conference *Energy Challenges at a Turning Point*	Paris, France	FAEE/IAEE	Christophe Bonnery *Christophe.bonnery@faee.fr*
2021				
July 25-28	44th IAEE International Conference *Mapping the Global Energy Future: Voyage in Unchartered Territory*	Tokyo, Japan	IEEJ/IAEE	Yukari Yamashita *yamashita@edmc.ieej.or.jp*