2015-2016

# Les cours d’Economie et HSS dans le PA

# Sciences pour les Défis de l'Environnement

# Economie

## P1

- **Eco 572 : CORPORATE ENVIRONMENTAL RESPONSIBILITY AND ENVIRONMENTAL ECONOMICS**

  **JM Bourgeon & P Crifo  Vendredi - Cours de 10h45 à 12h45, PC de 16h15 à 18h15**

## P2

- **Eco 581: EMPIRICAL METHODS OF ENVIRONMENTAL ECONOMICS**

  **E Strobl Lundi – Créneau C1b - Cours de 8h30 à 10h30, PC de 10h45 à 12h45**

- **Eco 564: ENERGY ECONOMICS**

  **A Creti Mercredi - Créneau C3b - Cours de 8h30 à 10h30, PC de 10h45 à 12h45**

- **ECO – NEW ENERGIES AND NEW MARKETS**

  **JP Ponssard  (avec M2 REST)**

# HSS

- **P1**
  - **HSS 577 - STRATÉGIES DES ORGANISATIONS ET DÉVELOPPEMENT DURABLE**

    **H Dumez & A Jeunemaitre**

- **P2**
  - **HSS586 - L'URBANISME ET L'AMÉNAGEMENT DU TERRITOIRE, VECTEURS D'UNE SOCIÉTÉ DURABLE**

    **X Bonnaud**

# Eco 572
# RESPONSABILITE ENVIRONNEMENTALE DES ENTREPRISES ET ECONOMIE DE L'ENVIRONNEMENT

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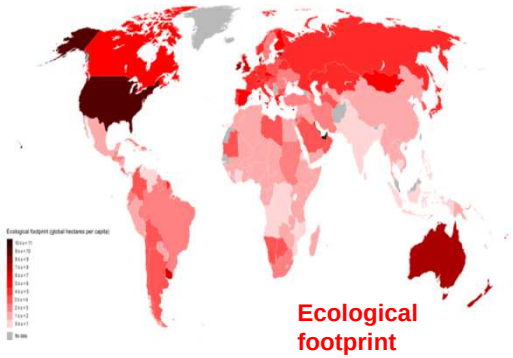
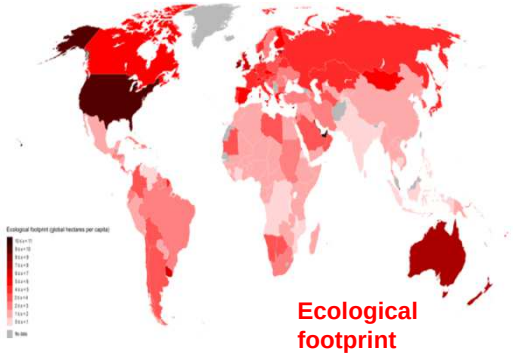


Ecological footprint

# Eco 572
# RESPONSABILITE ENVIRONNEMENTALE DES ENTREPRISES ET ECONOMIE DE L'ENVIRONNEMENT

- The notion of a corporate environmental responsibility and environmental economics is raising as much hope as skepticism nowadays.
- Is economic growth really compatible with environmental preservation?
- Are our economies on a sustainable development path?
- What is the rationale for public intervention?
- What is the value of biodiversity? .
- Is corporate environmental responsibility greenwasing?
- What is the economic size of eco-industries ? What about social innovations?

Ecological footprint

# Eco572:
# PARTIE 1 : ECONOMIE DE L'ENVIRONNEMENT


I - Environmental Economic Analysis

Cost-Benefit Analysis

II- Environmental Policy Analysis

Command-And-Control Versus Incentive-Based Policies.

III-Policy Implementation

RMoral Hazard Adverse Selection.

IV-Risk And Precaution

Option Value, Uncertainty

V-Economics of Biodiversity

# ECO572:
# PARTIE 2: RESPONSABILITE ENVIRONNEMENTALE DES ENTREPR

I –Growth and sustainability

The environmental impact of economic activity , economic concepts sustainability

II - Green innovation – macroeconomic issues

Green growth theory and policies

III - Green innovation and eco-industries – microeconomic/managerial iss

IV – Corporate environmental responsibility (CER)

V - BOP as a new business strategy

# ECO 581 - Empirical Methods of Environmental Economics

**Eric Stobl**

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•On April 20th 2010 Deepwater Horizon exploded, killing 11 crewmen and causing a fireball visible from 56km away. This left the well gushing oil into the sea and could only be stopped on July 15th, by which time over 53,000 barrels of oil had leaked.

•IThe spill caused extensive damage to marine and wildlife habitats and to the Gulf's fishing and tourism industries (about 790km of shoreline reaching across Louisiana, Mississippi, Alabama and Florida was affected). It is believed that many marine animals were dying at multiple rates higher than normal and then there has been an usual incidence of mutation in marine animals due to the spill.

# Empirical Methods of Environmental Economics

•Question:

•How much should BP pay in damages to compensate victims, which include not only those working the fishing and tourism industry but also the greater public that now may get less enjoyment from local wildlife and marinelife? For standard goods found on the market one can simply use the price as a value, but many environmental goods are not sold on the market and hence have no price?

•In other words, how can economists find a value for non-market environmental goods?

•The approach to in this regard has been to employ **Contingent Valuation Method** and this technique is now widely used by the US Enivronmental Protection Agency and increasingly so by European Policymakers and Institutions.

# Empirical Methods of Environmental Economics

- This course's goal is to equip the students with the necessary tools and practice to **employ contingent valuation methods both for academic and policy research.** In particular students will learn to:

- Learn the statistical underpinnings of Contingent Valuation Methods.

- Implement these methods using computer software and real world data.

- Learn how to write a Contingent Valuation Survey.

# Eco 564 Energy Economics

**Anna Creti**
**creti.anna@gmail.com**

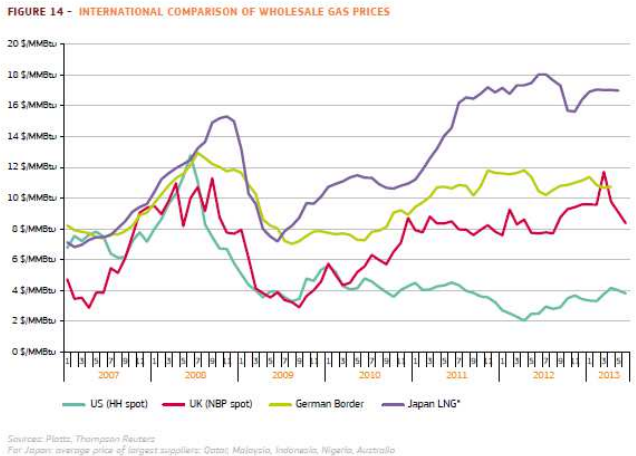
- The course focuses on the analysis of the main economic concepts underlying markets for electricity, gas and oil.
- Regarding electricity and gas, the focus is on the European context and the ongoing liberalization process.
- Whenever appropriate, France serves as case study to illustrate some economic facts.
- Oil being a commodity exchanged worldwide, the analysis explains the main links between international demand and supply of this primary fuel.
- As today the energy sector, in Europe, is extremely constrained in its development by various measures of environmental regulation, the course also presents the main policy measures to curb CO2 and other greenhouse gases as well as their impact on the electricity and gas markets.
- The proposed approach is inspired by microeconomics and industrial organization.

## Eco564: COURSE METHODOLOGY

Two specificities:

• 5 external speakers from the institutional and the profession world explain the links between theory and practice, on selected topics (nuclear economics, French energy policy, the role of the energy regulator, electric vehicles, financing energy projets, etc…)

•One session of experimental economics: the session is organized to understand the practical functioning of the electricity day-ahead market. Students are grouped in small teams, representing electricity producers or retailers.



## Eco564: COURSE OUTLINE

I – Energy basics

Key figures on energy markets in Europe

II- Electricity Markets

III-Market Power; la Loi NOME

IV-Network Pricing and Smart Grids

V-Gas Markets

VI-Gas Tariffs

VII-Oil Markets

VIII-Energy and Environmental Policy in Europe

# ECO “New Energies and New Markets” (NENM)

**Jean-Pierre Ponssard**
**jean-pierre.ponnsard@polytechnique.edu**

**Objective:**

The course provides the main economic tools to analyze the role of governmen regulations and of the strategies of firms with respect to climate change and renewable energies.

**Program:**

The first sessions will introduce the conceptual framework

- The economics of climate change: externality, first best and second bes solutions, the comprehensive approach versus bottom up approaches
- What to expect from international agreements: Montreal versus Kyoto protocols
- The economics of emission trading schemes: SO2 versus CO2, leakage and competitiveness
- The Porter hypothesis and firm strategies: how to stimulate innovation along the value chain

# ECO “New Energies and New Markets” (NENM)

**Program:**

The following sessions will consist of detailed case studies

- A professional will be invited to discuss the technological, regulatory and market issues associated to each case study
- In preparation to this discussion a selected team of students will make a short preview of the issues based on available references (20 minutes)
- After the session the selected team of students will write a 10-15 pages joint term paper

**Evaluation of the students**

- ¾ on the term paper
- ¼ on a quiz

**More information**

**http://ponssard.net/category/ongoing-research/**

# EA HSS 577 - Stratégies des organisations et développement durable

**Hervé Dumez & Alain Jeunemaître**

- L'objectif de cet EA consiste à former les élèves à la stratégie des organisations (firmes, États, organisations internationales, ONG) en matière de développement durable
- L'EA se déroule sur neuf séances de 4h
- Chaque séance se répartit en deux temps : en première partie, une présentation des enseignants visant à donner les cadres analytiques de la stratégie et du développement durable ainsi que des bases méthodologiques ; en seconde partie, un travail des élèves sur un sujet de recherche mené en groupe

# EA - HSS 577 : exemples de sujets de recherche

- La nature de la firme influence-t-elle les stratégies de responsabilité sociale ? Le cas des entreprises capitalistes, coopératives et familiales dans l'industrie laitière
- Des indicateurs pour la ville durable ou des indicateurs pour des villes durables ?
- Quelle gouvernance pour la conservation de la biodiversité en haute mer ? Étude de la pertinence des zones marines protégées
- Engagement des entreprises et Développement Durable : le cas particulier des sociétés coopératives.
- Quelles stratégies pour conquérir un marché durable : le cas des deux vaches.
- Les processus de standardisation : le cas de l'affichage environnemental
- Une stratégie éthique dans le marché équitable du chocolat
- Quelles stratégies pour le Crabe Royal ?