

Understanding the Cumulative Landscape and Visual Impact of Wind Turbines

Keelan Meade, Dr Christopher Jones, Prof. Eckart Lange



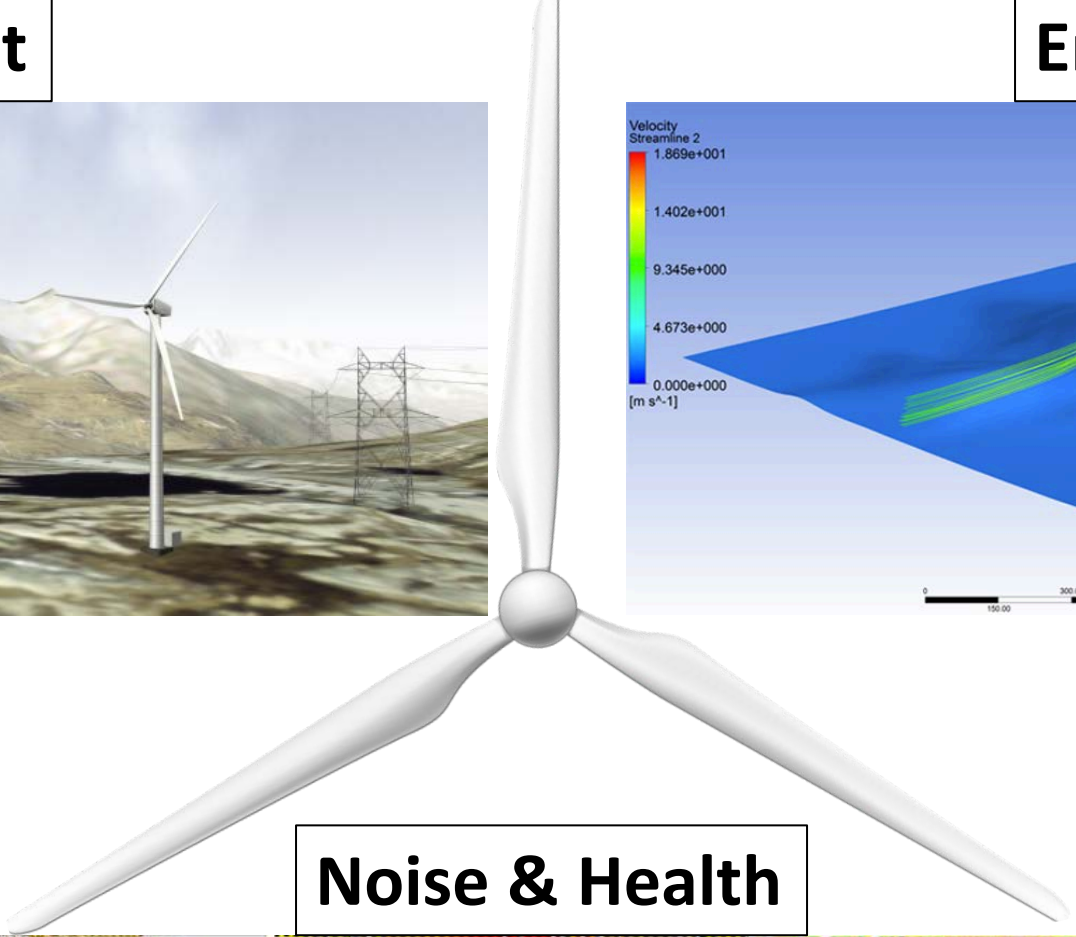
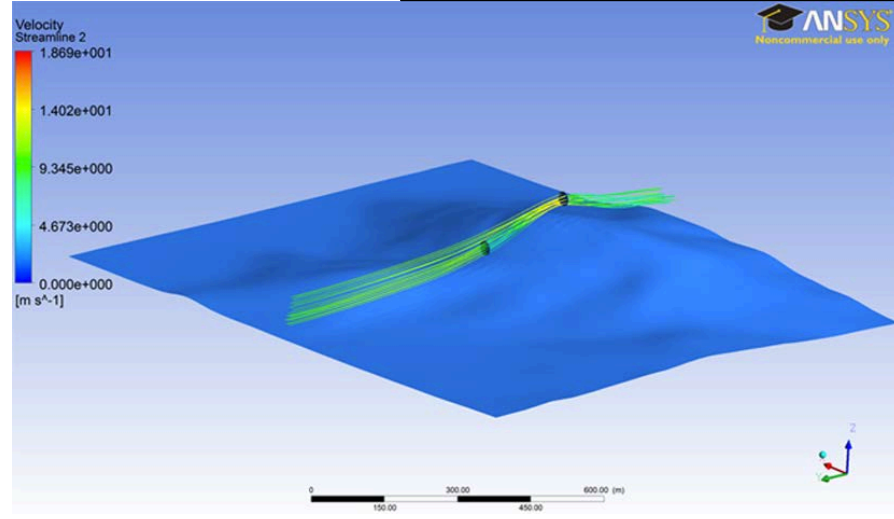
Palm Springs, CA



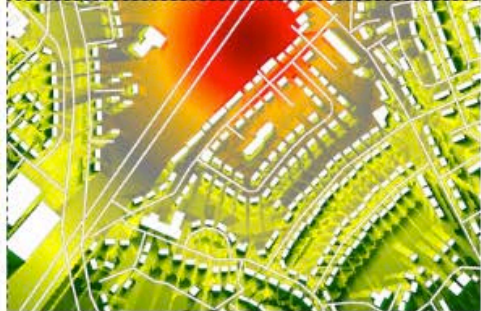
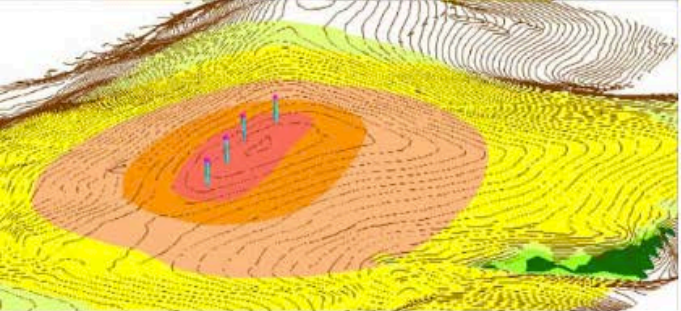
Visual Impact



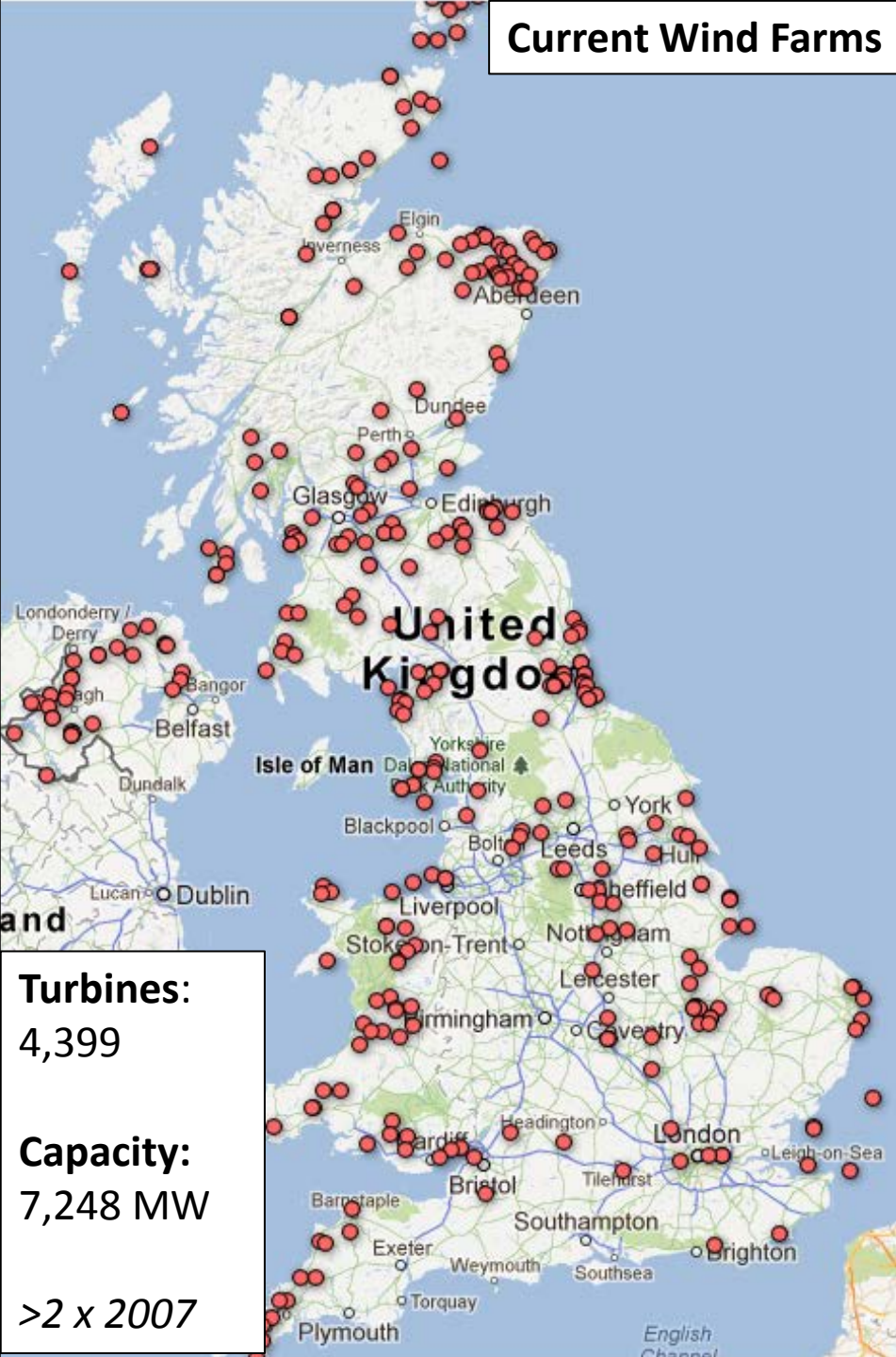
Energy Output



Noise & Health



Current Wind Farms

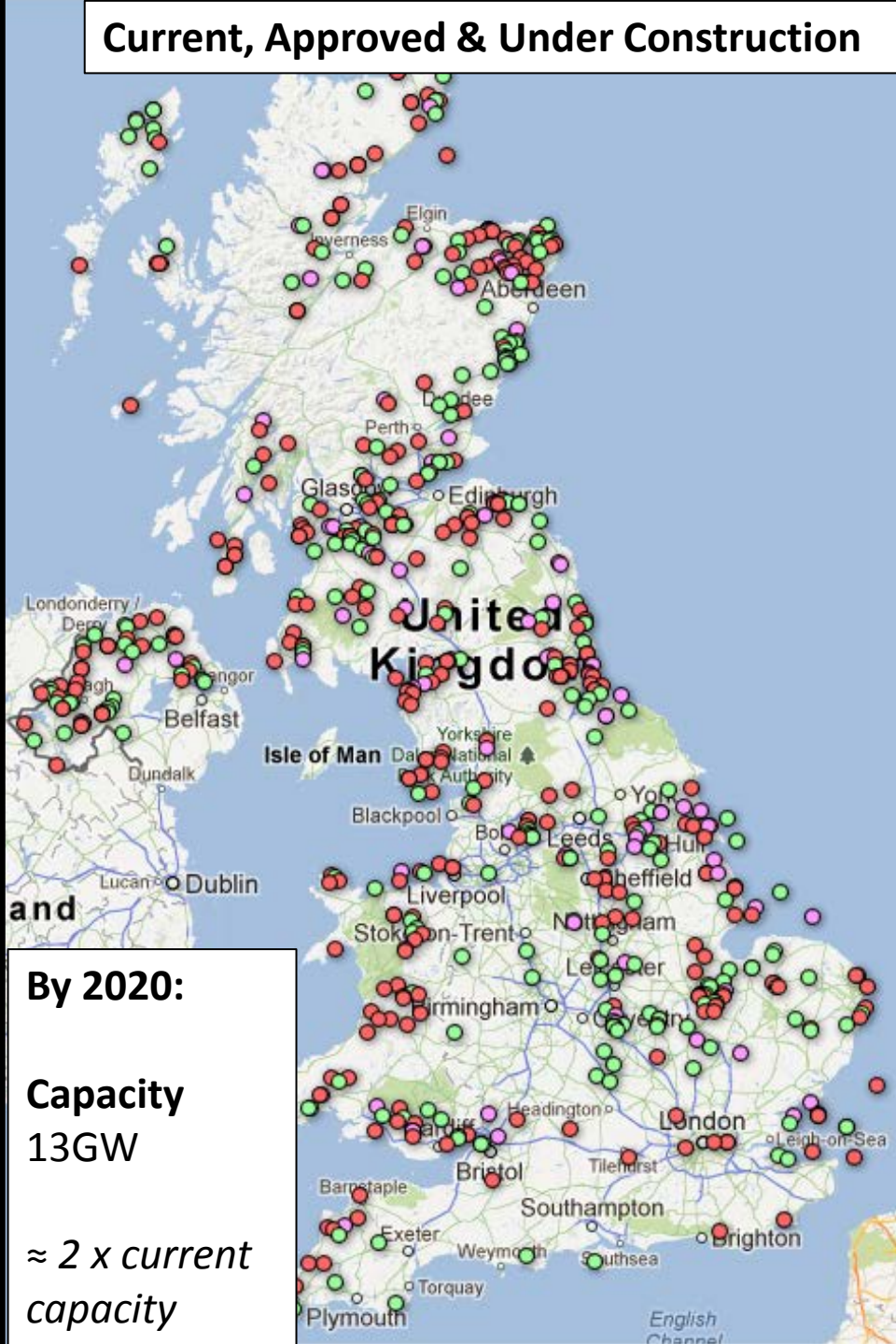


Turbines:
4,399

Capacity:
7,248 MW

>2 x 2007

Current, Approved & Under Construction



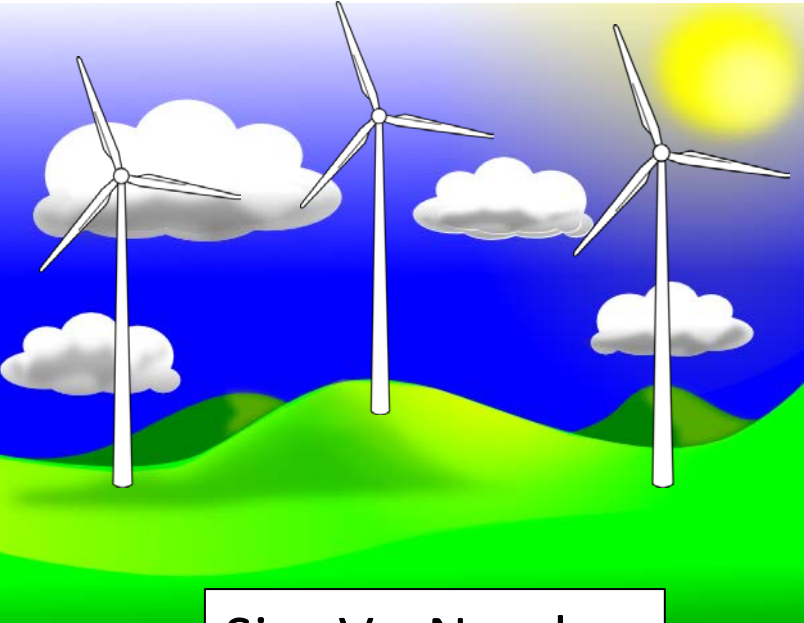
By 2020:

Capacity
13GW

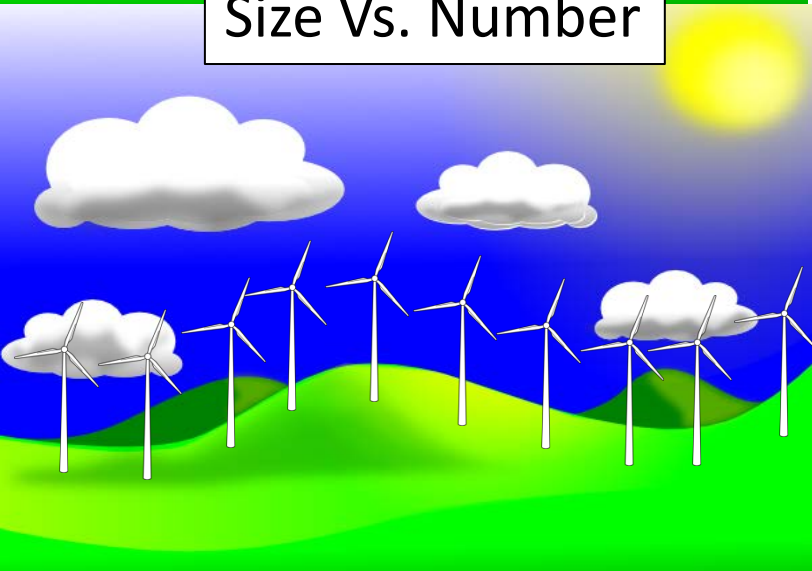
≈ 2 x current capacity

Factors Affecting CLVI

Physical

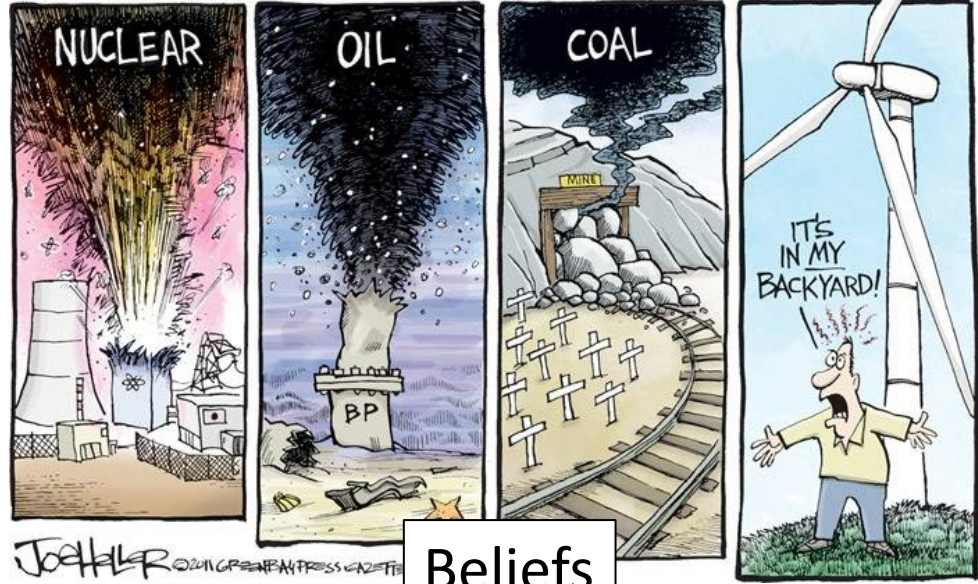


Size Vs. Number

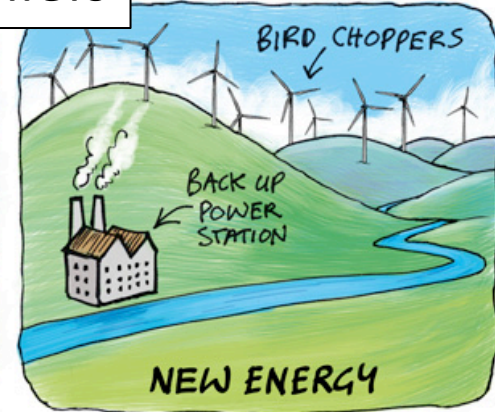
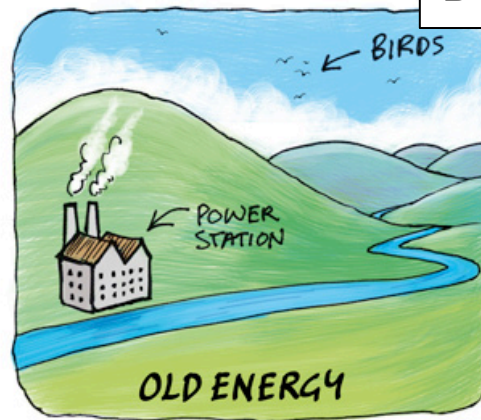


Individual

ARGUMENTS AGAINST-



Beliefs



'GREENING' THE LAND

Video -vs- Simulation



Study 1

Participants:

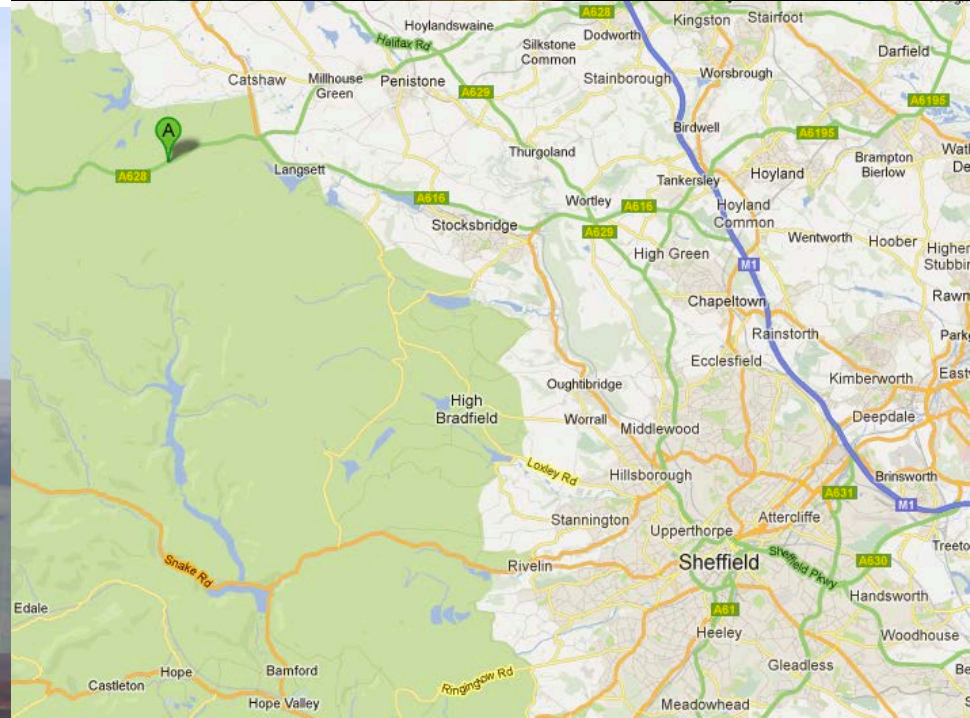
- 60 (30L/30DL) – 1st Yr. Undergrads

Data Collection

- NEP & Wind Turbine Questionnaire
- Heart rate, SCR, eye movement

Video Clip

- Panning across landscape NW of Stocksbridge (L-R & R-L)



Findings

- 1) No sig. diff. in SCR between groups
- 2) Sig. longer fix. duration for turbines that were not moving
- 3) No sig. diff. in fix. duration between turbines and buildings
- 4) Sig. shorter fix. duration for sheep compared to turbines or buildings

3D Simulation



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Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat

Google earth

WindNet Research Team

1) Visual Impact

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3) Energy output

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Thank you