UK energy research & the gendered institution
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Session: Bringing new voices into the energy (policy) debate

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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
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

- Undergraduate student population: 56.5%
- Postgraduate population: 58.2%
- Academic staff population: 45.9%
- Professors: 25.5%

Source: Authors analysis from HESA data

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)

<table>
<thead>
<tr>
<th>Career stage</th>
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<tr>
<td>Early Career Researcher</td>
<td>9</td>
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<tr>
<td>Mid-career Researcher</td>
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<td>Senior Academic</td>
<td>7</td>
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<td>Independent Energy Consultant</td>
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<td><strong>Number of different host Universities across the UK</strong></td>
<td><strong>19</strong></td>
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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

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 2018[112])
But...

• Our recommendations are not groundbreaking!
• 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
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Energy Policy Group
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‘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
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• ‘Academic careers are assessed on how hard you are prepared to work’
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