

Term paper prospectus  
E&M 273 – Environmental & Natural Resources Economics  
Fall 2005 – Hakes

Term papers for this course will be 10-15 pages of double-spaced, 12-point type with standard one-inch margins on all sides. The term paper assignment will be submitted in three stages.

#### WHAT A PROSPECTUS IS

The first stage of your term paper project will consist of turning in a prospectus, which is a short (1-3 page) overview of the topic which explicitly describes the scope of the term paper. The topic must be narrow enough so that the amount of available academic research and popular coverage of the topic can be managed within the space of a term paper, but not so narrow that there is no literature to reference. “Renewable energy” may be too broad. “Wind energy” might be just about right. “Uses of wind energy by Consumers Power in southern Michigan” might be too narrow.

Think of this as an application or a proposal: you’re proposing a topic of research to me, and need to convince me that you have done enough background research that you know you’ve got the appropriate scope for your topic, and that there’s something sufficiently interesting there for you to keep reading and writing about for the next few weeks.

#### WHAT A PROSPECTUS LOOKS LIKE

The prospectus will begin with a proposed title and a 200-300 word synopsis of the topic. Following the synopsis, there will be an annotated bibliography of sources. For each source, a complete bibliographic reference (or specific URL – meaning that it identifies an individual \*.htm page, not just a website) will be presented, followed by one to three sentences describing the relevance of the article to the topic, and how it will be used in the paper.

For example, I recently wrote a paper in sports economics on the effects of fielding ability on pro baseball player salaries. Here are three entries from my annotated bibliography for that paper:

Bennett, Jay, and Fleuck, J. A. (1984) "Player Game Percentage," In *Proceedings of the Social Statistics Section, American Statistical Association*, 1984, pp. 378-380.

Explains the Player Game Percentage method of converting plays into units of expected games won/lost.

Scully, Gerald (1974). “Pay and Performance in Major League Baseball”, *American Economic Review*, vol 63 (December), pp. 915-930.

Develops the methodology of determining Marginal Revenue Product from players’ on-field statistics.

Zimbalist, Andrew (1992). Baseball and Billions. (New York: Basic Books).

Extended the Scully (1974) model through use of OPS (on-base plus slugging) rather than slugging pct. to measure offensive ability, and estimated the effect of ability to contract (free agency and arbitration) upon Major League Baseball player salaries.

#### WHAT KINDS OF SOURCES YOU SHOULD USE

While some of your sources may be from popular journals (National Geographic, Business Week, etc.), newspapers, or websites of established organizations (U.S., foreign, state or local government agencies; the OECD, UN; Resources For the Future or some other non-governmental organization with a track record of providing non-partisan research), **at least two of your sources should come from a peer-reviewed academic journal or academic monograph** (a book published for an academic audience, and usually printed by an academic publisher, such as Harvard University Press).

In economics, that would mean either general economics journals such as the American Economic Review, the Journal of Political Economy, Economic Inquiry, or the Journal of Economic Perspectives, or else journals which specialize in environmental and natural resource economics issues. Some of these are Land Economics, the Journal of Environmental Economics and Management, and the American Journal of Agricultural Economics.

Outside of economics, there are good journals in the fields of ecology, geology, environmental engineering, hydrology, toxicology, and other fields which might be of help. But remember that this is a course in environmental and natural resources *economics*, and I will be looking for a topic that applies economics to an environmental problem or to natural resource use. Any articles from other fields should be in support of that topic, either directly dealing with economic issues, or establishing scientific knowledge you will use to show how economics uses that knowledge to address the topic.

#### HOW YOU CAN FIND PEER-REVIEWED ARTICLES

In economics, journal articles and monographs can be found in EconLit, which is available electronically through the college library. You enter keywords, such as “wind” and “energy” and “electricity”, and choose “journals” (or books) as the document type, and it will reply with a list of journal articles (books) in the database that contain those keywords in their abstracts. For the search just mentioned, I got eleven “hits,” with a recent article in *Energy Economics* that looks like it might work nicely: “Assessment of the Global and Regional Geographical, Technical and Economic Potential of Onshore Wind Energy”

Another good source of articles is JSTOR. Using the set of keywords “wind power renewable energy electricity,” and limiting the journals to those in economics and ecology, I came up with 19 articles, of which three or four look promising (meaning I more or less understand the titles, and they seem close to what I want).

## SOME TOPIC IDEAS

### air pollution

- global warming
  - international agreements
    - efficacy/completeness
    - reasons for reluctance to participate
  - effects of
  - sources of
  - carbon sinks
- phaseout of CFCs
- SO<sub>x</sub>/NO<sub>x</sub> auctions
- ozone, tropospheric
- ozone, stratospheric
- particulates
- indoor air pollution
  - VOCs
  - workplace air standards
  - radon
  - allergens

### water pollution

- groundwater
  - re-injection
  - leeching of hazardous substances
  - aquifer depletion
  - salinization
- river/lake water
  - flow/stock maintenance
  - pollution from point sources
    - permits, ambient or emissions
    - Pigovian taxation
  - pollution from non-point sources
    - monitoring/enforcement
  - riparian habitat preservation/restoration
  - dam removal
  - water levels/property values and shoreline habitat
  - boating impacts upon species
- oceans
  - bilge water dumping
  - deep sea trash dumping
  - fishing/whaling in international waters
  - beach erosion

### soil erosion

- interplay of agricultural and environmental policies
- techniques to prevent erosion
  - river setbacks
  - grading and fencing

- tillage techniques
- hillside and land stabilization
- noise pollution
  - [specific source]
- extinction/loss of biodiversity
  - invasive species
    - kudzu
    - zebra mussels
    - [... the list goes on]
  - endangered species act
    - “takings”
    - effectiveness, general
    - effectiveness, [name a species]
  - eco-tourism
  - debt swaps
- urban sprawl/loss of open space
  - wetland conversion, benefits of
  - land trusts for preservation
  - zoning and tax incentives
  - farm subdivision
  - re-forestation/
  - “new urban” architecture and design
- fisheries/game
  - determination of MSY
  - methods of controlling “take”
    - regulation of technology
    - season limitations
    - tradeable permits
- forestry
  - sustainable methods
  - ecolabeling
  - fire suppression/controlled burns
- minerals/non-renewable resources
- energy
  - oil
    - exploration and extraction
      - ANWR
      - offshore drilling- Gulf of Mexico
      - environmental impact
        - Middle east
        - West Africa
        - Venezuela
        - other
      - social impact [same list]
    - supplies and prospects

- alternative fuels
  - autos
    - hybrids/electric
    - bio-diesel/ethanol
    - hydrogen/fuel-cell
  - electricity
    - nuclear
    - waste disposal
    - coal
    - natural gas
    - solar
    - wind
    - hydro
- conservation
  - energy/electricity
    - energy star appliances
    - dimmer switches/motion sensors
    - heating/cooling/insulation
    - pricing for peak loads/inverse blocks
  - consumer waste
    - recycling
      - methods/profitability
      - [name a material]
    - landfills
      - hazardous wastes/leeching
      - capacity
      - export of solid waste
  - water
    - price signals to agriculture/industry
    - grey water uses
  - mass transit
    - HOT/HOV lanes
    - light rail systems
- hazardous materials
  - heavy metals (mercury)
  - PCBs
  - [other chemical]
  - Superfund- [specific site]
    - funding/liability rules
  - disposal methods (deposit/collection centers)