Power, politics, and environmental change
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Class 2: Ecological distribution conflicts

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Objective of this session

- Political dimensions of environmental change and conflict
  - Example of wind energy conflicts in rural Catalonia, Spain
  - Political: distribution cost/benefit; power to decide

- Why do you need to know this?
  - Introduction to basics of Political Ecology
  - Field: human-environment and power/ politics

Class outline

- Presentation of case-study
  - The political ecology approach re: wind conflict
  - The case study

- Class exercise based on case-study
  - Pay attention!

Why study wind energy conflicts?

- Clean energy is an essential medium to reduce environmentally destructive fossil fuel dependence of economies
  - 2006: worldwide wind generating capacity = 74GW a nearly 15-fold growth since 1995, which easily covers total electricity demand in the Netherlands (IEAWIND, 2006)
- However, opposition and conflict on process of installing facilities to exploit wind energy
  - Dongzhou (China) wind farm protest
- From a policy perspective, understanding opposition to siting can help resolve or avoid conflicts in future

Explaining opposition and conflict: NIMBY

- Not In My Back Yard: "An attitude ascribed to persons who object to the siting of something they regard as detrimental or hazardous in their own neighbourhood, while by implication raising no such objections to similar developments elsewhere"

  (Oxford English Dictionary, 2006)

- Some people block the global benefits of wind energy on grounds of subjective aesthetic impacts on local landscape ("selfish parochialism")

Source: Walt Handelsman, Newsday, December 20, 2005

The NIMBY myth

- Research shows that NIMBY explanation fails to incorporate the multiplicity of underlying motivations of opposition
  - "combination of general positive attitudes and oppositional behaviour based on selfish motives related to the NIMBY idea are rare" (Wolsink, 2007)
  - "only ¼ of population clearly looked at the costs and benefits of wind turbines in terms of individual utility" (Wolsink, 2000: 53)

- Use of NIMBY: attempt to pre-qualify wind energy opponents (McAvoy, 1998)

The institutional framework

- Wolsink (2000)
  - institutional factors (e.g. planning system) have a greater impact on success of wind energy facility siting than individual attitudes to wind energy

Decision-making processes

- Groups have no pre-fixed interests
  - As a matter of fact, views change during the course of decision-making process
- Supporting or opposing attitudes are formed in the course of the process
- Attention to opportunities for *public participation* during decision-making (Healey, 1998)
  - If people participate in decisions and have a stake in wind farms, they are more likely to be positive about them

Explaining environmental conflict

- Looking for 'better' (NIMBY) conceptual frameworks to explain wind farm conflict

- **Political ecology**: conceptual framework that focuses on explaining conflict arising out of landscape (or ecological) change
  - "the visual evaluation of the impact of wind power on the **values of the landscape** is by far the most dominant factor in explaining why some are opposed to wind power implementation and why others support it" (Wolsink, 2007)
  - i.e. those who oppose wind farms argue that they are detrimental to local landscape

Environmental change: political ecology

- Landscape change generates particular **costs** and **benefits**, which tend to be distributed unequally ('winners' and 'losers' of environmental change)
  - In course of EC 'winners' attempt to shift the costs incurred for obtaining their benefits to the 'losers' (*cost-shifting*): e.g. landfill sites
  - This generates (environmental) conflict: 'losers' from landscape change reclaim and struggle for a re-distribution of costs and benefits (EC = EDC)

Study: wind farm conflict in rural Catalonia

Aim: explain conflict

- By looking at its **causes**
- Using **political ecology**
  - **Cost/ benefit** distributions from wind energy and conflict
  - Institutional context: the **decision-making**/ planning system – who decides and why?

Terra Alta

Comarca (1/7 in Tarragona; 1/41 in Catalonia)

- 743 km^2 (approx. 2% of Catalonia)
- Population: 12,700 (0.18% of the population of Catalonia)
  - low population density: 17.12 inhabitants per km^2
  - Catalonia average: 218.73 inhabitants per km^2
- Second last position in GDP/ capita in Catalonia (2002)
- One of the three less competitive comarcas in Catalonia (2007)
- Highest proportion of active population in agriculture (mostly olives, wine, almonds and hazelnuts) in Catalonia

The Terra Alta wind farms

- Eleven wind farms of approx 180 wind turbines:
  - Approx 360MW
  - Electricity: ¼ million families
  - Turbines will cross right through the comarca on a – more or less – continuous line of approx 40km
- Two new lines of HTEW of approx 60km (to transport energy produced from wind farms)

Conflict

- Admin, energy utilities and environmentalists (outside locality): wind energy = positive wind farms' impacts (local economic benefits, global environmental benefits of renewable energy)

- Local opposition group(s), local conservationists: wind energy= degrading impact of turbines on value of local landscape
  - E.g. limit quality tourism opportunities

Explaining conflict in Terra Alta

- ELEMENT 1: cost/ benefit distributions
- ELEMENT 2: decision-making processes

ELEMENT 1: wind energy conflicts as EDC (PE)

Two aspects of cost-shifting

a) Macro-concentration (the ‘dump’)
b) The power house

Macro-concentration

- Over the last half century, the installation of a series of adverse energy (electricity) generating facilities have turned the broader area into “Catalonia’s dump”

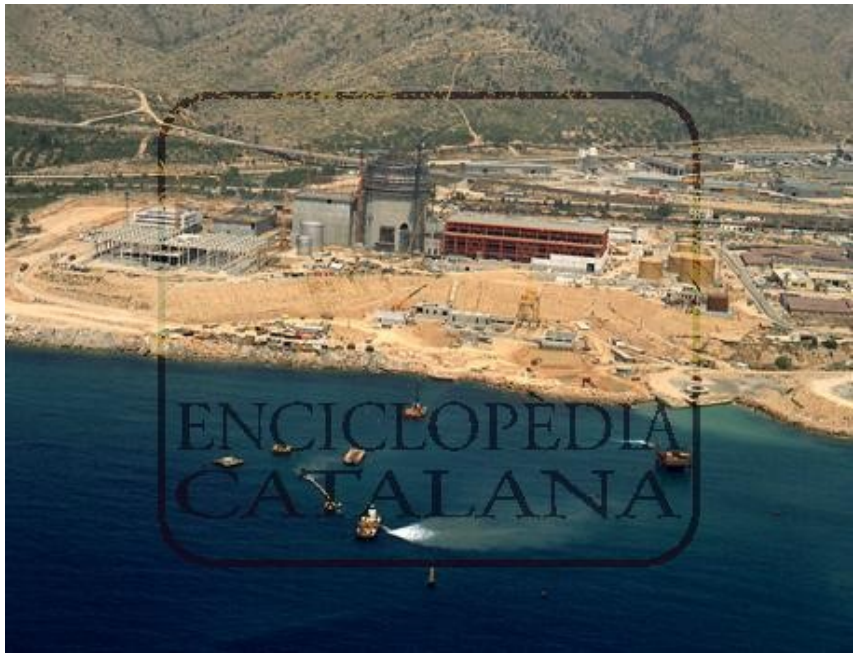
Nuclear power plant (Ascó)

- less than 10km (in straight line) off admin limits of TA
- massive mobilisations in area
- 1982: reactor (1000MW app.)
- 1985: 2nd reactor
- one TA village (La Fatarella) receives compensation annually for being within a 10km radius from the nuclear power plant
- Incident Apr. 2008: bad reporting to national nuclear monitoring agency -> sacking of executives

Source: www.grec.net

Nuclear power plant (Vandellós)

- 1972: 480MW reactor
- Vandellòs some 30km (in straight line) from TA admin limits
- 1987: 2nd reactor (1087MW)
- 1989: after a fire threatens the facility, a decision is taken to close down the older reactor



Source: www.grec.net

In brief…

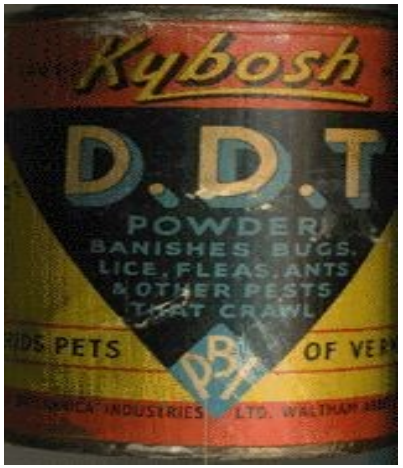
- Two out of the seven nuclear power plants that exist in the whole of Spain are located within a close range from Terra Alta
- Only one village (out of 12) receives compensation

Source: Department of Nuclear Engineering, Polytechnic University of Madrid

Hydroelectric dam of Flix (1950)

- Less than 20km from TA admin limits
- ERCROSS (ERKIMIA): chemicals company installed since early 1900s (e.g. produced chlorine)
- But they also produced DDT!
  - stopped producing DDT in 1945, but residues that were dumped in river Ebre remained trapped in dam's reservoir

- Studies: when volume of water increases (e.g. with rains), toxic residues move up and contaminate last section of the river – lower levels of contamination have also been detected in other sections of river further south



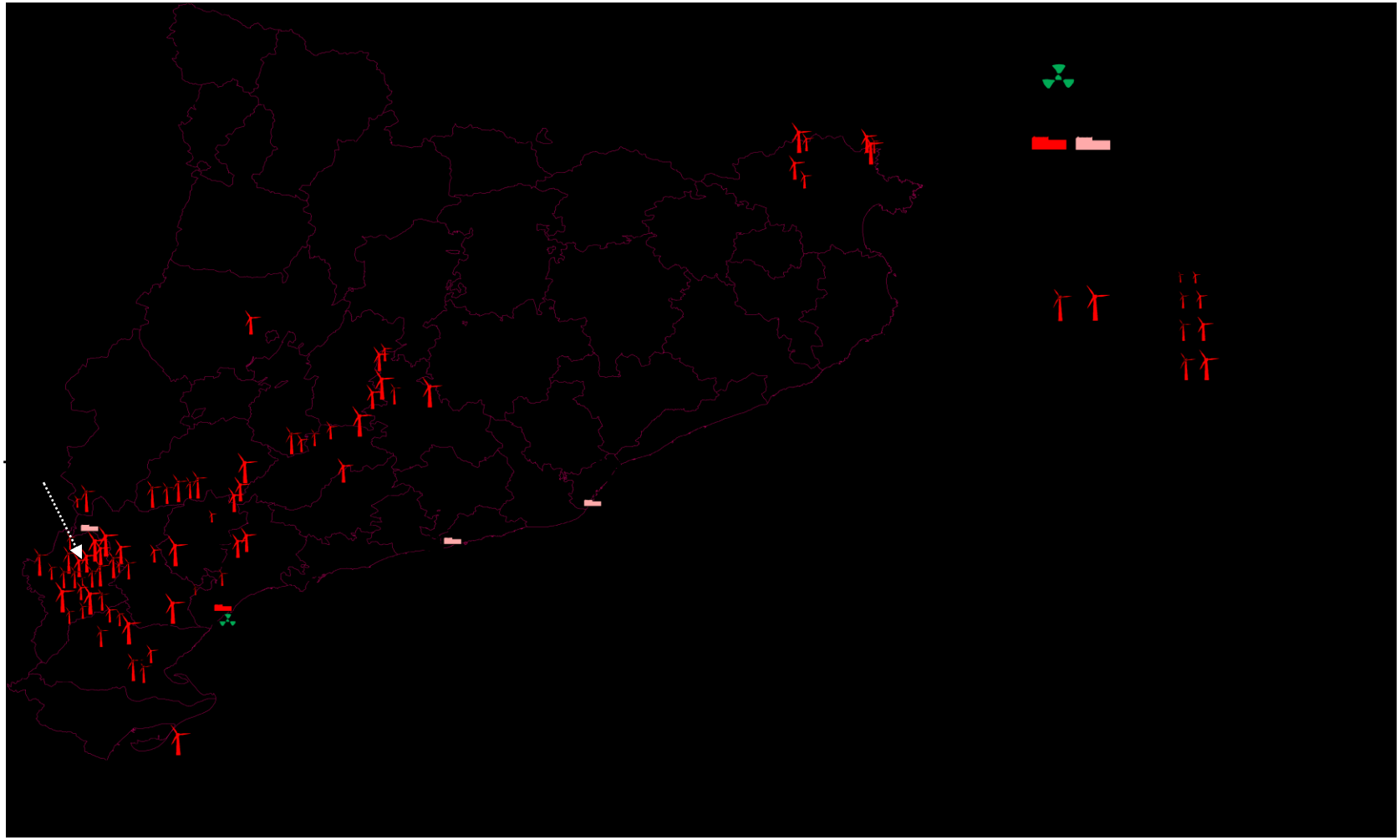
Hydroelectric dam of Riba-Roja d'Ebre (1967)

- 310MW app. 15km from TA admin limits
- Nearby villages of Mequinenza and Fayón were artificially inundated and new villages were built for inhabitants
- Majority (Mequinenza: half; Fayón: over 2/3) immigrated (Barcelona and Zaragoza)

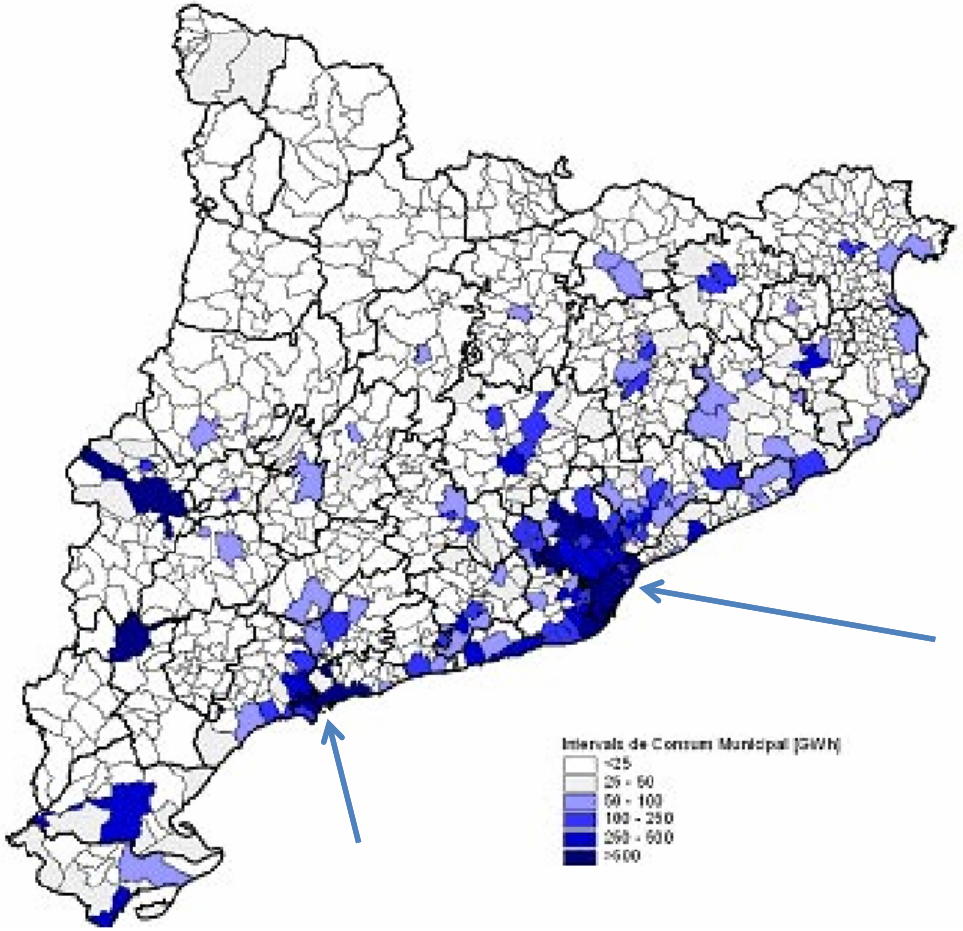
The power house

- Cost/ benefits distribution of wind farms
  - Electricity for 250,000 families vs. wind farms' massive concentration for 13,000 inhabitants
- This reflects/ reproduces a broader, historical pattern of development
  - Broader area: Catalonia's power house
  - 'Centre' (Barcelona, Tarragona tourist resorts & industry): economic development
    - Made possible from more available energy generated by the 'power house'

Electricity **generation** in Catalonia (2005) (Saladie, 2006)



Electricity **demand** by municipality in Catalonia (2003)



What macro-concentration?

- Central administration tends to turn a blind eye on this situation…
- “In his visit … the Counsellor of the Department of Industry of the Catalan Government … denied claims of a massive concentration of wind farms in the area, although admitting that over 50% of new projects authorised in Catalonia are concentrated in Terra Alta, Ribera d'Ebre and Baix Ebre” (La Vanguardia, 21 February 2006)

Centre-periphery

- “We are talking to those politicians who ignore that there is a Catalonia to the south of Port Aventura!”

Plataforma per la Terra Alta

“The North also exists!”

Source: Sergi Saladie, Geographer, Universitat Rovira i Virgili, Tarragona

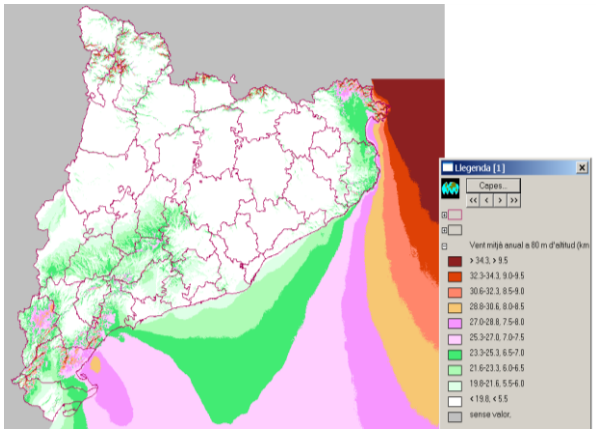
ELEMENT 2: decision-making processes

Two issues worth of attention:

a) Scales of decision-making

a) Decision-making criteria

Regional scale: siting decisions



- Map of Catalonia's wind resources: wind measurement on basis of average annual wind power potential
  - Companies see map (wind potential) and decide where to invest (i.e. build farm)
  - Company initiative cannot be objected unless illegal (e.g. inside N2k area)
  - No consideration of *cost/ benefit distributions* between regions at basic stages of decision-making

"The *basic requirements* for giving a licence to a wind farm is that it is outside protected areas, the location of the electricity evacuation line and that the zone is included in the Map of Wind Resources of the GC" (J.M. Rañé, Industry Councillor, GC, Feb.2006)

Regional scale: siting decisions

- The limited authority of *LA*
  - Provision of E+U licences: discretionary powers
  - if applicant complies criteria prescribed by regulations and provide necessary documentation municipal authorities cannot deny licence on any other grounds (i.e. regional distribution of benefits, local grievances, don't want this type of local development, etc. not a criterion)
  - "…what we do is to just process applications.. the only [other] thing we can do is to protest to the Government… to moan like cry-babies" (Local Mayor)

Regional scale: siting decisions

- However, LA can put hurdles to push claims for ‘fairer’ distributions
  - Toke (2008): wind farm projects in Spain that are locally opposed can be subject to significant delays but normally end up in “more money being paid for local projects rather than municipal rejection of the schemes”
  - Companies preferred practice: sign pre-agreements with LA
  - Role of pre-agreements: facilitate company’s projects

Local scale: siting decisions

- One village pre-agreement
  - LA committed to "…collaborate… with the wind farm project, materialising such position, …in the management of obtaining licences and authorisations that depend from other administrations, and in the negotiation regarding connection to the electricity grid"
  - "The municipality of VILLAGE X will also try to prevent and limit possible conflicts of interest that could arise and assume a mediating role with affected property owners"
    - Turning LA into a project (company) facilitator
  - €160k in course of four years; €17,5k for 'cultural events'; annual rents; works permit; rents to farmers and those at close distance

Local scale: siting decisions

- However, *differential treatment*: wind turbine hosts – externality bearers (e.g. neighbouring properties; HTEW line properties), which also triggers conflict
  - LA claim their part in overall cost/ benefit distribution but do not secure fair distributions within village

Procedural issues: exclusions

- A pattern of *exclusion from decision-making* processes of: alternative landscape valuations, concerns as to fair regional distribution of costs/ benefits, etc. from wind farms
  - At both levels of decision-making: central administration and companies exclude local authority; local authority excludes potential local 'losers'

- Pre-agreements function as 'mechanisms of power' that facilitate such exclusions

Conclusions: explaining the conflict

- This conflict is hardly about wind farms…
- ‘Ecologising’ (landscape value) existing/ older conflicts: ‘centre – periphery’ conflict over shifted costs of centre’s development
- Conflict is also explained by local opposition to exclusions from decision-making processes (procedural injustice)
- Relevance of power and politics (PE explanation): distribution; decision-making (who & why) processes

Class exercise

- Get into groups

- Answer: In this case-study, “who does what to whom, where, how and why?”
- If you were govt. what would you do?

  - Map it out (perhaps)
  - Present it to rest of the class (5 mins)

Next class

- Read:
  - file: 3_Robbins_04
  - Robbins, P. 2004. Green Materialism. In: *Political Ecology.* Malden: Blackwell Publishing. pp. 44-52 and pp. 36-38

- Question:
  - Robbins explains that "[f]or materialists, environmental degradation is... inevitable in capitalism" (p. 46).
  - Explain in your own words why is this the case, and how does such degradation occurs.

- Send me your **500-word (maximum!)** answer **before 16:30 on Monday**
- Bring your answer in class on Monday