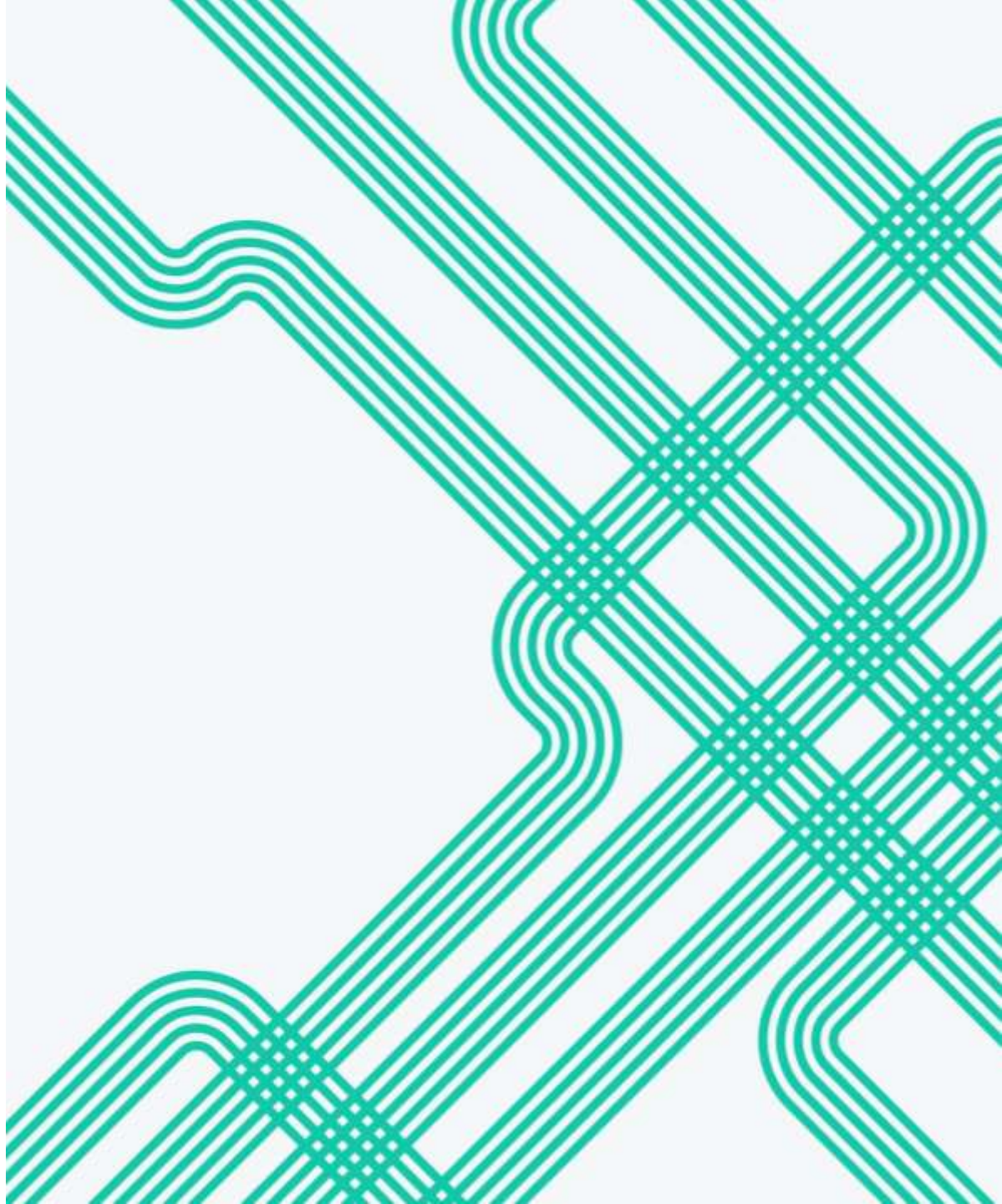
# Session 1: Interdisciplinarity and the social sciences - working across boundaries

Pete Bailey (Environment Agency)
Nicky Beaumont (Plymouth Marine Laboratory)
Benjamin Sovacool (University of Sussex),
Fern Elsdon-Baker (University of Birmingham)



# Session 1 Format:

Session Facilitator – Pete Bailey

15.05 -15.15 - The Why, What and How of Interdisciplinary Endeavour: Nicky Beaumont

15.15 -15.25 - Interdisciplinarity and the social sciences - working across boundaries, Benjamin Sovacool

15.25 - 15.35 - Practice and research case studies: Pete Bailey and Fern Elsdon-Baker

15.35 - 16.00 – facilitated break out group sessions

16.00-16.15 – feedback and group reflections

PML | Plymouth Marine Laboratory

Listen to the ocean

# The Why, What and How of Interdisciplinary Endeavour



**Prof. Nicola Beaumont: nijb@pml.ac.uk**
**Head of Science: Sea and Society**
**Plymouth Marine Laboratory**



**Contributors:** Meghan Alexander, Jonathan Porter, Ece Ozdemiroglu, Rosalind Bark, Claire Wansbury, Kirk Woolford, Chris Fremantle, Gemma Delafield, Kathryn G Logan, Richard Gunton, Sarah Lindley, Francesco Cherchi, Sunita Sarkar

**Collaborators:** Angus Garbutt , Brett Day , Elizabeth Gabe-Thomas, Emma McKinley, Erin Roberts, Greg Smith, Harshine Karunarathna, Iris Moller, John Griffin, Jordi Pagès Fauria, Kayleigh Wyles Karen Henwood, Kate Davidson, Martin Skov, Merryn Thomas, Nick Pidgeon, Olivia Rendón, Rhoda Ballinger, Simon Read, Thomas van Veelan, Tom Fairchild, Will Bennett

# Why Interdisciplinary Working?




'This is a wake-up call': the villagers who could be Britain's first climate refugees

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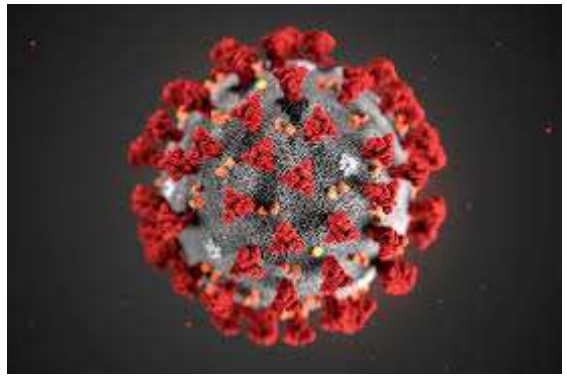
**UK becomes first major economy to pass net zero emissions law**

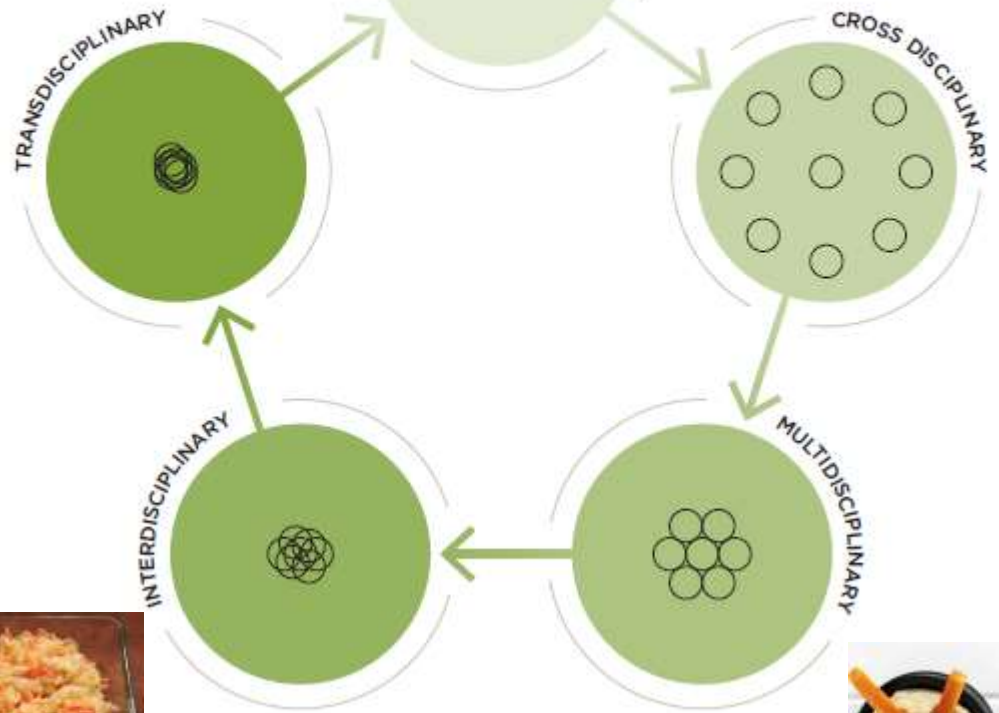
New target will require the UK to bring all greenhouse gas emissions to net zero by 2050.



# What? A Spectrum





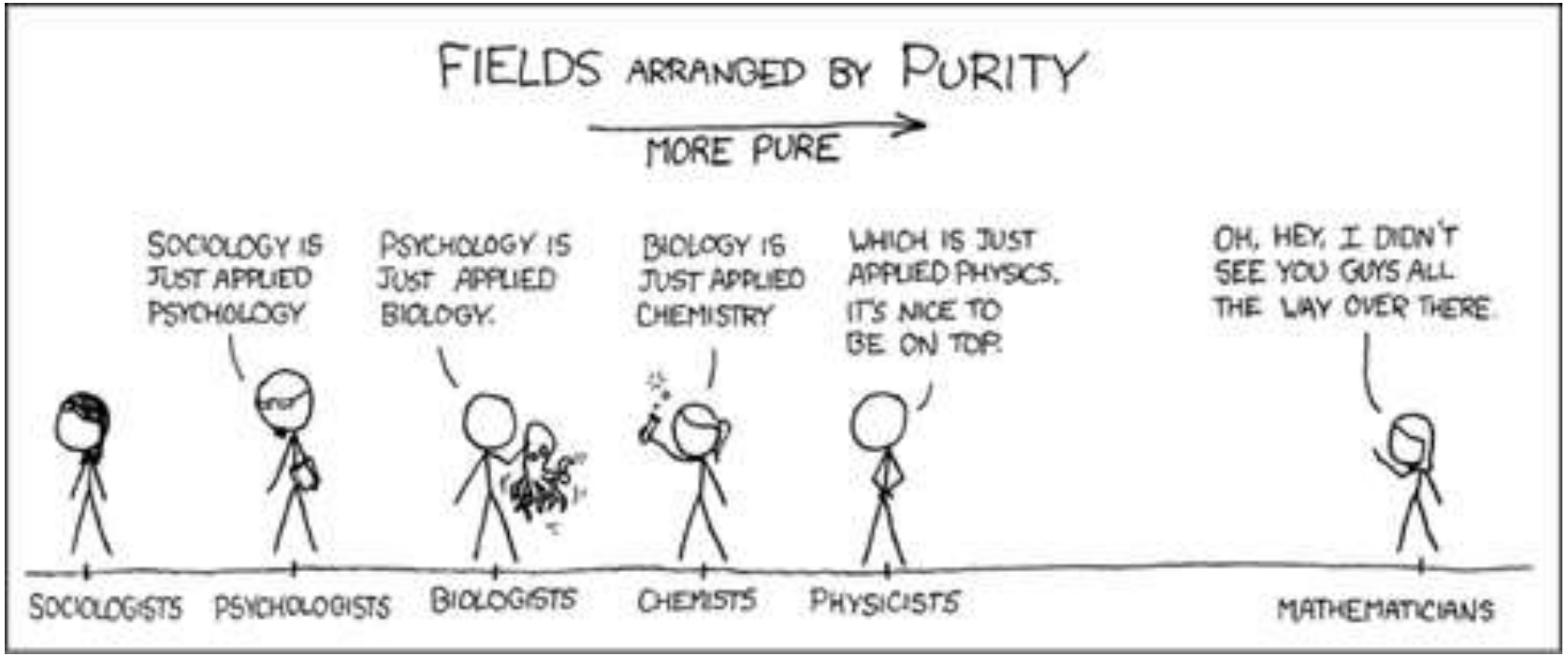



Inter disciplinary: "projects that integrate both academic researchers from different unrelated disciplines and user-group participants to reach a common goal“ Tress et al (2003)

# How?

## 7 Principles of Interdisciplinary working

## 1. Respect




Source: http://xkcd.com/435/

# 1. Respect – Top tips

- Keep an open mind, listen deeply and ask questions
- Avoid pre-conceptions, assumptions and patronisation
- Co-develop project guidelines for respect and equality
- Acknowledge and demonstrate appreciation for all contributors involved in achieving goals
- Undertake an early joint activity (review, publication, plan) to provide an immediate shared goal.

> "The assumption of what I can bring to the table can be rather simplistic. I think that my role in a project such as this is to shed a different light upon the study." VNP/CoastWEB team

> "The main difficulty for me is where there can be a fundamental misunderstanding of my role and skill set and this is where I am frequently expected to make difficult data accessible or act as an illustrator or designer." VNP/CoastWEB team

# 2. Take Time

There is a need to learn and understand different backgrounds, methods and language.

Top tips:

- Build additional time into project timelines, both overall and for specific interdisciplinary activities
- Build additional time into meetings for extended discussions
- Explicitly budget for the extra time, resources and activities required.

http://www.pkal.org/collections/Vol4InterdisciplinaryResearch.cfm

# 3. Communicate

Don’t assume that the forms of communication within your discipline are universal, different disciplines may use the same words but with very different meanings.

# 3. Communicate – Top tips

- Collaboratively develop a project-specific dictionary
- Do not be afraid to admit that you do not understand;
- Listen actively and repeat back what you have heard in your own words to ensure that you have understood;
- Visit a field site and ask each team member to explain what they see - listen to the differences;
- Remember that simplicity in communication is not the same as being simple, explaining complex issues to non-experts requires skill.

# 4. Embrace personalities

Successful interdisciplinary working is not just about bringing two or more disciplines together; it is about bringing two or more people harmoniously together.

**Top tips:**

Create opportunities to get to know each other outside of the usual work place, e.g. outreach and STEM events.

Remember that no one person embodies an entire discipline and it can take time to find a suitable disciplinary representative for your team/project.

Jay Shaw's Blog

> "The social science fellow in the project and I (the natural science fellow) get along very well, which is always a prerequisite (I believe) to be able to work with somebody." VNP/CoastWEB team

> "The relationship was especially extremely enriching." VNP/CoastWEB team

# 5. Prepare

The development of an interdisciplinary collaboration can require unfamiliar procedures which need additional consideration.

**Top tips:**

- Take time at the beginning of a collaboration to determine if an interdisciplinary approach is required, what disciplines are needed, and how they will be organised
- Ensure roles and responsibilities are clear including who will be delivering what and to whom, and when
- Have an agreed publication strategy with an emphasis on inclusivity

# 6. Adapt

Interdisciplinary working can be unpredictable requiring adaptability.

**Top tips:**

- Jointly develop and regularly revisit a Gantt chart, if an activity is struggling be proactive and do not be afraid to change direction if needed
- Include risk management strategies in the proposal to address delays and non-delivery, or the delivery of alternative outputs;

# 7. Share

Interdisciplinary working is challenging and to support and improve success, the sharing of experiences is critical before, during and after a project is undertaken.

**Top tips:**

- Discuss with other people who are working in an interdisciplinary context
- Keep a record or diary of what works well and what works less well
- take time to read some of the extensive interdisciplinary literature
- Write up and publicise your own interdisciplinary experiences.

VALUING NATURE PROGRAMME

VNP25

# Demystifying Interdisciplinary Working
**(in Valuing Nature)**

Valuing Nature Paper | June 2020

https://valuing-nature.net/demystifying-interdisciplinary-working

## 7 Principles of Interdisciplinary Working

| PRINCIPLES | TOP TIPS |
|---|---|
| **1 Respect:** Disciplines and activities should not be considered in a hierarchical fashion. | Keep an open mind, listen deeply and ask questions; avoid pre-conceptions, assumptions and patronisation; co-develop project guidelines for respect and equality; acknowledge and demonstrate appreciation for all contributors involved in achieving goals; write an early joint publication to provide an immediate shared goal. |
| **2 Take time:** Successful interdisciplinary work requires additional time as there is a need to learn and understand different backgrounds, methods and language. | Build additional time into project timelines, both overall and for specific interdisciplinary activities; build additional time into meetings for extended discussions; explicitly budget for the extra time, resources and activities required. |
| **3 Communicate:** Don't assume that the terms of communication within your discipline are universal, different disciplines may use the same words but with very different meanings. | Collaboratively develop a project-specific dictionary; do not be afraid to admit that you do not understand; listen actively and repeat back what you have heard in your own words to ensure that you have understood; visit a field site and ask each team member to explain what they see – listen to the differences; remember that simplicity in communication is not the same as being simple, explaining complex issues to non-experts requires skill. |
| **4 Embrace personalities:** Successful interdisciplinary working is not just about bringing two or more disciplines together; it is about bringing two or more people harmoniously together. | Create opportunities to get to know each other outside of the usual work place, e.g. outreach and STEM events are valuable as they place people in an impartial space, often outside their comfort zone, and create a shared experience; remember that no one person embodies an entire discipline and it can take time to find a suitable disciplinary representative for your team/project. |
| **5 Prepare:** The development of an interdisciplinary collaboration can require unfamiliar procedures which need additional consideration. | Take time at the beginning of a collaboration to determine if an interdisciplinary approach is required, what disciplines are needed, and how they will be organised; ensure roles and responsibilities are clear including who will be delivering what and to whom, and when; have an agreed publication strategy with an emphasis on inclusivity. |
| **6 Adapt:** Interdisciplinary working can be unpredictable requiring adaptability. | Jointly develop and regularly revisit a Gantt chart, if an activity is struggling be proactive and do not be afraid to change direction if needed; include risk management strategies in the proposal to address delays and non-delivery, or the delivery of alternative outputs; maintain open communication and encourage partners to vocalise concerns without the risk of reprimand. |
| **7 Share:** Interdisciplinary working is challenging and to support and improve success, the sharing of experiences is critical before, during and after a project is undertaken. | Discuss with other people who are working in an interdisciplinary context; keep a record or diary of what works well and what works less well; take time to read some of the extensive interdisciplinary literature; write up and publicise your own interdisciplinary experiences. |

VALUING NATURE PROGRAMME

An extract from: Beaumont, N. (ed), 2020. Demystifying Interdisciplinary Working (in Valuing Nature). Valuing Nature Paper VNP25.

# Interdisciplinarity and the social sciences - working across boundaries

**Presentation to the First Annual Assembly of the Advancing Capacity for Climate and Environment Social Science (ACCESS), Exeter, June 15, 2022**


Benjamin K. Sovacool, Ph.D

*Professor of Energy Policy*

*Professor of Business and Social Sciences*

*Professor of Earth and Environment*

# How much is energy social science used? (Answer from an older study: not much)

# Sample of articles in our content analysis

Centre on Innovation and Energy Demand



# Sample of articles in our content analysis

Centre on Innovation and Energy Demand

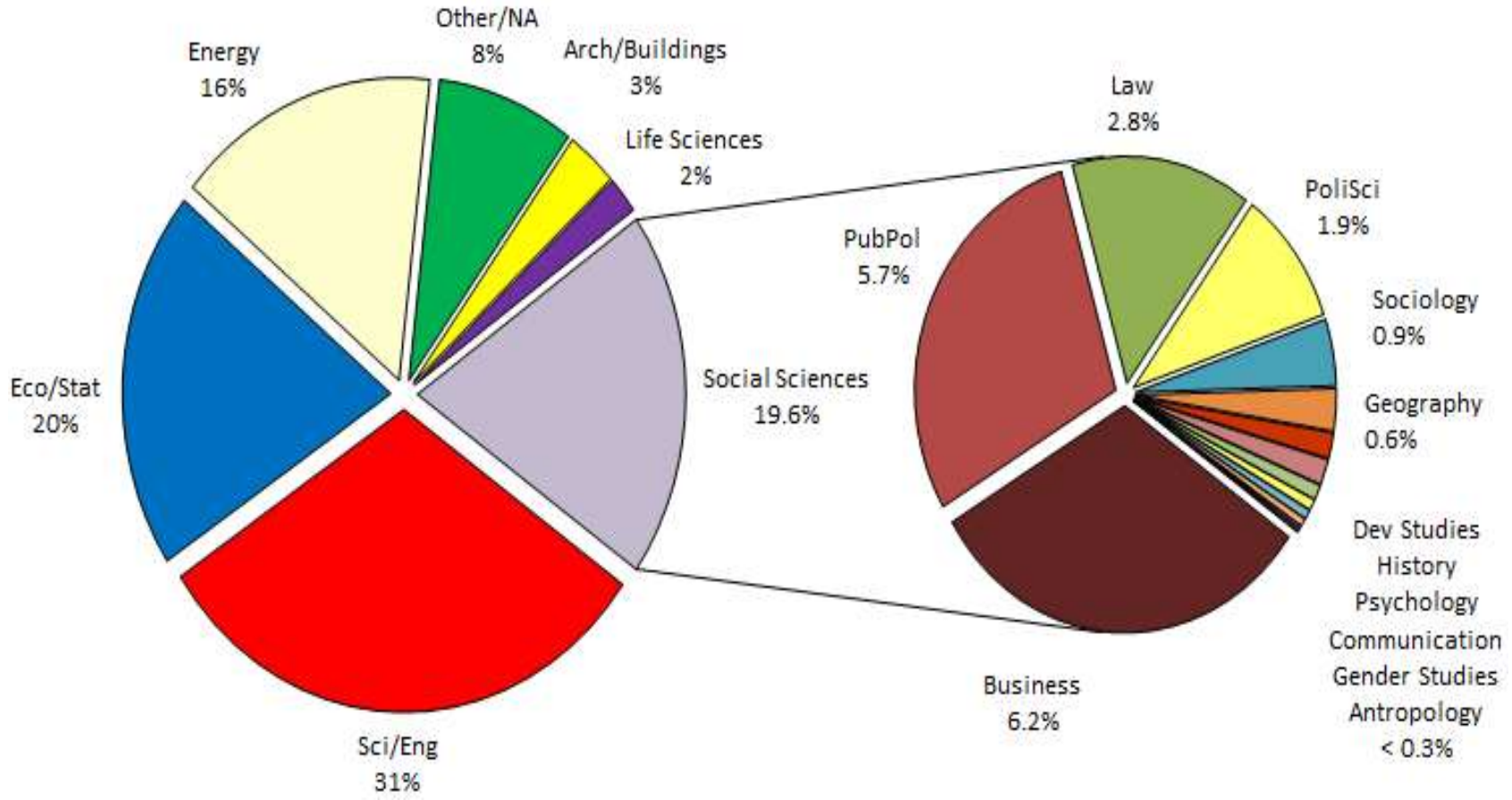
General statistics for energy studies journal articles, 1999–2013.

| Year | Number of total articles | Number of authors | Number of disciplinary affiliations | Number of institutional affiliations | Number of disclosed funding sources | Number of methodological approaches | Number of country case studies | Number of discussed technologies | Number of discussed topics | Number of references[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1999 | 187 | 368 | 346 | 355 | 196 | 206 | 206 | 296 | 425 | 1780 |
| 2000 | 183 | 332 | 281 | 277 | 190 | 213 | 170 | 253 | 325 | 2451 |
| 2001 | 199 | 420 | 500 | 413 | 224 | 225 | 239 | 415 | 635 | 2940 |
| 2002 | 202 | 361 | 374 | 311 | 220 | 211 | 207 | 266 | 519 | 2879 |
| 2003 | 219 | 425 | 448 | 389 | 235 | 231 | 252 | 350 | 594 | 3288 |
| 2004 | 238 | 508 | 597 | 483 | 295 | 262 | 293 | 473 | 822 | 4778 |
| 2005 | 276 | 609 | 653 | 548 | 296 | 299 | 290 | 439 | 610 | 5539 |
| 2006 | 474 | 1102 | 932 | 1016 | 532 | 499 | 540 | 1080 | 1266 | 12,833 |
| 2007 | 287 | 670 | 626 | 504 | 332 | 320 | 329 | 809 | 773 | 5221 |
| 2008 | 237 | 523 | 470 | 470 | 147 | 275 | 241 | 772 | 698 | 5108 |
| 2009 | 314 | 684 | 707 | 680 | 334 | 383 | 322 | 938 | 903 | 6820 |
| 2010 | 384 | 822 | 799 | 810 | 414 | 469 | 401 | 1121 | 1250 | 8486 |
| 2011 | 392 | 850 | 852 | 842 | 398 | 445 | 410 | 1219 | 1298 | 8534 |
| 2012 | 383 | 844 | 883 | 809 | 420 | 414 | 390 | 1335 | 1258 | 8576 |
| 2013 | 469 | 1031 | 1129 | 974 | 505 | 560 | 525 | 1490 | 1432 | 10,846 |
| Total | 4444 | 9549 | 9597 | 8881 | 4738 | 5012 | 4815 | 11,256 | 12,808 | 90,079 |

[a] Includes only *Energy Policy* for all years and the *Energy Journal* from 2003 to 2013.

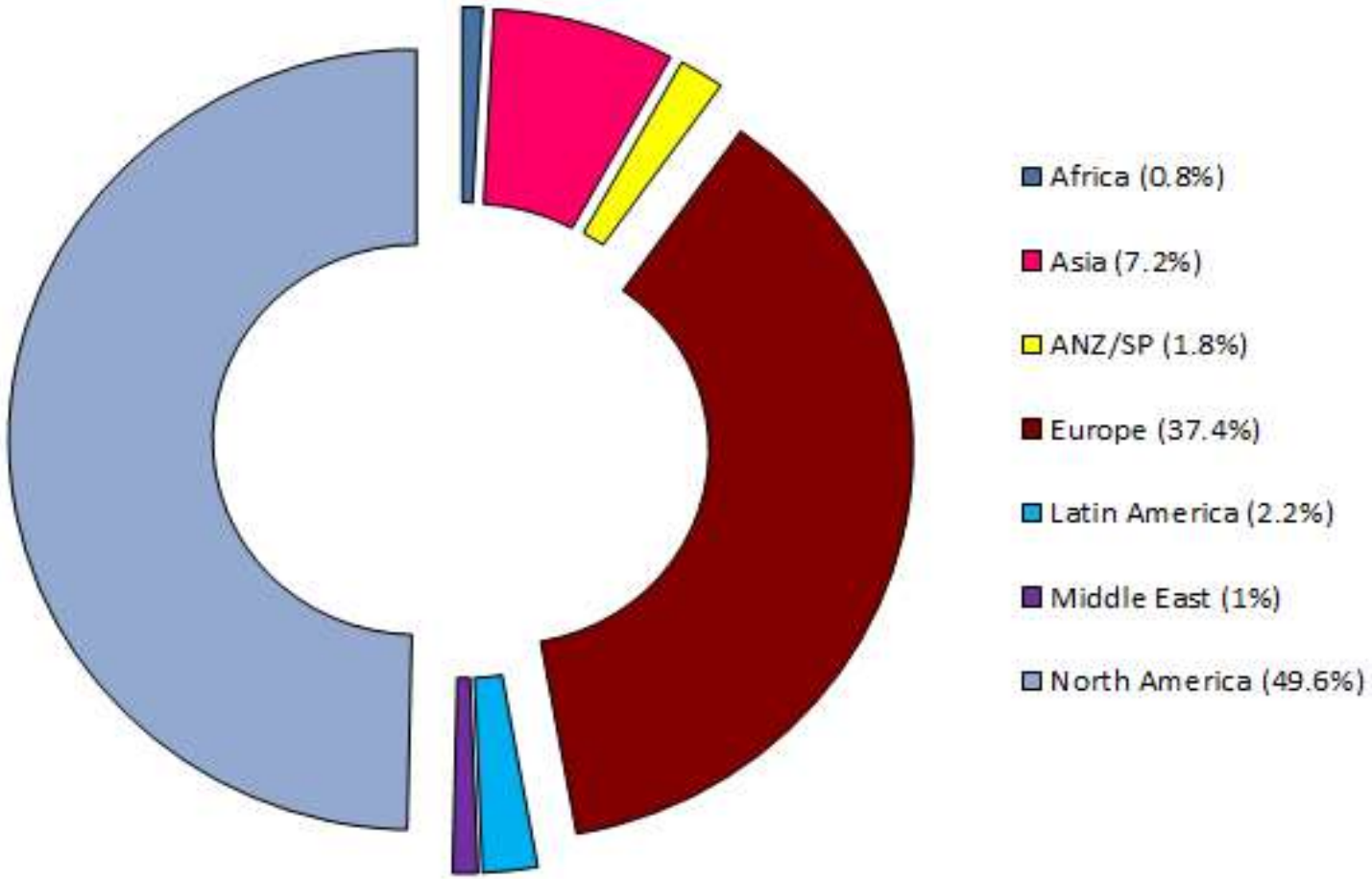
Source: Sovacool, BK. "What Are We Doing Here? Analyzing Fifteen Years of Energy Scholarship and Proposing a Social Science Research Agenda," *Energy Research & Social Science* 1 (March, 2014), pp. 1-29

# Disciplinary Affiliation for Energy Studies Journal Articles, 1999 to 2013 (n=9,597)




Source: Sovacool, BK. "What Are We Doing Here? Analyzing Fifteen Years of Energy Scholarship and Proposing a Social Science Research Agenda," *Energy Research & Social Science* 1 (March, 2014), pp. 1-29

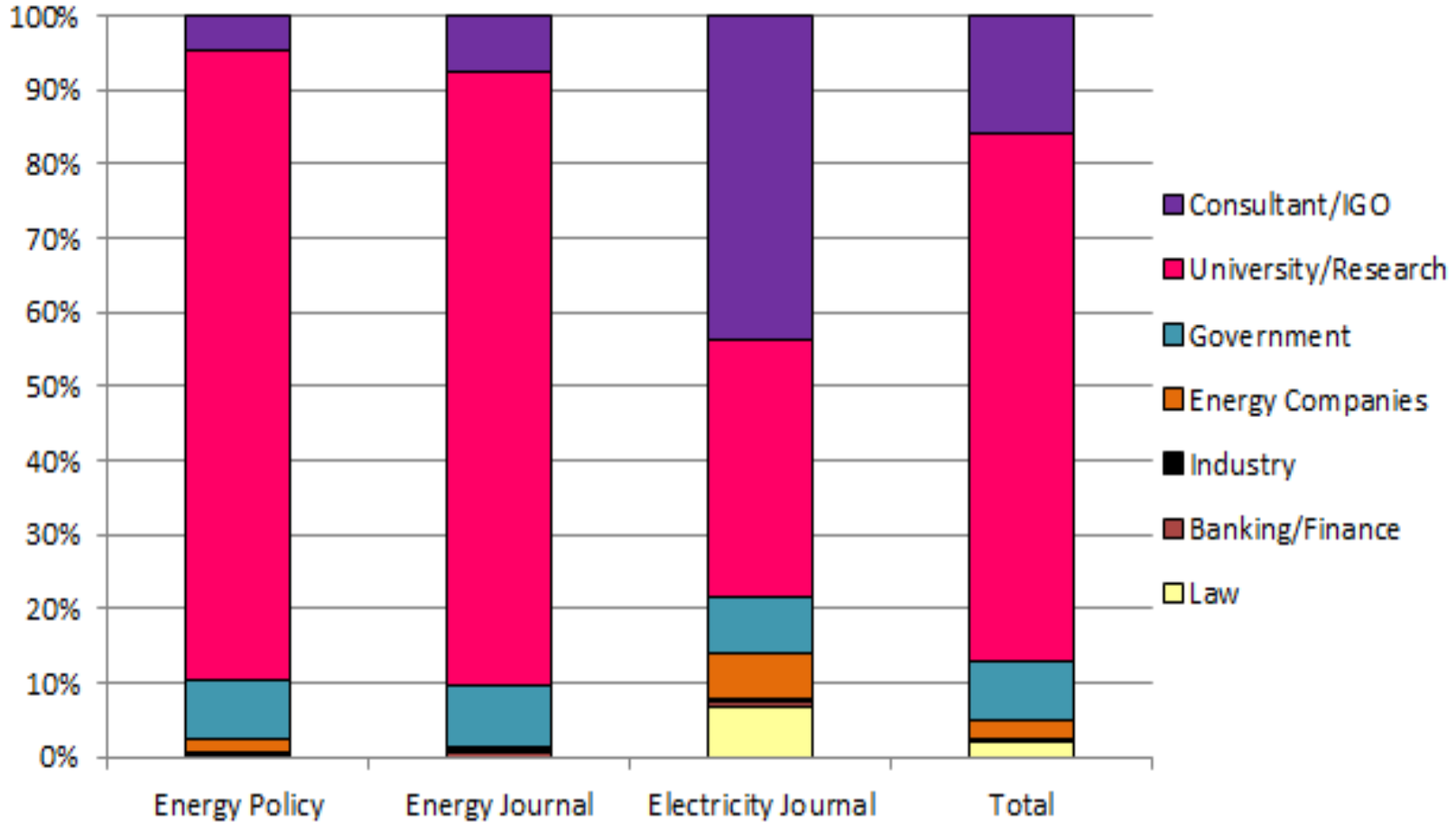
# Country Affiliation for Energy Studies Journal Authors, 1999 to 2013 (n=9,549)




Source: Sovacool, BK. "What Are We Doing Here? Analyzing Fifteen Years of Energy Scholarship and Proposing a Social Science Research Agenda," *Energy Research & Social Science* 1 (March, 2014), pp. 1-29

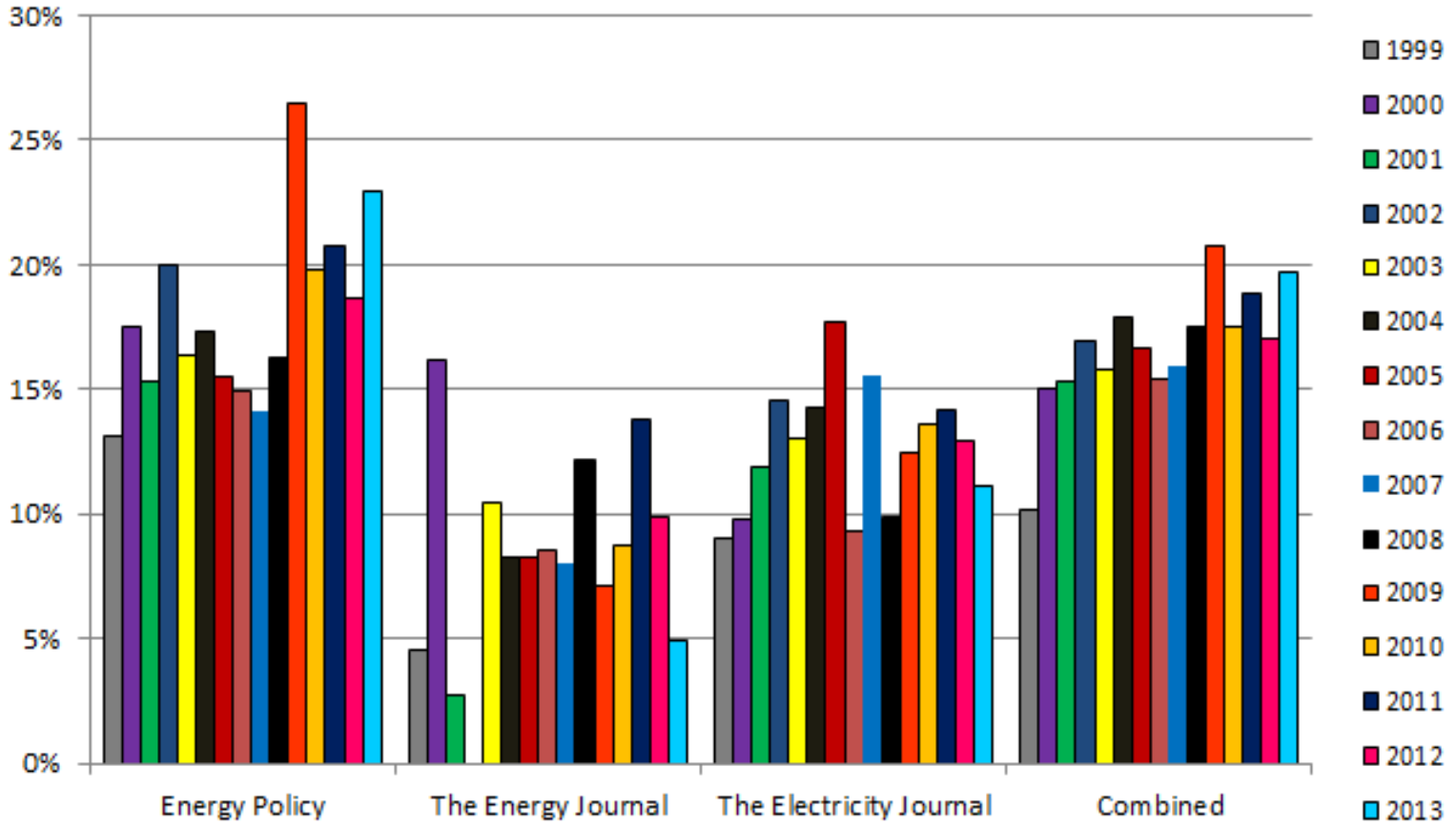
# Institutional Affiliations for Energy Studies Journal Articles, 1999 to 2013 (n=8,881)

Centre on Innovation and Energy Demand




Source: Sovacool, BK. "What Are We Doing Here? Analyzing Fifteen Years of Energy Scholarship and Proposing a Social Science Research Agenda," *Energy Research & Social Science* 1 (March, 2014), pp. 1-29

# Share of Female Authors for Energy Studies Journal Articles, 1999 to 2013 (n=9,549)




Source: Sovacool, BK. "What Are We Doing Here? Analyzing Fifteen Years of Energy Scholarship and Proposing a Social Science Research Agenda," *Energy Research & Social Science* 1 (March, 2014), pp. 1-29

# Disclosed Funding Sources for Energy Studies Journal Articles, 1999 to 2013 (n=4,738)

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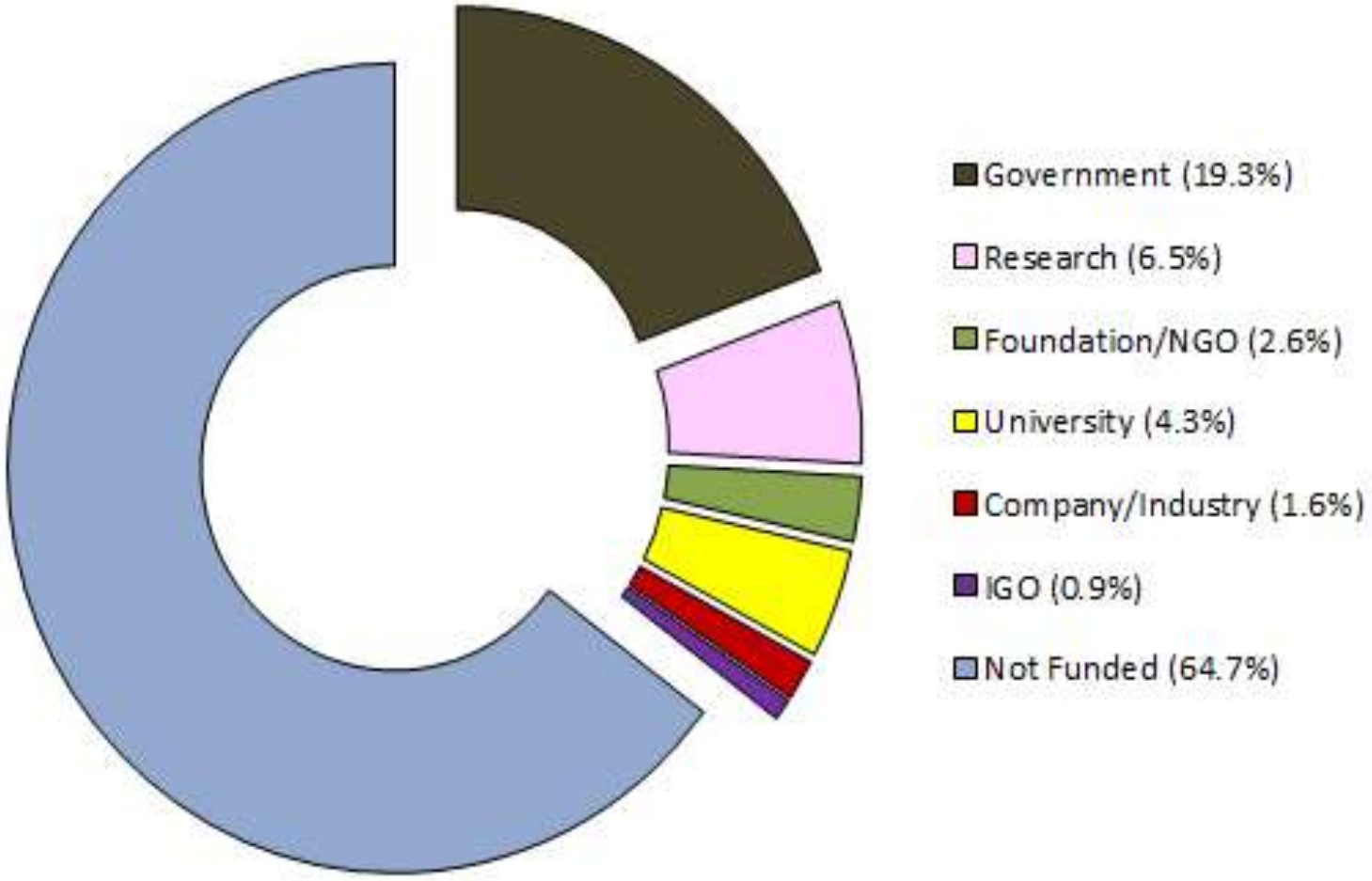
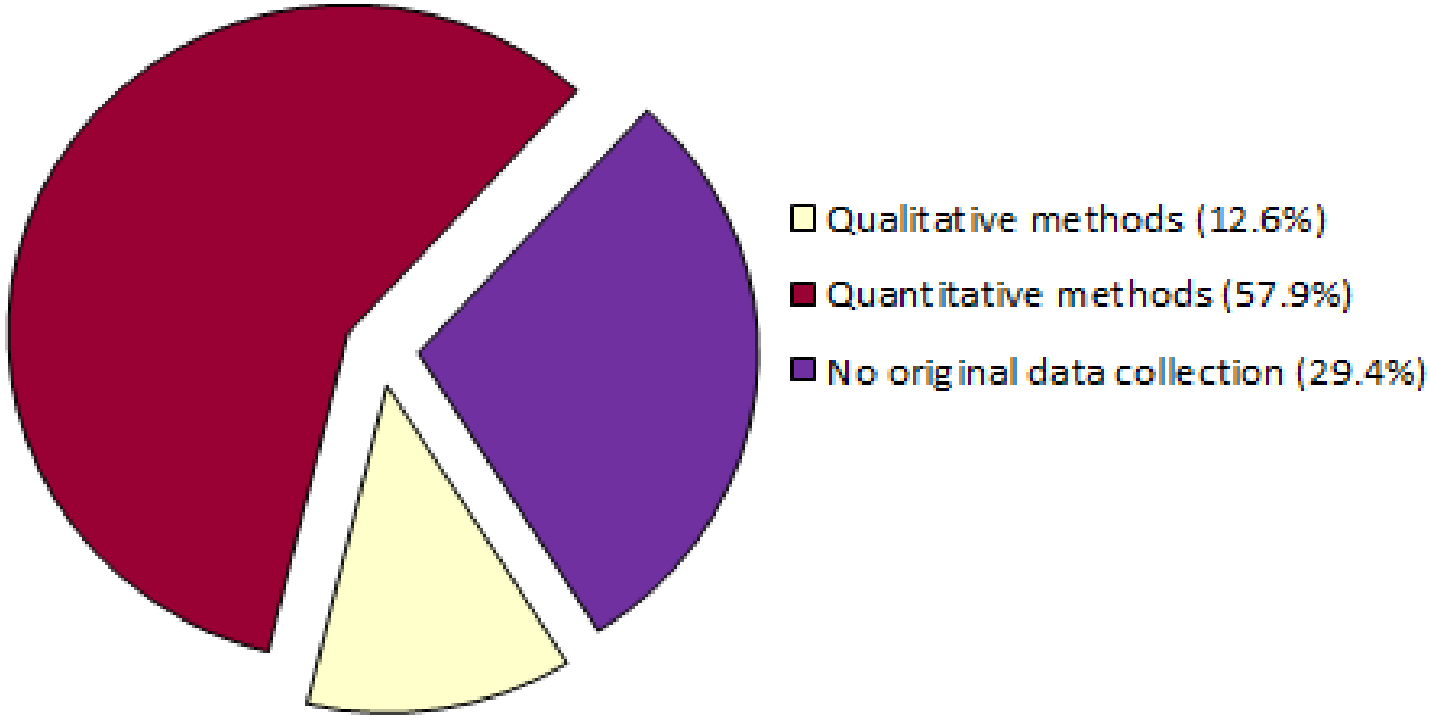


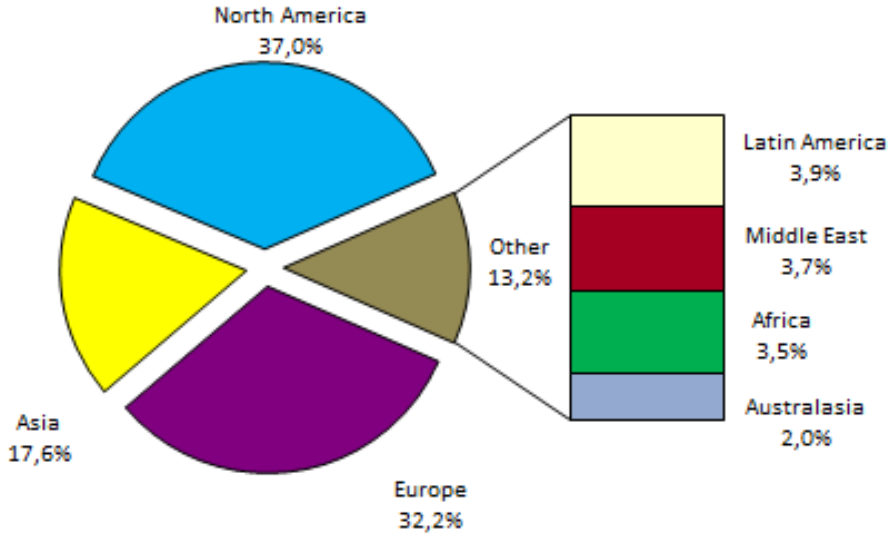

Source: Sovacool, BK. "What Are We Doing Here? Analyzing Fifteen Years of Energy Scholarship and Proposing a Social Science Research Agenda," *Energy Research & Social Science* 1 (March, 2014), pp. 1-29

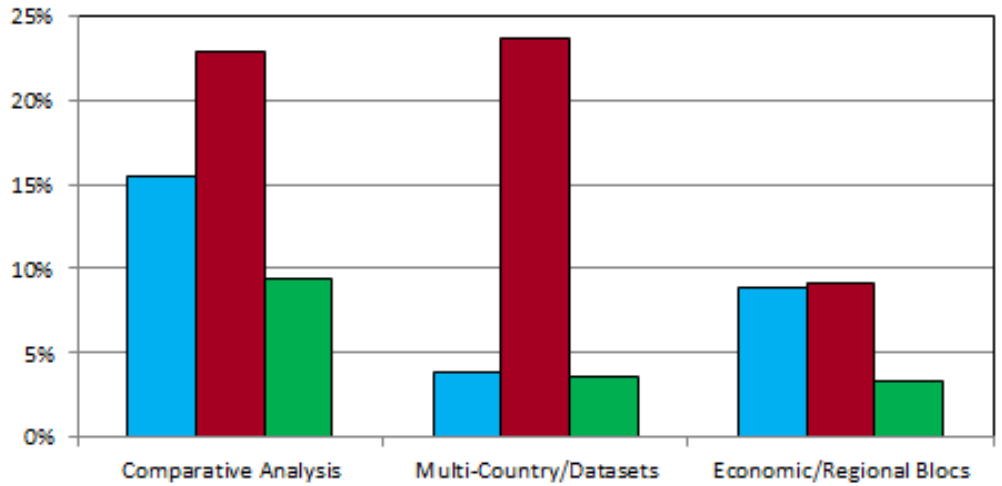
# Methodological Approaches of Energy Studies Journal Articles, 1999 to 2013 (n=5,012)




*Qualitative methods" refer to original data collected through research interviews, surveys, questionnaires, or field research. "Quantitative methods" refer to original data collected through economic modeling, forecasting, econometric analysis, programming, statistical analysis, input/output analysis, cost benefit analysis, lifecycle assessments, remote sensing, and other similar tools.*

# Country and Comparative Case Study Focus for Energy Studies Journal Articles, 1999 to 2013 (n=4,815)



# Citations from Energy Studies Journal Articles, 1999 to 2013 (n=90,079)

Centre on Innovation and Energy Demand

| | Non-Classified/Grey Literature | Self-Citations | Economics | Science | Books | Social Science | Arts & Humanities |
|---|---|---|---|---|---|---|---|
| 1999 | 1018 | 75 | 217 | 141 | 274 | 55 | 0 |
| 2000 | 1540 | 170 | 187 | 178 | 320 | 54 | 2 |
| 2001 | 2054 | 203 | 241 | 127 | 255 | 60 | 0 |
| 2002 | 1959 | 158 | 196 | 208 | 295 | 63 | 0 |
| 2003 | 2287 | 229 | 250 | 213 | 223 | 85 | 1 |
| 2004 | 2950 | 304 | 474 | 472 | 434 | 144 | 0 |
| 2005 | 3552 | 400 | 515 | 483 | 377 | 212 | 0 |
| 2006 | 7439 | 964 | 1209 | 1608 | 884 | 714 | 15 |
| 2007 | 2847 | 430 | 659 | 677 | 328 | 279 | 1 |
| 2008 | 2823 | 352 | 616 | 663 | 273 | 379 | 2 |
| 2009 | 4137 | 466 | 747 | 656 | 519 | 292 | 3 |
| 2010 | 5363 | 594 | 812 | 748 | 611 | 354 | 4 |
| 2011 | 5179 | 686 | 798 | 951 | 554 | 355 | 11 |
| 2012 | 5046 | 682 | 869 | 945 | 649 | 372 | 13 |
| 2013 | 6588 | 826 | 1108 | 1054 | 849 | 402 | 19 |
| Total | 54782 | 6539 | 8898 | 9124 | 6845 | 3820 | 71 |
| % | 60.8 | 7.3 | 9.9 | 10.1 | 7.6 | 4.2 | 0.08 |

# Three key findings and implications

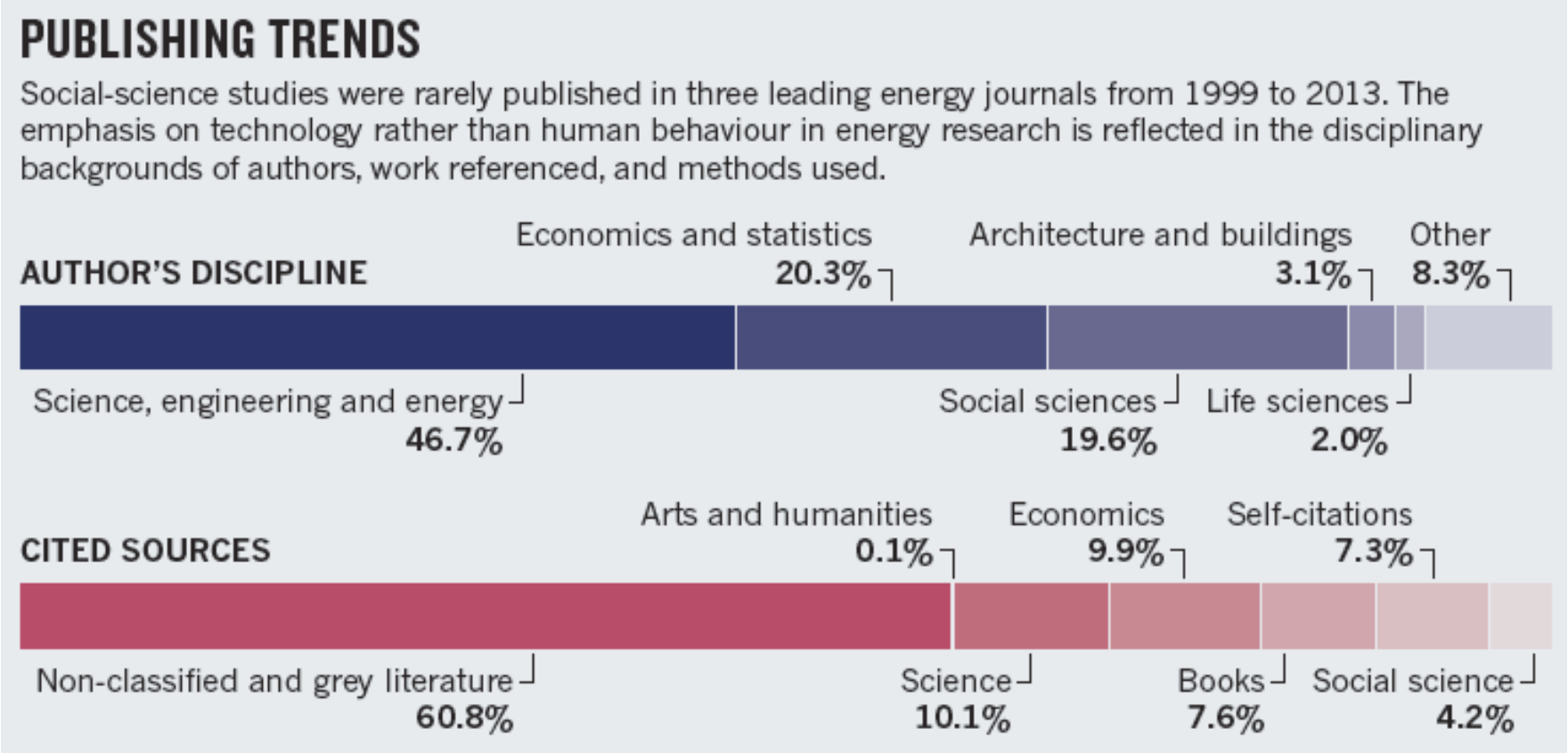
# Finding 1: Under-utilized human-centered and comparative methods

- Of the roughly 13 percent of articles that reported using "human-centered" research methods, these were dominated by surveys (7.8 percent), with far fewer studies utilizing field research, research interviews, or focus groups


- Few participatory or trans-disciplinary methods also
- Interdisciplinary and comparative collaborations were rare: By our calculations less than one out of every four articles reported interdisciplinary affiliations, taken as a proxy for interdisciplinary collaboration

Source: Sovacool, BK. "What Are We Doing Here? Analyzing Fifteen Years of Energy Scholarship and Proposing a Social Science Research Agenda," *Energy Research & Social Science* 1 (March, 2014), pp. 1-29

# Finding 2: Under-representation of particular disciplines and sources as well (and countries)




Source: Sovacool, BK. "Energy Studies Need Social Science," *Nature* 511 (7511) (July 31, 2014), pp. 529-530.

# Finding 3: Twelve under-represented topics

Centre on Innovation and Energy Demand

**NEGLECTED TOPICS**
Twelve subjects seldom considered in energy studies.

| Topic | Example |
|---|---|
| Gender and identity | Pollution from cooking stoves posing greater risk to women than men |
| Philosophy and ethics | Future generations bearing the burden of pollution |
| Communication and persuasion | Energy information changing individual or firm behaviour |
| Geography and scale | Mismatching the size of energy systems to patterns of demand |
| Social psychology and behaviour | Shaping energy choices by trust, control and denial |
| Anthropology and culture | Temporal and regional differences in conceptions of energy services |
| Research and innovation | How people, markets and institutions drive innovation |
| Politics and political economy | Resources contributing to conflict or stymying growth |
| Institutions and energy governance | Evolving rules and norms to address collective energy problems |
| Energy and development | Energy use contributing to economic growth and falling poverty |
| Externalities and pollution | Costs to society of erosions of environmental and ecological capital |
| Sociology of technology | Economic, political and social drivers of energy consumption |

Source: Sovacool, BK. "Energy Studies Need Social Science," *Nature* 511 (7511) (July 31, 2014), pp. 529-530.

# But wait, there is new evidence from a recent study that is more positive!

# Based on a newer sample of N=1000 projects (1990-2020)

Centre on Innovation and Energy Demand

**Table 3**
Top ten climate change adaptation topics funded by energy and climate research, 1990 to 2020 ($N = 918$).

| No. | Technology or topic | Number of projects supporting technology or climate change adaption topic | |
|---|---|---|---|
| 1 | Adaptation, resilience and adaptive capacity | 157 | 17.1% |
| 2 | Climate information systems | 102 | 11.1% |
| 3 | Managing climate risks | 94 | 10.2% |
| 4 | Economic resilience | 59 | 6.4% |
| 5 | Drought | 33 | 3.6% |
| 6 | Early warning systems | 31 | 3.4% |
| 7 | Researching drought resistant crops | 27 | 2.9% |
| 8 | Coastal protection | 24 | 2.6% |
| 9 | Climate-resilient irrigation design | 16 | 1.7% |
| 10 | Mangrove regeneration and plantation management | 15 | 1.6% |

Note: Funding patterns are from a sample of only 1000 projects and will not match total funding patterns from all research councils examined.
Source: Authors.

**Table 5**
Top ten energy systems topics funded by energy and climate research, 1990 to 2020 ($N = 702$).

| No. | Technology or topic | Number of projects supporting technology or topic | |
|---|---|---|---|
| 1 | Energy efficiency, demand response, load management, demand side management | 183 | 26.1% |
| 2 | Energy storage, distributed storage and batteries | 73 | 10.4% |
| 3 | Solar energy (including solar PV as well as solar thermal or Concentrated Solar Power) | 65 | 9.3% |
| 4 | Electricity Transmission & Distribution | 50 | 7.1% |
| 5 | Biomass and Biogas (generally meant to include the combustion or use of wood, agricultural residues, cellulosic energy crops, and/or waste as well as biogas) | 46 | 6.6% |
| 6 | Heating and cooling (including district heating, combined heat and power) | 40 | 5.7% |
| 7 | Wind energy (including onshore and offshore turbines) | 37 | 5.3% |
| 8 | Biofuels (generally in the form of biodiesel and ethanol) | 31 | 4.4% |
| 9 | Hydroelectricity | 25 | 3.6% |
| 10 | Hydrogen (generally meant to encompass fuel cells using renewable fuels and at times natural gas) | 24 | 3.4% |

Note: Funding patterns are from a sample of only 1000 projects and will not match total funding patterns from all research councils examined.
Source: Authors.

Source: Sovacool, BK, C Daniels and A AbdulRafiu. “Science for whom? Examining the data quality, themes, and trends in 30 years of public funding for global climate change and energy research,” Energy Research & Social Science 89 (July, 2022), 102645, pp. 1-20.

# Based on a newer sample of N=1000 projects (1990-2020)

Centre on Innovation and Energy Demand

**Table 6**
Top ten transport and mobility topics funded by energy and climate research, 1990 to 2020 ($N = 332$).

| No. | Technology or topic | Number of projects supporting technology or topic | |
|---|---|---|---|
| 1 | Electric vehicles (including PHEVs, BEVs, e-bikes and scooters) | 54 | 16.3% |
| 2 | Alternative fuels (biofuel, synfuel, ethanol, biodiesel, hydrogen fuel cells) | 42 | 12.7% |
| 3 | Passenger vehicles (internal combustion engines, scooters, motorbikes) | 30 | 9.0% |
| 4 | Freight (heavy duty vehicles, commercial vehicles, and trucks) | 22 | 6.6% |
| 5 | Aviation and aircraft | 22 | 6.6% |
| 6 | Ridesharing and carpooling | 20 | 6.0% |
| 7 | Automated vehicles | 20 | 6.0% |
| 8 | Passenger rail (including metros and trams) | 16 | 4.8% |
| 9 | Marine shipping and transport (including ferries, barges, and container ships and tankers) | 16 | 4.8% |
| 10 | Petroleum fuels (oil, gasoline, diesel, petrol) | 14 | 4.2% |

Note: Funding patterns are from a sample of only 1000 projects and will not match total funding patterns from all research councils examined.
Source: Authors.

Source: Sovacool, BK, C Daniels and A AbdulRafiu. “Science for whom? Examining the data quality, themes, and trends in 30 years of public funding for global climate change and energy research,” Energy Research & Social Science 89 (July, 2022), 102645, pp. 1-20.

# Based on a newer sample of N=1000 projects (1990-2020)

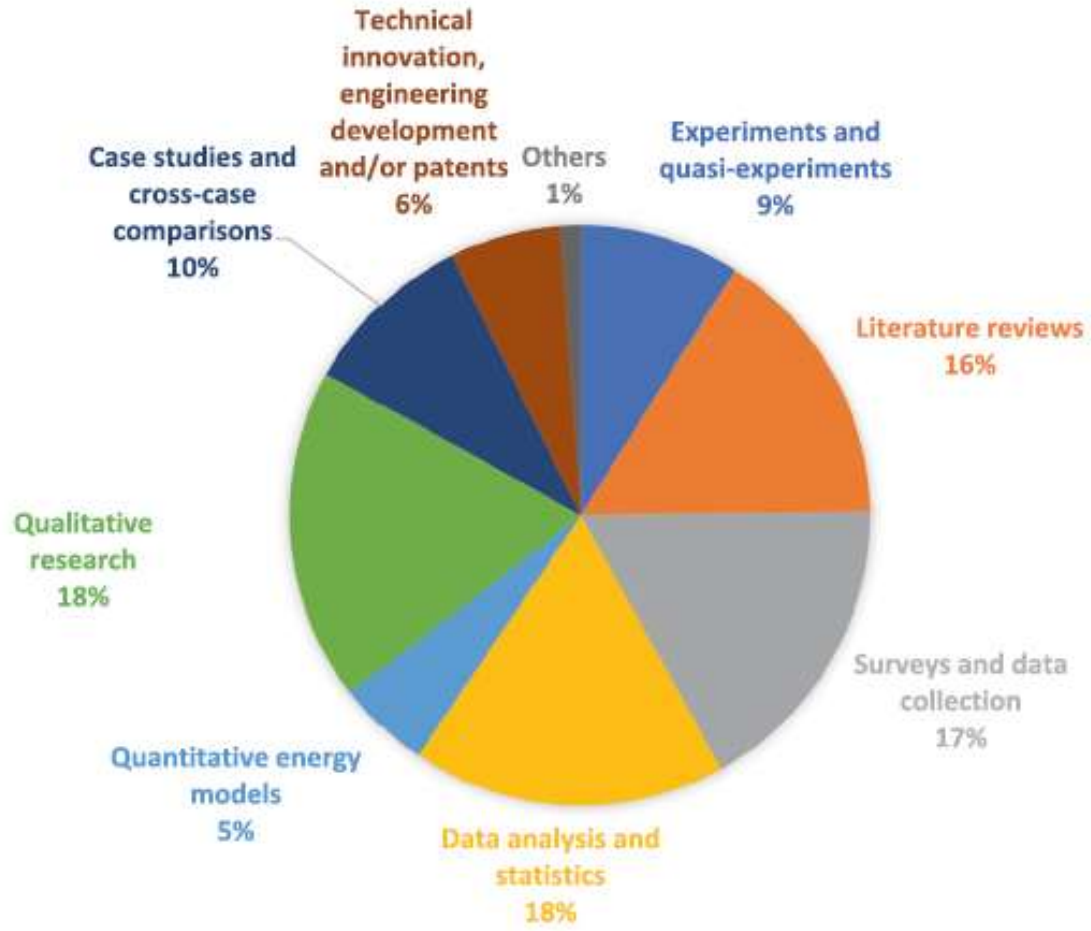



Fig. 3. Research designs reported by project principal investigators for sampled energy and climate change projects, 1990 to 2020 ($N = 1000$).

Source: Sovacool, BK, C Daniels and A AbdulRafiu. "Science for whom? Examining the data quality, themes, and trends in 30 years of public funding for global climate change and energy research," Energy Research & Social Science 89 (July, 2022), 102645, pp. 1-20.

# Based on a newer sample of N=1000 projects (1990-2020)

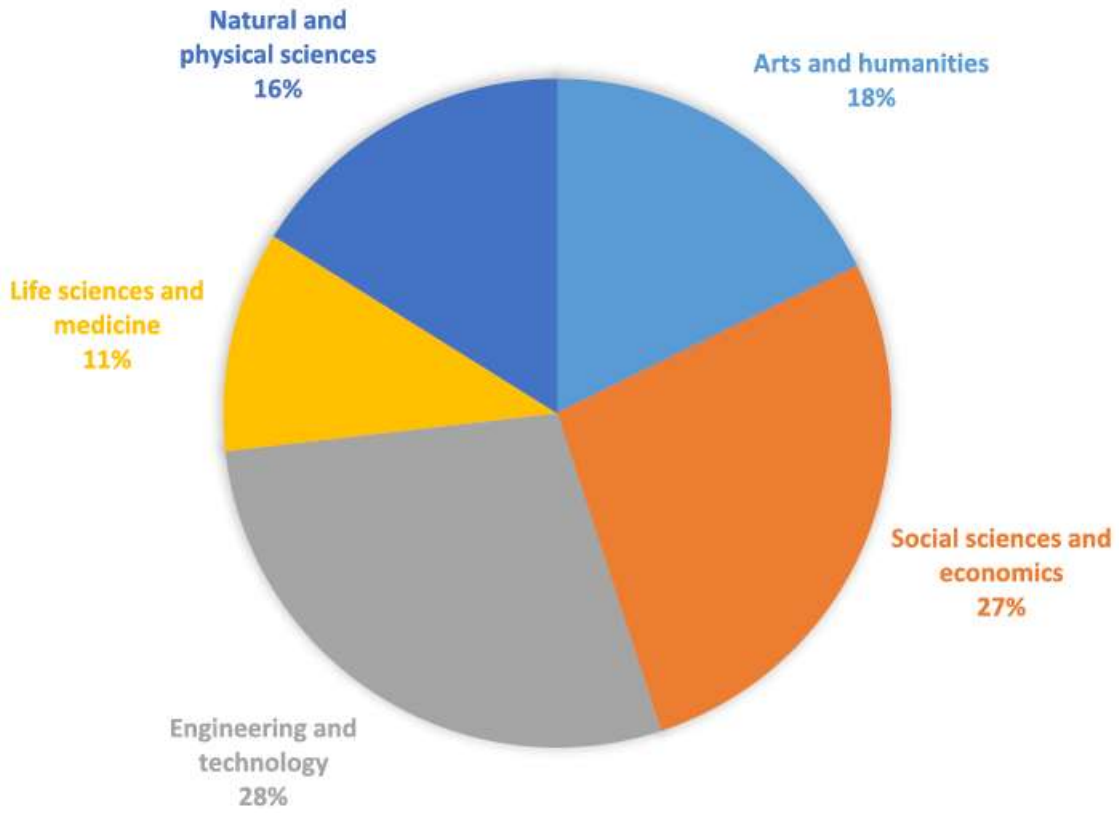



Fig. 5. Public research and developing funding on energy and climate across core academic disciplines from 1990 to 2020 (in US$2020).

Source: Abbas AbdulRafiu, Benjamin K. Sovacool, Chux Daniels, The dynamics of global public research funding on climate change, energy, transport, and industrial decarbonisation, Renewable and Sustainable Energy Reviews, Volume 162, 2022, 112420.

# Based on a newer sample of N=1000 projects (1990-2020)

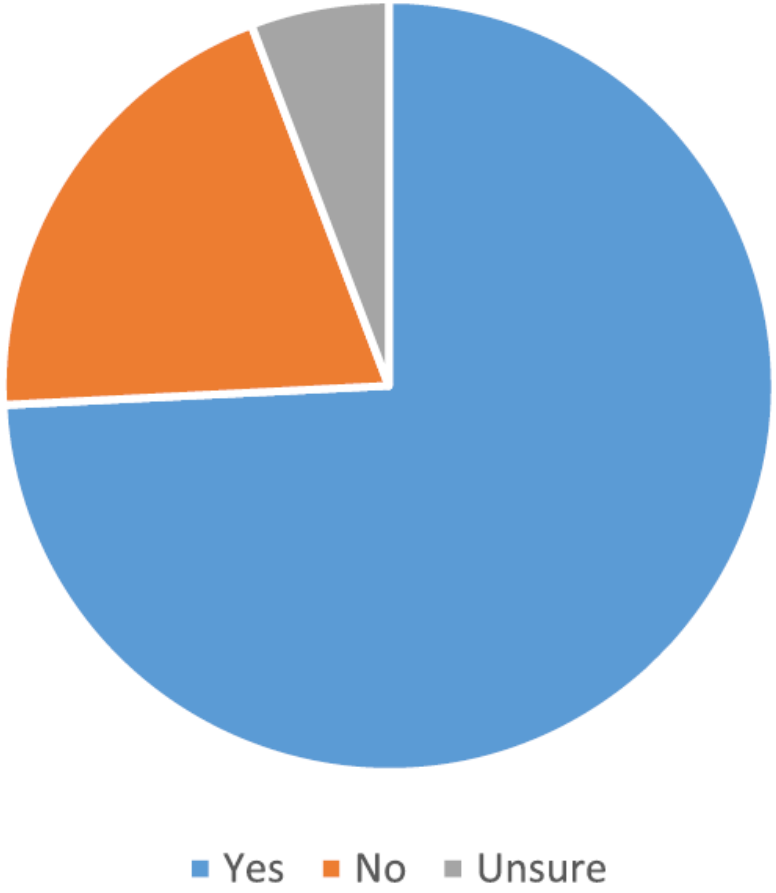
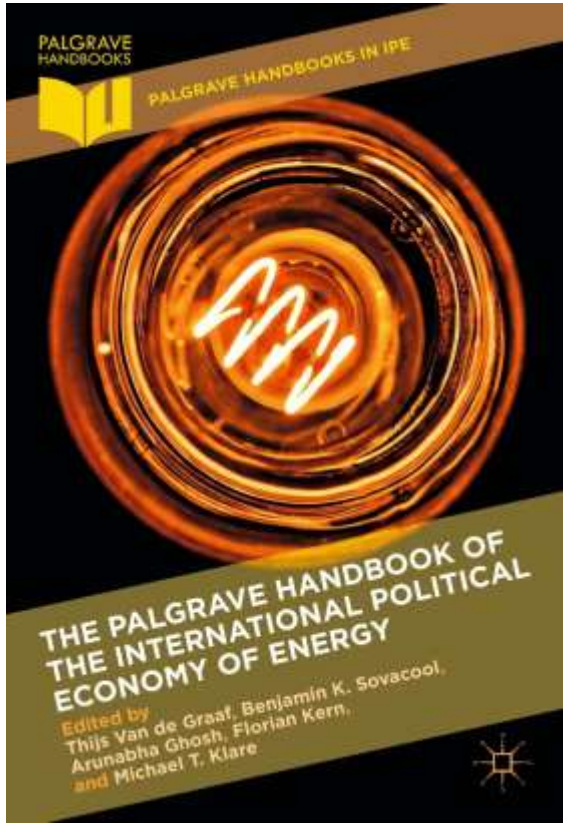



Fig. 6. Classification of publicly funded R&D projects from 1990 to 2020 as transdisciplinary.

Source: Abbas AbdulRafiu, Benjamin K. Sovacool, Chux Daniels, The dynamics of global public research funding on climate change, energy, transport, and industrial decarbonisation, Renewable and Sustainable Energy Reviews, Volume 162, 2022, 112420.

# Contact Information

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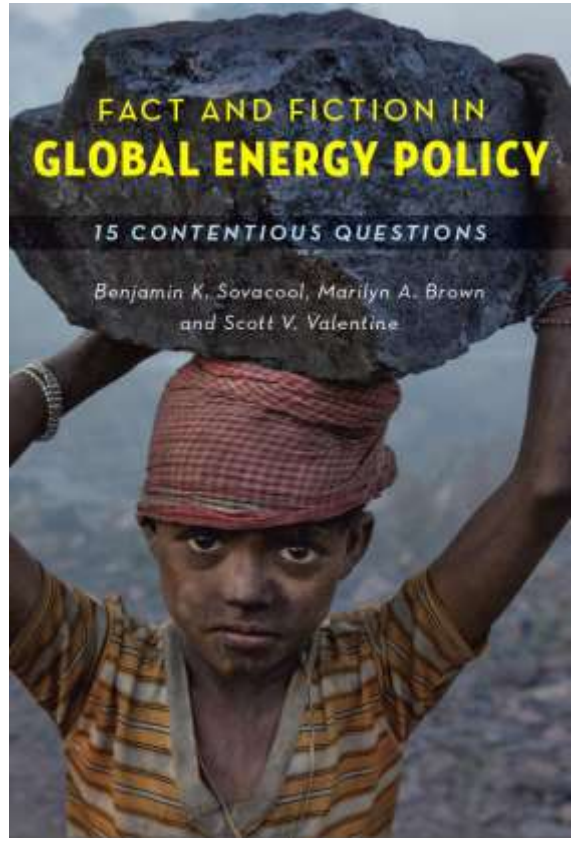

# Social science in applied and interdisciplinary contexts

*Or getting social scientific voices heard by those that matter*

**Peter Bailey**
**Social Science Manager & Head of Social Science Profession**
**June 2022**

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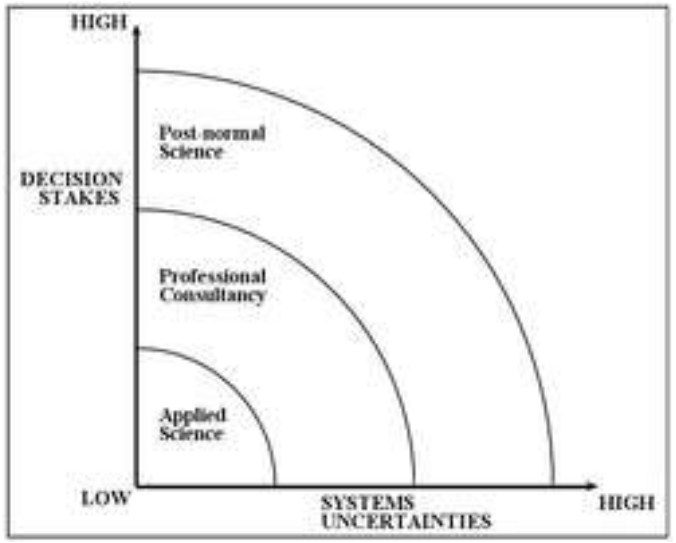
# Applied science




**Funtowicz & Ravetz's post normal science**

I realised early in my career the need for a plurality of knowledges and participants

Environment issues and emergencies are social problems – **widespread realisation effective action needs social insights**

**Burawoy's division of sociological labour**

| | Academic audience | Extra-academic audience |
|---|---|---|
| **Instrumental knowledge** | Professional | Policy |
| **Reflexive knowledge** | Critical | Public |



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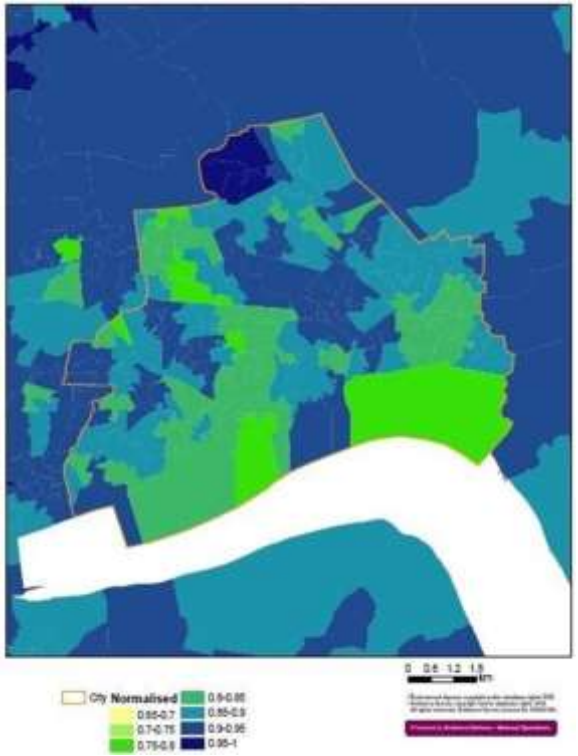
# Example: flooding

Bewley demountable defences

**Social science now mainstream in flood research programmes**



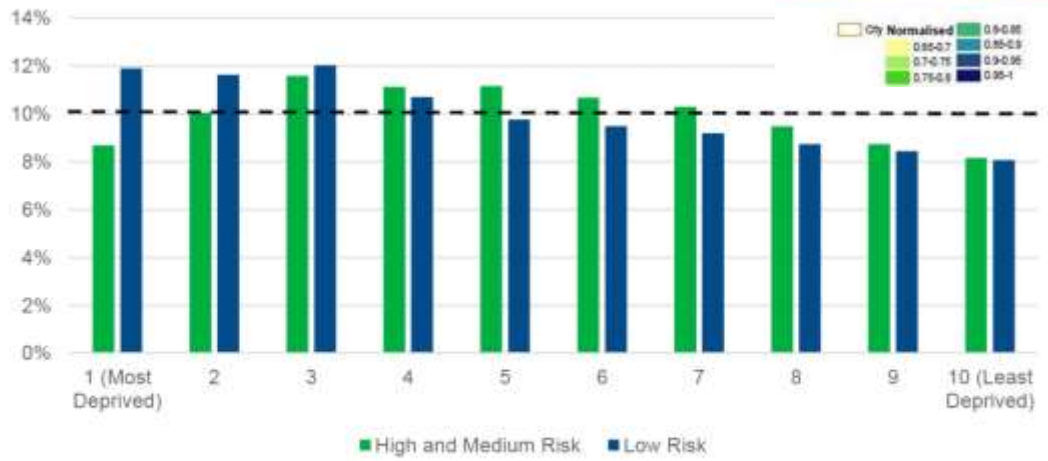



*Figure 2: Percentage of total population at different risk levels from river, sea and surface water flooding by deprivation decile*

**Community resilience mapping (above)**

**Flood inequalities analysis (left)**

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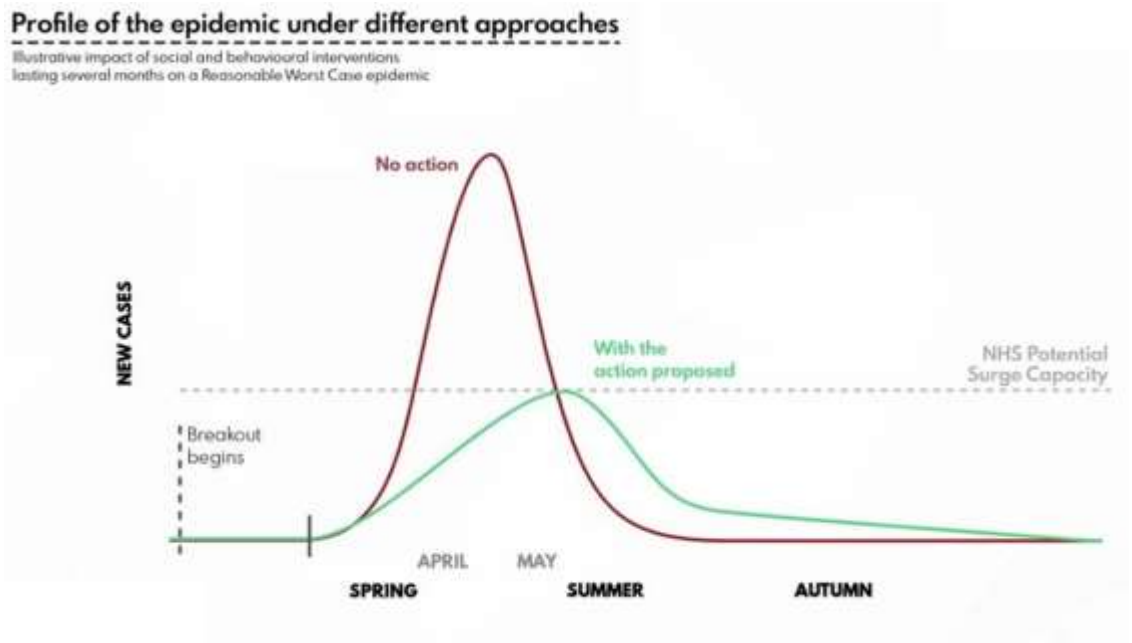
# Emergencies example: Covid






**Epidemiological models dominated yet require assumptions about how society interacts**

**SAGE included social and behavioural science papers some of which were interdisciplinary**

**A realisation of the need for social & behavioural sciences**

Research and analysis

**SPI-B: Sustaining behaviours to reduce SARS-CoV-2 transmission, 22 April 2021**

Published 5 July 2021

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# Example: Net Zero and climate change

**A deliberately blank slide!**

**Work in progress - some useful work going on in Government but still lots more to do to bring social science into NZ policy & delivery**

**I'm especially interested in the social & political construction of 'net' in Net Zero …**

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# Inside Multi-disciplinary Social Science Research

Prof Fern Elsdon-Baker, University of Birmingham

- UKRI Future Flight Challenge Social Science Research Director
- Director Research Institute for STEMM in Culture and Society (ISTEMMiCS)

# Current projects

UKRI Future Flight Challenge – developing and delivering social science research strategy upstream of technological scale up and industrialization of Advance Air Mobility (AAM)

Birmingham Plastics network – cross-disciplinary future research development towards a sustainable plastics future ( Social Sciences, Business Studies, Environmental sciences and Chemistry)

Science and Religion: Exploring the Spectrum - (Sociology, social psychology, history and media studies working with teams in 8 countries worldwide)

# Types of Aviation Technologies included in Future Flight Challenge


UK Research and Innovation

# Reflections from the Social Sciences

- Why Multi-disciplinary Research ?
  - We can't always combine methods across our approaches (e.g., sociology, social psychology/quants surveys/historical/media studies)
  - Allows us to:
    - triangulate our findings
    - work at different levels (individuals, groups, communities, social/cultural narratives).
    - Engage across different specialist audiences

- How does this work across cultures/countries ?

- How can this be beneficial upstream of new technological development when both the technological and social research are emergent ?

# Breakout groups: 30 minutes

Suggested focus and questions:

- How might we better promote interdisciplinarity among trainers and practitioners
- How might we better promote interdisciplinarity among researchers
- How might we better promote interdisciplinarity among policymakers

Group 1 (online) Facilitator:
Group 2 (online) Facilitator: Patrick
Group 3 Facilitator: Nicky
Group 4 Facilitator: Pete
Group 5 Facilitator: Fern