Empirical Analysis of Scientific Evidence Assessment in Environmental Conflicts

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Motivation

- Environmental conflicts require scientific evidence for their resolution
  - Uncertain and complex
  - Judges must decide
- Decision Making = Logic + Statistic + Heuristics
  - Functional in large worlds

Opportunities

- Wind farms impact on biodiversity
  - Assessment of the "critical environmental impact"
    - Judgment of the Superior Court of the Basque Country 139/2011 of February 11th
- Fracking → Kuartango
- Criteria of suitability of wind farm projects → Territorial Sectorial Plan of Eolic Energy (D. 104/2002, art. 11.3)
  - Judgment of the Superior Court of the Basque Country 377/2011 of May 25th
- Carbon capture and storage → Law 40/2010

Challenges and Barriers

- Judges decide under constraints of limited time, knowledge and computational capacity (V.J. Konečni & E.B. Ebbesen, 1984; G. Gigerenzer, 2006)
  - "Bounded rationality" (H.A. Simon, 1956)
- Judges apply heuristics (G. Klein, 2001; G. Gigerenzer, 2001)
- Magistrates might follow mental processes and cues different from the ones which they must follow in accordance with the legal prescriptions (M.K. Dhami & P. Ayton, 2003, et al.)

Proposals

- Does Having to Justify One's Judgments Change the Nature of the Judgment Process? (R. Hagafors, & B. Berndt, 1983)
  - Judges should justify their assessment of scientific evidence
- Effects of accountability on performance and decision tasks → Appellation
  - Judges' justification of their assessment of scientific evidence should be reviewed by higher courts
  - Stable and well defined criteria → Consistency
- Possibility to weight the criteria
  - Bayesian atomistic analysis (M. Schweizer, 2013)
  - Heuristics (G. Gigerenzer, 2011; M.K. Dhami, 2011)