

UK energy research & the gendered institution

RGS conference, 30th August 2019, London
Session: Bringing new voices into the energy (policy) debate



Jess Britton, Julie Smith, Basia Cieszewska

Are women under-represented in energy research funding?

- Review the literature
- Analyse available data on women and funding
- Interview female energy academics at various career stages
- Produce a report that aims to mobilise change and support decision-making by funders

Power Shift:

How to build Gender Balance in the Energy Research Portfolio

UKERC



Why?

- lack of diversity inhibiting research innovation and limiting economic growth (O'Connor, 2018; Pearl-Martinez & Stephens, 2016)
- *'these aren't new shocking facts. This is old news.'* (Zecharia et al. 2013)

Figure 2: Higher education female population in 2017-18



Source: Authors analysis from HESA data⁸

<https://www.hesa.ac.uk/data-and-analysis/staff>

Why energy?

- ‘Interdisciplinary subjects such as energy research have been studied [in relation to gender and diversity] less frequently than relatively contained disciplines such as mathematics’ (Ryan, 2014).
- Analysis of almost 4500 energy research articles = <16% of authors identified as female and none reported training in women’s studies, feminism, gender studies, or related disciplines (Sovacool, 2014).
- Anecdotal suggestion that energy is worse than the overall EPSRC portfolio
- Energy research and industry needs to transform rapidly – needs new ideas and perspectives

Methods

- Analysis of applications (PI/Co-I), funding, studentships and peer review panels (EPSRC, ESRC, UKERC EDC), 2011/12 – 2018/19
- Semi-structured interviews – 29
- Focus groups x 2 (total 30 female ECRs)

Career stage	Number
Early Career Researcher	9
Mid-career Researcher	12
Senior Academic	7
Independent Energy Consultant	1
Number of different host Universities across the UK	19

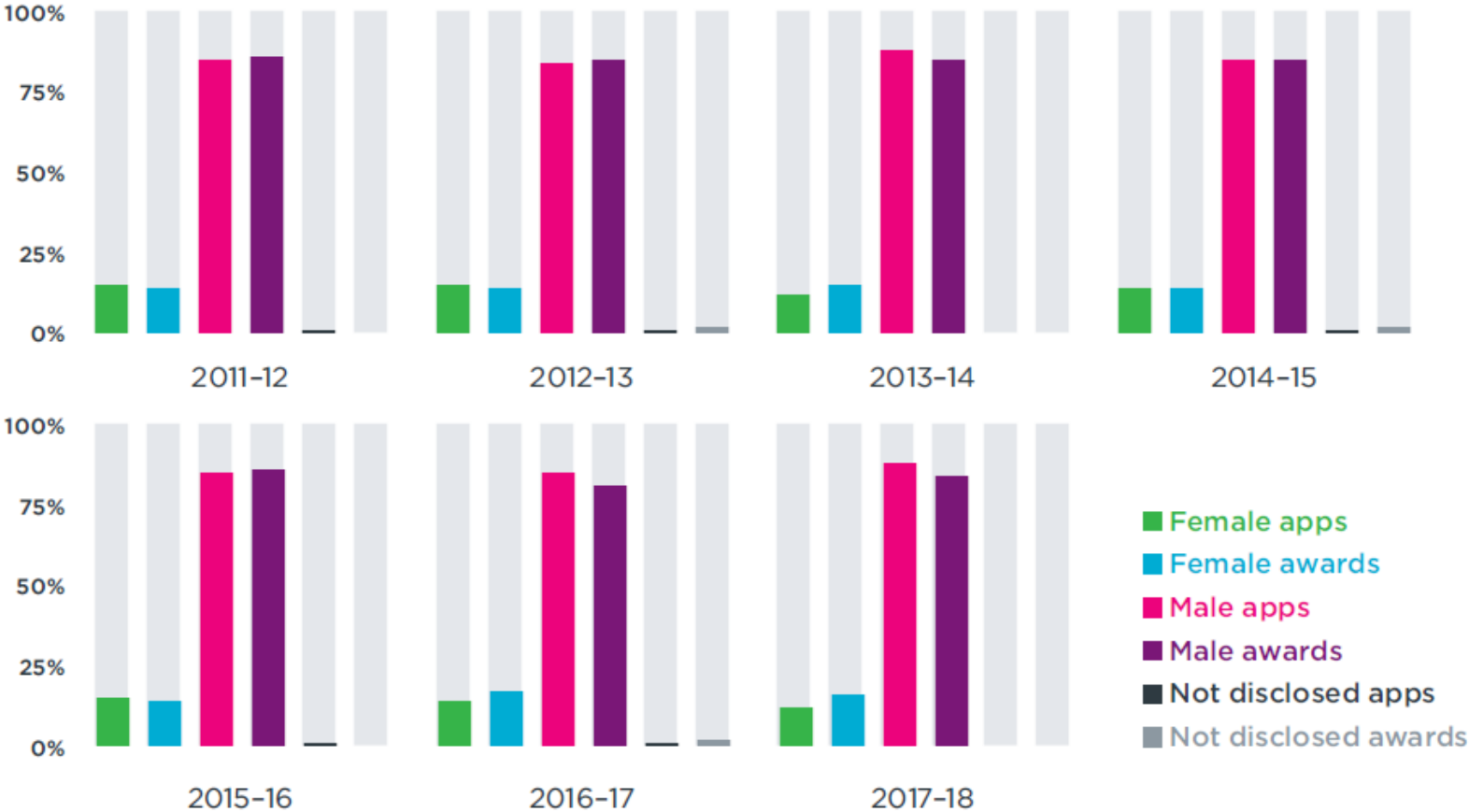
Data

- Difficult to define energy research – EPSRC, ESRC, NERC, STFC, BBSRC
- Lack of data across thematic areas
- Lack of transparency
- EPSRC = applications, peer review, students
- EDC = EPSRC + ESRC 11/12-18/19 = 1839 awards
- EPSRC £2.06bn / ESRC £52.3mn

Headline findings: funding data and academic populations

- Application rates from women are low for energy funding, although largely in line with academic populations
- When they apply female academics are equally, and sometimes more, likely to be funded than male academics
- There is a significant drop off in numbers of women between studentships and funded academic level
- Grants awarded (and applications made) tend to be for smaller value grants

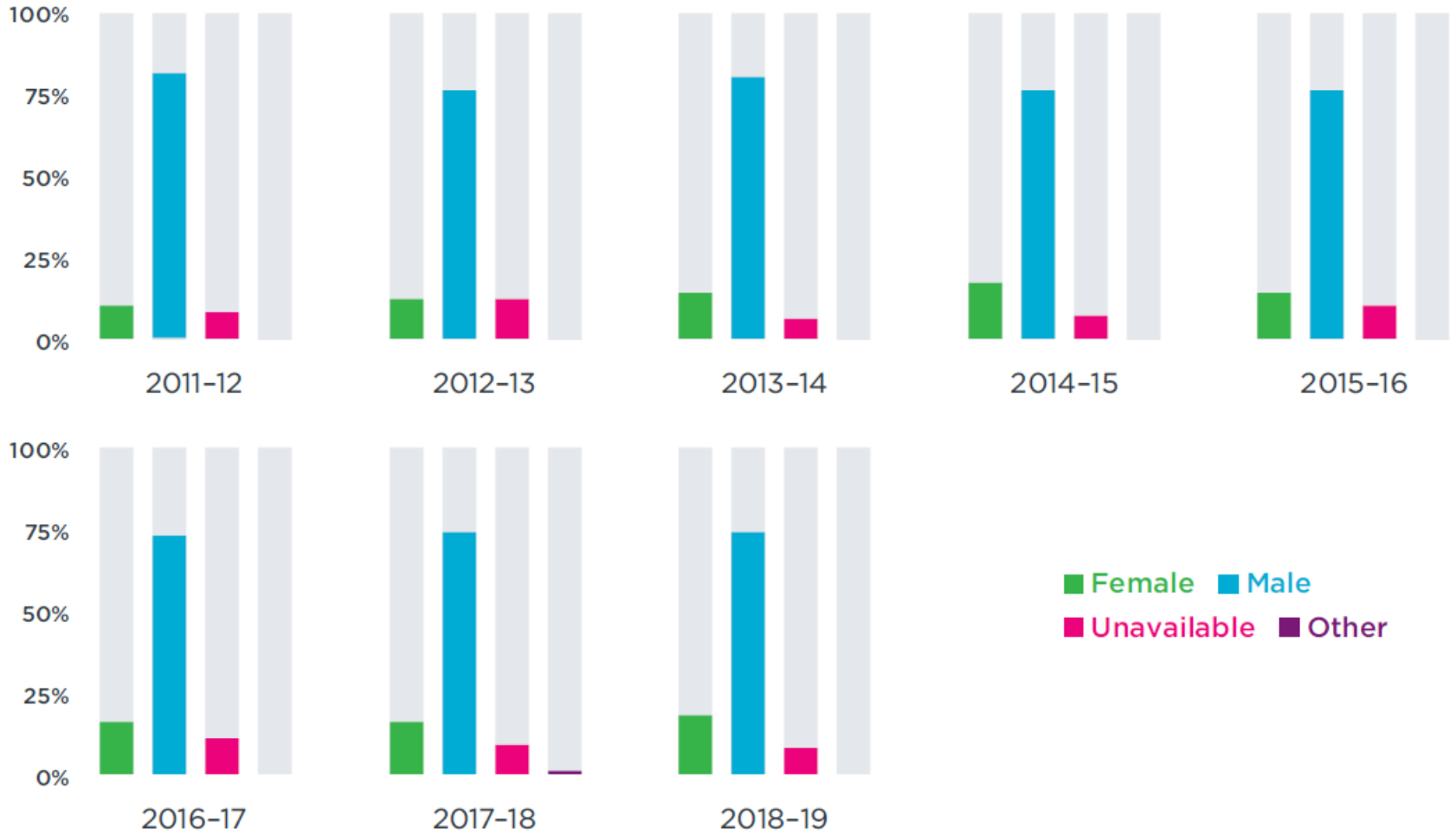
Figure 1 Combined Principal Investigator (PI) and Co-Investigator (Co-I) grant and fellowship applications and awards in EPSRC Energy



Source: Authors from EPSRC Energy Data

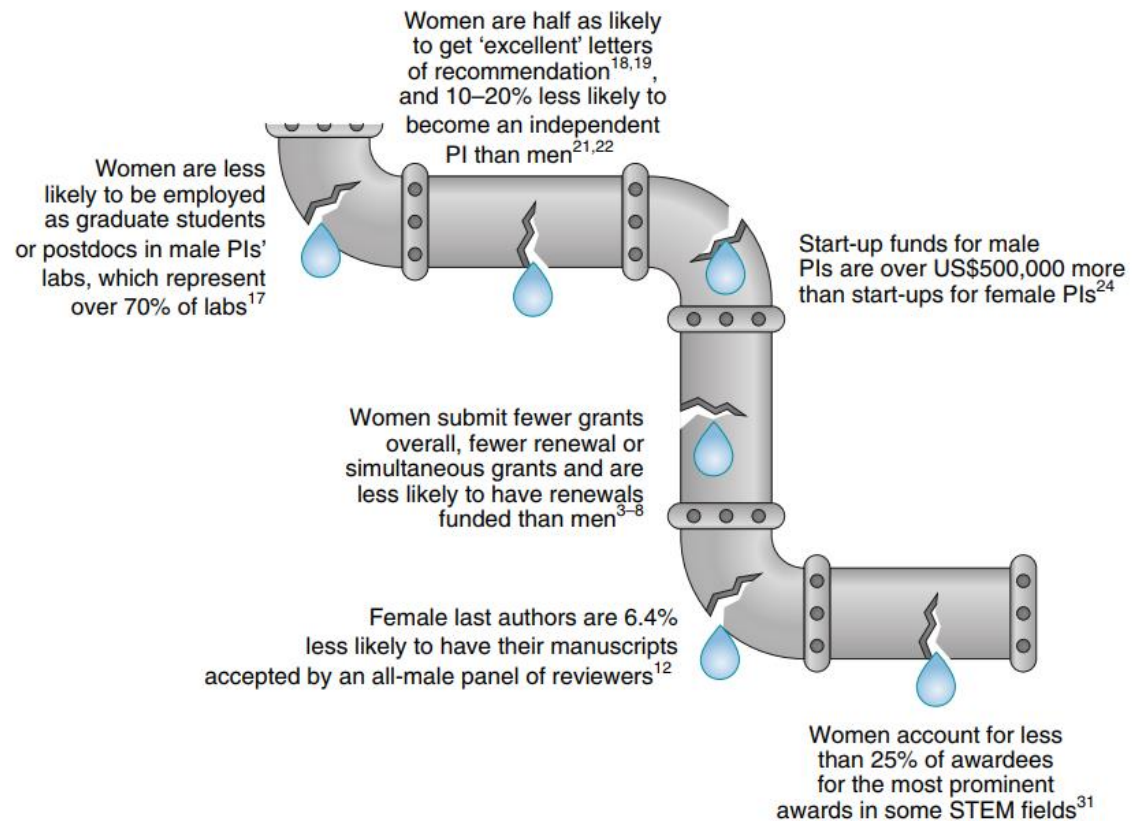
Figure 13 Proportion of female PIs in all funded projects

Source: Authors



Interviews and focus groups

- Participants described implicit and explicit biases
- Funding structures
- Support structures
- Academic culture
- Institutional culture



Grogan (2019) <https://www.nature.com/articles/s41559-018-0747-4.pdf>

Recommendations

- **Look at the data** – transparency, monitoring, reviewing success metrics
- **Fund more women** – assessment of PT working/periods of leave, innovate in funding processes, less focus on large centres, fund female-led networks and coalitions
- **Stimulate career progression for female energy academics** - tackle systemic issues within university structures (long hours culture, focus on metrics)
- **Build on what is working** - identify important points of engagement e.g. women leading major research projects bring in more women. Adopt systemic solutions.

Top-down, bottom up and middle out

BIG PICTURE

Public policy, legislation, funding and research assessment, institutional structures and cultures

Innovate:

Leadership that promotes
EDI/teamwork/change
in culture



Transition:

New social norms build
gender balance



Communication:

Share solutions/
leverage ideas/increase
collaboration

Initiate behavioural and attitudinal change in institutions and research groups,
leverage input from peoples' experience and ideas

FORWARD-LOOKING

Source: Authors (concept adapted from Research Culture:
embedding inclusive excellence. Royal Society 2018¹¹²)

But...

- Our recommendations are not ground breaking!
- There is a very significant body of evidence relating to gender bias in academia (see Grogan, 2019 for a STEM summary and Savonick & Davidson, 2016 for an overview of studies)
- So what does our study tell us about the nature of academic work?

The 'gendered institution'



- Concept well established (Acker 1992)
 - how the appearance of gender neutrality is maintained in the face of evidence of gendered structures
 - inequality legitimised through use of symbolic policies and lack of structural/cultural change (Sang et al 2015; Harmen and Sealy, 2017)
 - Ideas of the 'ideal worker' are internalised – ideologically and habitually (Foucault's concept of 'technologies of the self' and 'self governing')

Symbolic policies

- Focus on overt processes (e.g. representation of genders on panels) rather than more covert processes (e.g. addressing the mechanisms through which applications are assessed) (Burkinshaw et al, 2018)
- Lack of clarity regarding assessment of career breaks
- ‘Self improvement’ focus
- Practice often not inline with policies – timescales, invite only funding events, sandpits



Symbolic policies

‘[Universities] say all the right things, and that’s really important...there are provisions in place, colleagues are generally very understanding... But that is outweighed by the nature of the system which is one where the harder you work, the more you publish, the better it is’.

representation of genders
covert processes (e.g.
through which applications
(, 2018)
ment of career breaks

- Practice often not inline with policies – timescales, invite only funding events, sandpits

Symbolic policies

'[Universities] say all the right things, and that's really important...there are provisions in place, colleagues are generally very

understanding... But that's by the nature of the system where the harder you work to publish, the better

'it's absolutely great to provide, support and mentoring for individual women but not as a way of papering over the cracks in the system'.

- Practice often not only funding events, seminars

representation of genders
covert processes (e.g.
through which applications

peer breaks

escalates, invite

Symbolic policies

'[Universities] say all the right things, and that's really important...there are provisions in place, colleagues are generally very

understanding... But that by the nature of the system where the harder you work to publish, the better

'it's absolutely great to provide, support and mentoring for individual women but not as a way of papering over the cracks in the system.'

representation of genders covert processes (e.g. through which applications

er breaks

escales invite

- Practice often not only funding events, and

'I start to worry if all the emphasis is put on what women need to do to improve their own careers. So, essentially if you make it an individualistic problem and not a systemic problem.'

Research culture and the ideal worker

- The ‘ideal academic’ ... ‘works long hours, is willing and able to travel, is research active and productive...[and] embedded within social networks that will enhance promotion prospects’ (Sang et al. 2015)
- Lack of recognition for collegiate working and pastoral work
- The ‘excellence’ agenda and increasing focus on metrics

Research culture and the ideal worker

‘there is that culture within academia of big beasts, and they tend to be big male beasts who set the tone for what happens’

works long hours, is
el, is research active

and productive...[and] embedded within social networks that will enhance promotion prospects’ (Sang et al. 2015)

- Lack of recognition for collegiate working and pastoral work
- The ‘excellence’ agenda and increasing focus on metrics

Research culture and the ideal worker

‘there is that culture within academia of big beasts, and they tend to be big male beasts who set the tone for what happens’

‘compared to other working environments, there are some behaviours that are not as well prized. Being a really good contributor to a team and collective problem-solving. And communication and engagement type skills which are typically feminine skills and behaviours, are not as prized in academic circles.’

works long hours, is research active
ed within social
motion

- Lack of passion for working and
- The ‘excellence’ agenda and increasing focus on metrics

Research culture and the ideal worker

‘there is that culture within academia of big beasts, and they tend to be big male beasts who set the tone for what happens’

‘compared to other working environments, there are some behaviours that are not as well prized. Being a really good contributor to a team and collective problem-solving. And communication and engagement type skills which are typically feminine skills and behaviours, are not as prized in academic circles.’

‘Women like me do not need advice on how to compete with men, or how to ‘be more Mars’, but on how to find a place in a system that wasn’t made for us’

- Lack of passion
- The ‘excellence’ agenda on metrics

Research culture and the ideal worker

‘there is that culture within academia of big beasts, and they tend to be big male beasts who set the tone for what happens’

works long hours, is research active
ed within social
motion

‘compared to other working environments, there are some behaviours that are not as well prized. Being a really good contributor to a team and collective problem-solving. And communication and engagement type skills which are typically feminine skills and behaviours, are not as prized in academic circles.’

• Lack of passion

the working and

• ‘Academic careers are assessed on how hard you are prepared to work’

‘Women like me do not need advice on how to compete with men, or how to ‘be more Mars’, but on how to find a place in a system that wasn’t made for us’

Conclusions

- Participants recognised structural and cultural issues – but felt relatively powerless to resist ‘ideal academic’ framings
- Partly challenges Britton’s (2017) findings regarding female academics recognising structural disadvantage but under-recognising more pervasive forms of cultural or interactional disadvantage.
- Resistance through own networks, trying to ‘game the system’, importance of feminist (not necessarily female) leaders

Conclusions

- Need systemic not symbolic actions – we are all part of that
- Links between academic/non-academics could be a dynamic area for energy
- Funders need to be more ambitious

‘Perhaps the challenge lies in outdated expectations of what an academic should be. There’s an expectation that everyone should be equally productive from day one, without a break. Maybe we should think instead that an academic life is built up over a long period of time and can be strengthened with slightly different life experiences.’ Lynn P. Nygaard

<http://kifinfo.no/en/2019/01/when-numbers-tell-different-stories>

References

- Britton, D. M. (2017) 'Beyond the chilly climate: The Salience of Gender in Women's Academic Careers', *Gender and Society*, 31(1), pp. 5–27.
- Burkinshaw, P., Cahill, J. and Ford, J. (2018) 'Empirical evidence illuminating gendered regimes in UK higher education: Developing a new conceptual framework', *Education Sciences*, 8(2).
- Grogan, K. E. (2019) 'How the entire scientific community can confront gender bias in the workplace', *Nature Ecology and Evolution*. Springer US, 3(1), pp. 3–6.
- Karataş-Özkan, M. and Chell, E. (2015) 'Gender inequalities in academic innovation and enterprise: A bourdieuan analysis', *British Journal of Management*, 26(1), pp. 109–125.
- O'Connor, P. (2018) 'Introduction to special issue on gender and leadership and a future research agenda', *Education Sciences*, 8(3).
- Pearl-Martinez, R. and Stephens, J. C. (2016) *Dear Hillary: Where are the women in your energy strategy?*, *The Conversation*. Available at: <https://theconversation.com/dear-hillary-where-are-the-women-in-your-energy-strategy-58847>.
- Ryan, S. E. (2014) 'Rethinking gender and identity in energy studies', *Energy Research and Social Science*, 1, pp. 96–105.
- Sang, K. *et al.* (2015) "'Being an academic is not a 9-5 job": long working hours and the "ideal worker" in UK academia', *Labour & Industry*. Routledge, 25(3), pp. 235–249.
- Savonick, D. & Davidson, C. N (2017) *Gender Bias in Academe: An Annotated Bibliography of Important Recent Studies*, London Schools of Economics, <https://blogs.lse.ac.uk/impactofsocialsciences/2016/03/08/gender-bias-in-academe-an-annotated-bibliography/>
- Sovacool, B. K. (2014) 'What are we doing here? Analyzing fifteen years of energy scholarship and proposing a social science research agenda', *Energy Research and Social Science*, 1, pp. 1–29.
- Zecharia, A. *et al.* (2013) *Through Both Eyes: The Case for a Gender Lens in STEM*. Available at: http://sciencegrrl.co.uk/assets/SCIENCE-GRRL-Stem-Report_FINAL_WEBLINKS-1.pdf.