

The social construction of unconventional gas extraction



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Research Questions

How do residents and other local stakeholders (e.g., business owners, natural gas employees, law enforcement, protesters and community leaders) describe their experiences with gas extraction and do their experiences vary according to their race/ethnicity, gender and age and/or the type of natural gas development (i.e., conventional vs. unconventional)?

How do race, ethnicity, gender and age shape resident and *other* local stakeholder mobilisation and antimobilisation efforts? #

What social, economic and environmental changes are reported to occur as a direct result of natural gas development? Importantly, how do these changes vary according to the type of development (i.e., conventional vs. unconventional)?

Can LCA be a useful tool for informing national and local debates about hydraulic fracturing? Importantly, is there significant variation between conventional and unconventional gas developments when it comes to LCA?

Work Package 1...Complete

October 2018 to 1 July 2019

- Short, Damien, Stretesky, Paul and Anna Szolucha. Unconventional Hydrocarbons in the UK Energy system: Briefing 7: Anti-fracking Activism and Local Democracy. UKUH.
- Laurence Stamford, Briefing – Shale Gas and the UK's Low Carbon Transition, NERC/ESRC Unconventional Hydrocarbons in the UK Energy System (UKUH) Programme, <http://www.ukuh.org/publications/benchmarkreports>
- Stretesky, Paul, and Philipp Grimmer. "Shale gas development and crime: A review of the literature." *The Extractive Industries and Society* (2020).

Work Package 2...Complete

(Ethnography 103 Interviews with stakeholders at KM, EP, PNR, EM & Albury)

1 November 2018 to 31 December 2020

- Aryee, F., Szolucha, A., Stretesky, P. B., Short, D., Long, M. A., Ritchie, L. A., & Gill, D. A. (2020). Shale Gas Development and Community Distress: Evidence from England. *International Journal of Environmental Research and Public Health*, 17(14), 5069.
- Szolucha, A. (2019). A social take on unconventional resources: Materiality, alienation and the making of shale gas in Poland and the United Kingdom. *Energy Research & Social Science*, 57, 101254.
- Szolucha, A. (2020). Why is everyone talking about climate change...again? *Irish Journal of Sociology*, 28(1) 89–96.
- Szolucha, A. (2021). Futures of Fracking and the Everyday: Hydrocarbon Infrastructures, Unruly Materialities and Conspiracies. *Ethnos*. <https://doi.org/10.1080/00141844.2021.1906293>
- Szolucha, A. (2021-Forthcomming). Shale Gas Developments in England: Social impacts and comparisons.

Work Package 3...Complete (Life Cycle Assessment) March 2020 to March 2021

- Slorach, P. C. and L. Stamford (2021). "Net zero in the heating sector: Technological options and environmental sustainability from now to 2050." Energy Conversion and Management **230**: 113838.
<https://doi.org/10.1016/j.enconman.2021.113838>



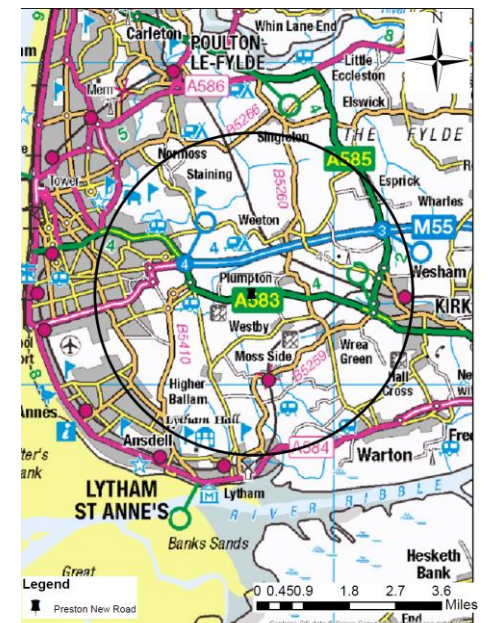
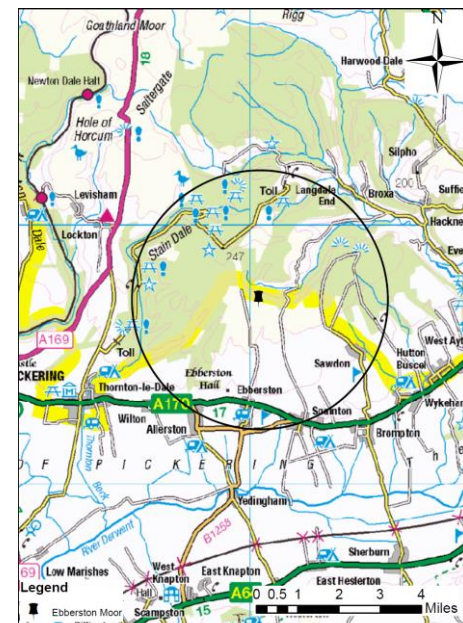
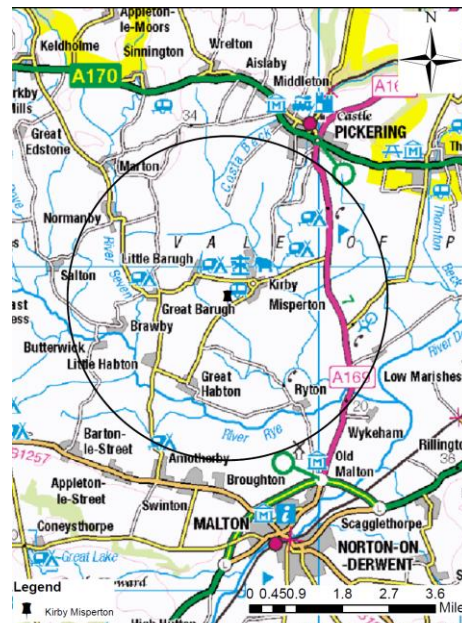
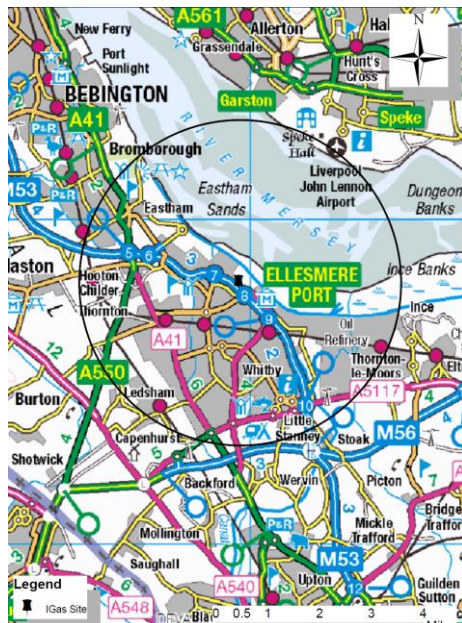
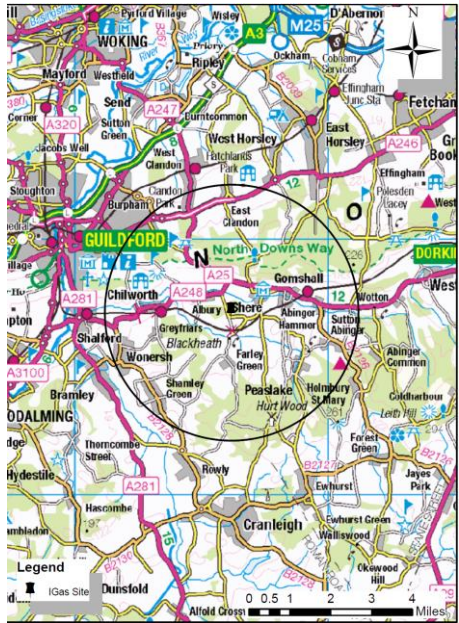
Work Package 4...Ongoing (Survey Research & Final Survey)

March 2020 to November 2021

n=384 Households; n=750 households;

Completed

n=2000+ households



From what you know or have heard about hydraulic fracturing (or conventional oil and gas extraction), which of the statements most closely reflects your own opinion?

	Hydraulic Fracturing Local (n=384)	Hydraulic Fracturing National (n=750)	Conventional Local (n=384)	Conventional National (n=750)
Benefits outweigh the risks	22.1%	15.7%	48.6%	52.2%
About the same	04.4%	12.9%	20.0%	21.5%
Risks outweigh the benefits	70.4%	57.1%	23.8%	25.6%
Don't Know	03.7%	13.6%	07.4%	14.3%

Table 1. Support for Different Types of Oil and Gas Technology in Five Communities

Hydraulic Fracturing

% Nearby residents that say they “support” the use of technology in their community (n=262)

Kirby Misperton (North Yorkshire)	Ebberston Village (North Yorkshire)	Preston New Road Region (Lancashire)	Ellesmere Port (Cheshire)	Albury (Surrey)
20.8%	15.7%	12.1%	14.1%	5.6%

$\chi^2 = 12.1$ (4 d.f. $p < 0.05$)

Conventional Drilling

% Nearby residents that say they “support” the use technology in their community (n=222)

Kirby Misperton (North Yorkshire)	Ebberston Village (North Yorkshire)	Preston New Road Region (Lancashire)	Ellesmere Port (Cheshire)	Albury (Surrey)
36.0%	32.4%	25.8%	77.3%	15.5%

$\chi^2 = 20.5$ (4 d.f. $p < 0.05$)

Note: Compared to those residents who say they do not support the use of the technology in their community.

Table 2. Percentage of residents who Agree/Disagree with the statement "There are adequate opportunities to provide input into oil and gas development in my community."

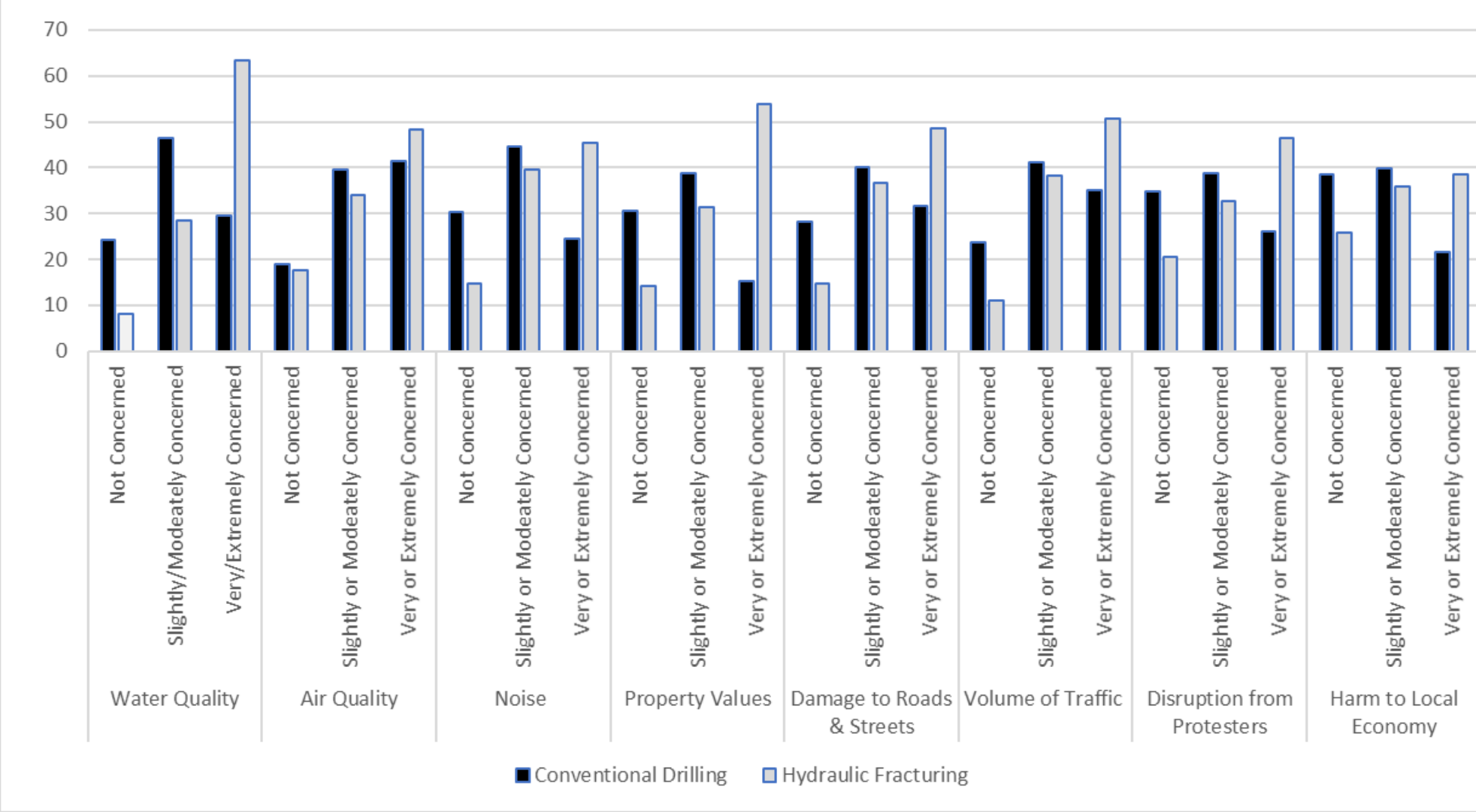
Hydraulic Fracturing

	Preston New Road Region (Lancashire)	Kirby Misperton (North Yorkshire)
Disagree	53.6%	36.8%
Neither agree / disagree	8.9%	19.3%
Agree	16.1%	35.1%
Don't Know	21.4%	8.8%
	n=57	n=54

Conventional Drilling

	Ebberston Village (North Yorkshire)	Albury (Surrey)	Ellesmere Port (Cheshire)
Disagree	47.2%	42.9%	59.1%
Neither agree / disagree	22.5%	16.1%	9.1%
Agree	18.0%	17.8%	4.5%
Don't Know	12.4%	23.2%	27.3%
	n=89	n=56	n=22

Figure 2. Percent of Residents by Level of Concern for Eight Perceived Negative Impacts Often Associated with Hydraulic Fracturing



Public Facing Publications

- Peter Slorach and Laurence Stamford, *With decarbonisation firmly on the agenda, is fracking over?*, blog post, NERC/ESRC Unconventional Hydrocarbons in the UK Energy System (UKUH) Programme, <http://www.ukuh.org/researchersperspectives/frackingisoverintheukpeterslorachandlaurencestamford.html>
- Szolucha, Anna. *Mistrust and earthquakes: why Lancashire communities are so shaken by fracking tremors. The Conversation* (2018).
- Stretesky, Short, Martin and Sovacool. 17 June 2021. *Policing of Anti-Fracking Protesters: Public Perceptions of Procedural Justice and Issues of Gender, Race/Ethnicity and Age*. Written evidence to Human Rights Joint Committee, Northumbria University, University of London and University of Sussex (PCS0231). <https://committees.parliament.uk/writtenevidence/35826/pdf/>
- Szolucha, A. (2018). *Social harm: Proof of evidence*, Appeal by ISLAND GAS LTD, Portside, Ellesmere Port. Appeal Reference APP/A0665/W/18/3207952.

Joint or ongoing projects

- Policing and Environmental Justice
- Environmental Justice and Perceptions of Human Induced Seismicity
- Reasons for Shale Fail
- Impact publication bringing it all together during covid
- Shale findings LCA and impact on public