

# **ENTREPRENEURIAL DISCOVERY AS A BLIND SPOT OF ENVIRONMENTAL ECONOMICS**

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# ENTREPRENEURIAL DISCOVERY AS A BLIND SPOT OF ENVIRONMENTAL ECONOMICS

## THE CASE OF WASTE RECYCLING IN THE NINETEENTH CENTURY

« There will be no sustainable economic development  
as long as it is not embedded in a superordinate societal context

– and it is a *cultural and political* task

to ensure this embedding »

(Ulrich, 2010 : 100).

# ENTREPRENEURIAL DISCOVERY AS A BLIND SPOT OF ENVIRONMENTAL ECONOMICS

## THE CASE OF WASTE RECYCLING IN THE NINETEENTH CENTURY

**Do markets really need to be “regulated”  
in order to percolate sustainable development  
throughout the economy?**

**Our contribution aims to challenge this common belief :**

- 1. Economics and Environment in the Economic Thought : the Market Failure Tale.**
- 2. However, recycling wastes was “business as usual” (BAU) throughout the 19th century (whereas market economies were less subject to public regulation than today).**
- 3. Some “swimming against the tide” insights from this case.**

# 1. Economics and the Environment in the Economic Thought :

## 1.1. Environmental Economics :

According to mainstream neoclassical Environmental Economics:

1. Business spontaneously **externalizes environmental costs** in order to maximize profit. Therefore, “unfettered markets fail to allocate environmental resources efficiently” (Turner, 2000) → **Pigovian externalities** as the bedrock of the market failure tale.
2. Even so, **market incentives** can be effective **instruments** for public policies and management...
3. Provided that they are **under control of** public intervention (*i.e* **trade emissions permits**).

# 1. Economics and the Environment in the Economic Thought :

## 1.1. Environmental Economics :

Externalities have raised objections from other **individualistic** schools of thought

1. **Externalities** are a mundane social phenomenon. There is no point to infer “Welfare (Public) Economics” from their existence  
(**Block, Austrian School**. See also **Buchanan, Chicago School**).
2. **Externalities** are in fact “transaction costs” between asset owners/users  
(**Coase, Chicago School**).
3. **Neoclassical Economics** makes no case of both mutual adjustment and entrepreneurial discovery as dynamic regulatory/enhancing properties of markets (**Hayek, Kirzner, Cordato, Austrian School**)
4. **State interventionism** is not a panacea  
(**Austrian School, Public Choice School**).

# **1. Economics and the Environment in the Economic Thought :**

## **1.1. Environmental Economics :**

**Even so,**

**the interventionist –**Cambridge ?**-  
strand of Neoclassical Economics**

**remains mainstream in  
Environmental Economics**

# **1. Economics and the Environment in the Economic Thought :**

## **1.2. Ecological Economics :**

Ecological Economics is a syncretic school of thought

- (1) Bringing together various heterodoxies (marxism, institutionnalism, post-keynesianism, etc.)
- (2) Built upon a criticism of Environmental Economics (e.g rejecting the monetary valuation of natural assets)
- (3) Holistic, resting on biophysical assumptions and dedicated to the preservation of eco-systems.

# 1. Economics and the Environment in the Economic Thought :

## 1.2. Ecological Economics :

As a critical theory of mainstream Environmental Economics :

- (1) EE favors “**command-and-control**” policies (coercive regulation) against **market-based instruments** and **environmental taxation** cherished by mainstream environmental economists.
- (2) Interestingly, it charges “**economic growth**” rather than “**markets**” as the major cause of environmental degradation (both being however associated through the holistic concept of “**capitalism**” → **profit accumulation**).
- (3) But there may be discrepancies –even controversies- between various stripes of Ecological Economists.



# 1. Economics and the Environment in the Economic Thought :

## 1.2. Ecological Economics :

For instance

- (1) Some Ecological Economists are opened to **Public Choice insights** and advocate **voluntary/decentralized** ways of managing environmental assets.
- (2) But Ecological Economics is still oddly victim of a vision of markets that is neoclassical in essence. It still lacks a wider vision of the profit as a **reward for victors in the battle against scarcity** (rather than a human penchant for “greed”) namely, **a battle against wasteful usages of resources.**

# 1. Economics and the Environment in the Economic Thought :

## 1.3. Sustainable Development Economics and Corporate Social Responsibility :

SD Economics is a form of Applied Economics blending EE and EnE tenets. It aims to inspire public policy at a global and local level.

- (1) From a conceptual standpoint, it claims to care about the needs of future generations and pursue triple performance objectives.
- (2) From a pragmatic standpoint, SD Economics give rise to soft planned public policies (Kyoto Protocol) using both regulatory and market-based instruments.
- (3) At a micro-analytic level, SD insemminates the strategic management of firms (business being invited to balance **shareholder value** with social and ecological concerns → **triple performance**)

# 1. Economics and the Environment in the Economic Thought :

## The “allocative” vision of environmental issues

The problem	The conceptual culprit	The interventionist response	The managerialist response	The « catallactic » response
Overexploitation of commons (deforestation, renewable resources depletion, soil erosion, species extinction)	Lack of property rights  (free-market EnE)	Public ownership	CSR  (voluntarily complying with standards of environmental protection)	Definition of private property rights – private structures of governance
Pollution of neighborhood/riparian assets (smoking chimneys, noisy airports, river pollution, etc).	Neoclassical Market failure  (externalities / transaction costs)	Pigovian taxation / market-based instruments	CSR  (stakeholder management)	Coasian Bargaining – enforcement of private property rights
Environmental mass torts (climate change)	Economic growth  (EE)	Public regulation / allocation of “environmental” rights	CSR  (green production and supply chain)	Entrepreneurial discovery / innovation ?

# 1. Economics and the Environment in the Economic Thought :

## 1.4. Sustainable Entrepreneurship :

Literature on “Sustainable Entrepreneurship” is less conceptual (more case study based) than EnE or EE.

It documents:

- Cases of for-profit and non-profit entrepreneurship motivated by the environmental commitment of the entrepreneur (e.g making canoes with recycled raw materials, **Larson, 2000**).
- Cases of “macroentrepreneurship” (changing norms, public regulation, allocation of property rights) → political and institutional entrepreneurship.

Literature on entrepreneurship “points to the important role of entrepreneurs in mitigating market failures” (**Meek et al.**) but precisely lacks a systematic view of the entrepreneur as to be the agent of the market set in motion.

# 1. Economics and the Environment in the Economic Thought :

## 1.5. Eco-innovation :

Literature on “eco-innovation”

(1) Usually focuses on green and “end-of-pipe” technologies (dedicated to waste or energy reduction, often as a manifestation of regulatory compliance).

(2) Assumes the “Porter hypothesis” to be roughly correct : public regulation may lead to green innovations that business would not spontaneously foster. Literature in eco-innovation (and sustainable entrepreneurship) often assumes that firms –particularly small business- is not opened to green innovation.

# 1. Economics and the Environment in the Economic Thought :

## So, in a nutshell :

- Mainstream Economic Literature relies on **the market failure tale** (externalities) as a conceptual justification for public-policy designed **sustainable development goals**. Ecological Economics even goes further in fostering command-and-control policies and/or environmental rights against economic development.
- Management and Entrepreneurship literature point out the contribution of market actors (business and ventures) to **sustainable development**. But it (often implicitly) embraces the market failure tale and acknowledges the steering function of public awareness and regulation as sustainability drivers.

## 2. Being Sustainable like Mr Jourdain was speaking prose : industrial waste reuse in the 19<sup>th</sup> century

The European industrial 19<sup>th</sup> century may be viewed as an archetypical age of **laissez faire policies** (especially in **Victorian England**)

Yet, numerous European authors have reported the propensity of industrial entrepreneurs to get wealth out of wastes -rather than externalizing costs- at a time when environmental policies were sparse and calls for sustainable development (or CSR) non existent

## 2. Being Sustainable like Mr Jourdain was speaking prose : industrial waste reuse in the 19<sup>th</sup> century

Author (Nationality)	Title of their main work	Year of publication
Babbage, Charles (USA)	<i>On the Economy of Machinery and Manufacture</i>	1832
Playfair, Lyon (UK)	<i>On the Chemical Principles Involved in the Manufactures of the Exhibition as Indicating the Necessity of Industrial Instruction</i>	1852
Simmonds, Peter Lund (UK)	<i>Waste Products and Undeveloped Substances: A Synopsis of Progress Made in Their Economic Utilisation During the Last Quarter of a Century at Home and Abroad.</i>	1876; 1873; 1862
De Freycinet, Charles (France)	<i>Traité d'assainissement industriel, comprenant la description des principaux procédés employés dans les centres manufacturiers de l'Europe occidentale pour protéger la santé publique et l'agriculture contre les effets des travaux industriels</i>	1870
Koller, Theodor (Germany)	<i>The Utilization of Waste Products. A Treatise on the Rational Utilization, Recovery, and Treatment of Waste Products of All Kinds</i>	1918 ; 1915 ; 1902 (German editions : 1921; 1902; 1880)
Frederick A. Talbot (USA)	<i>Millions from Waste</i>	1920
Clemen, Rudolf (USA)	<i>By-products in the packing industry</i>	1927
Razous, Paul (France)	<i>Les déchets et sous-produits industriels. Récupération, Utilisation.</i>	1937; 1921; 1905
Kershaw, John B. C. (UK)	<i>The Recovery and Use of Industrial and Other Waste</i>	1928
Lipsett, Charles (USA)	<i>Industrial Wastes and Salvage : Conservation and Utilization</i>	1963 ; 1951



## 2. Being Sustainable like Mr Jourdain was speaking prose : industrial waste reuse in the 19<sup>th</sup> century

### Two major statements :

- Turning industrial wastes into valuable by-products was BAU in every industry (food, iron, wool, silk, cotton, leather and the like), especially in Victorian England (hence emulating other countries). Economists such as **Marshall** and **Marx** also emphasized that pattern.
- « all the fortunes which have been amassed from the commercialization of what was once rejected and valueless would require a volume. Yet it is a story of fascinating romance and one difficult to parallel in the whole realm of human activity » (**Talbot**, 1920)

## 2. Being Sustainable like Mr Jourdain was speaking prose : industrial waste reuse in the 19<sup>th</sup> century

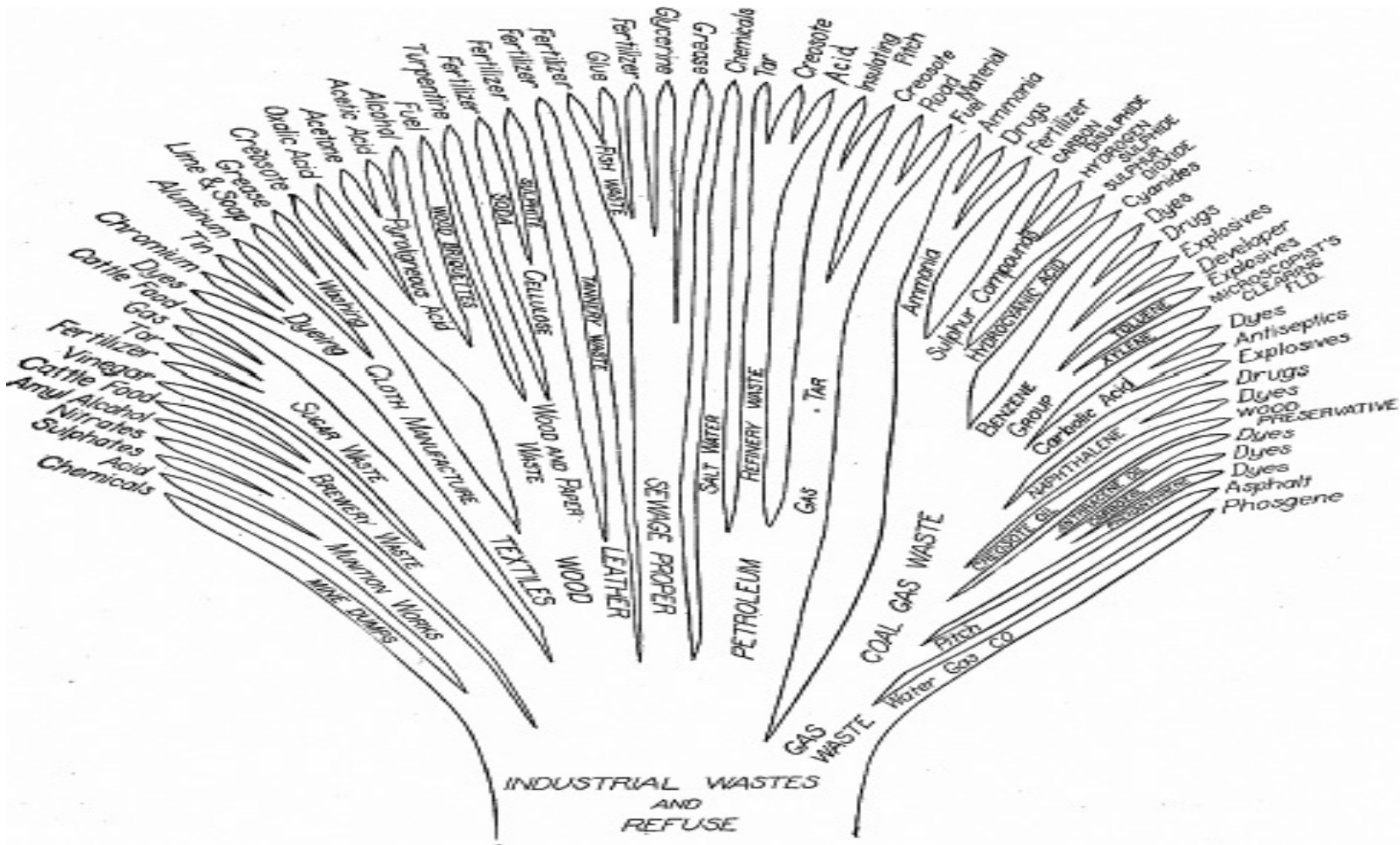


Figure 2 Source: Victor E. Shelford, "Fortunes in Wastes and Fortunes in Fish," *The Scientific Monthly* 9 (August 1919): 100.

## 2. Being Sustainable like Mr Jourdain was speaking prose : industrial waste reuse in the 19<sup>th</sup> century

### Some insights from this literature :

- a). « Waste not, want not » was ingrained in Victorian minds. It fits to a **principle of parsimony** which is basically a **profit-maximizing one**
- b). **Competitive pressures** largely contributed to trigger entrepreneurial efforts resulting in win-win outcomes
- c). Extensively designed **property rights** deterred businesses to externalize costs
- d). Successful recycling rests on **industrial/institutional conditions** : large quantities of wastes, large factories or business clusters (making up industrial symbiosis)

## 2. Being Sustainable like Mr Jourdain was speaking prose : industrial waste reuse in the 19<sup>th</sup> century

**By the way, isn't it strange to posit that business is not spontaneously prone to recycle and save resources ?**

- 1. Wastes are a **sunk cost**. What's more rational than turning sunk costs into valuable resources ?**
- 2. Innovation hinges on knowledge. Yet, business experience yields new (often tacit) knowledge fuelling forthcoming innovation**

### 3. Caveats and insights :

Of course, one should be careful when deriving generalizations from case studies

1. The world has moved on since the 19<sup>th</sup> century and new environmental challenges arose (e.g **recycling consumption wastes**).
2. Reappraising the dynamic properties of unfettered markets might leave **Ecological Economists** unsatisfied since it says little about **biophysical losses** induced by human activity.

### 3. Caveats and insights :

But is it reasonable to blame

search for profit disciplined by market economies

for being ecologically predatory ?

All the more since the market failure tale stands on shaky grounds...

So why not swimming against the tide ?

### 3. Caveats and insights :

Issues to investigate:

1. At the **micro-level** of management/entrepreneurship sciences, what are the structures of governance, types of ventures, managerial skills, institutional conditions, human resource management (etc.) prone (or not) to green innovation ?
2. At the **macro-level**, what is the impact of raising state interventionism (pervasive public regulations, public spending, monetary creation, public ownership of resources and the like ?) on (possibly ecology-unfriendly) business strategy ?