

Italy as a Euromediterranean hub for natural gas: policies, infrastructures, european and international collaboration, by Sergio Garribba

Natural gas is to remain a fundamental energy commodity in Italy and in the European Union during the coming decades. With a view to an increasing market integration, Italy and countries from Central and Eastern Europe could be interested in building a single regional market, implying a convergence towards a regional gas trading hub as a first step, then leading to a full-fledged market hub where the Italy would be the center. As a result of such a Euromediterranean hub countries of the region would improve their security of supply, reduce natural gas prices, and facilitate investments in new infrastructures. Necessary prerequisites for the establishment of this Euromediterranean hub are a stable alliance between governments and companies of consuming countries, collaboration agreements with producing and transit countries, the independence of the grids and a shared system of rules for grid access and use. The ownership separation of Snam, the Italian gas grid operator, from Eni as proposed by the Italian Government may represent a unique opportunity towards these goals.

Keywords: Natural gas, Gas grids, Euromediterranean region, Gas trading hub, Gas market hub, Regulation

JEL classifications: L52, D47, Q48

L'Italia hub euromediterraneo del gas naturale: politiche, infrastrutture, collaborazioni europee e internazionali, di Sergio Garribba

Willingness to pay for more sustainable e-waste management: a contingent valuation study in Greece, by Charisios Achilles, Christos Vlachokostas, Avraam Karagiannidis, Eftichios Sophocles Sartzetakis, Nicolas Moussiopoulos

Management of Waste Electric and Electronic Equipment (WEEE also called e-waste) has become an issue of critical importance recently also in the frame of industrial ecology besides waste management per se, mostly due to their content in hazardous materials and the extensive implications of any intervention in a broad industrial spectrum. The effectiveness of any landfill diversion scheme depends on its acceptance by the local community and the industry, as well as adequate funding. This paper presents a contingent valuation approach in order to examine public environmental awareness and to assess the willingness-to-pay (WTP) for the environmentally sound management of WEEE in Greece, based on a suitable, customized and easy-to-comprehend questionnaire. The survey revealed a still relative public ignorance on the subject and a reluctantly limited WTP. The latter is mostly triggered by the fact that respondents believed that associated expenses should be covered either by authorities or manufacturers (protest votes). However, based on the responses of those declaring a positive WTP, the average fee respondents are willing to pay exceeds the current recycling fee. Thus, existing recycling fees could be potentially increased in order to cover

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additional expenses for the development of infrastructure in areas not currently included in the national WEEE recycling program, as well as to provide the public with a dense network of disposal sites/bins in an effort to boost participation and WEEE recycling rates.

Keywords: WEEE, Willingness to pay, Waste management, Contingent valuation

JEL classifications: D61, D78, Q52

Solid State Anaerobic Digestion as a possible solution for managing existing Mechanical Biological Treatment plants in a more efficient way: A real case analysis, by Francesco Di Maria

The exploitation of Mechanical Biological Treatment is quite diffused for treating fractions of Non-Differentiated Waste. A large part of the Italian Mechanical Biological Treatment facilities operate mainly by reducing and stabilizing the Non-Differentiated Waste mass before landfilling. This way of managing Mechanical Biological Treatment can be improved by the adopting a new treatment section, based on the Solid State Anaerobic Digestion process. In this way, the Waste Organic Fraction arising from the mechanical sorting of the Non-Differentiated Waste can be treated before the aerobic stabilization section of the existing Mechanical Biological Treatment. In Italy more than 40% of the working Mechanical Biological Treatment facilities have features suitable for being upgraded with a new Solid State Anaerobic Digestion section. In these plants the amount of the rapidly biodegradable fraction is about 1,100,000 tonnes per year, leading to the production of about 300 GWh of renewable energy. The results concerning a real case study show that, with the adoption of a new Solid State Anaerobic Digestion section, about 150 kWh of electric energy would be able to be produced per each tonne of Waste Organic Fraction. Furthermore, there would be a significant reduction in the Organic Load Rate [$\text{kgVS}/\text{m}^3 \cdot \text{day}$] for the existing aerobic section of the plant, leading to additional savings of 160-320 kWh per day, depending on the amount of Waste Organic Fraction diverted from the Solid State Anaerobic Digestion. Results from the economic analysis show that the Solid State Anaerobic Digestion treatment cost ranges from about 6 up to 23 € per each tonne of Non-Differentiated Waste entering the existing Mechanical Biological Treatment plant.

Keywords: Anaerobic digestion, Economic analysis, Energy, Mechanical biological treatment, Solid state, Waste organic fraction

JEL classifications: O31, Q42, Q53

How to Divide the Costs of Urban Solid Wastes Collection among Citizens?, by Vito Fragnelli

In this paper we deal with a cost allocation problem arising in a consortium for urban solid wastes collection and disposal. In particular, we consider the question of allocating the costs directly to the citizens in a fair way. The approach proposed is based on a game theoretic model that is applied to data from the consortium *Ovadese – Valle Scrivia*.

Keywords: Cost allocation problem, Cooperative game theory, Urban solid wastes

JEL classifications: Q53, H21, C71

Adopting Rational Waste Management Schemes: The Case of Preveza municipality, by Christos Karkanas, Avraam Karagiannidis, Ioannis S. Antonopoulos, Petros Samaras

The amount of both Municipal Solid Waste (MSW) that is landfilled and of the industrial waste illegally dumped is still in high levels in most regions of Greece. Despite a number of measures that have been adopted during the last years, no significant landfill diversion has

been achieved. The present study aims at developing an integrated zero-waste management system in order to reduce the amount of MSW delivered for further treatment or landfilling, while utilizing the diverted waste. MSW and industrial symbiosis will be generated by interacting the MSW management and the operating industries while transferring resources from waste management in order to be used in the industry sector. This strategy includes a balanced set of multiple parallel initiatives and measures that will act as drivers of economic activity and sustainable development through the achieved eco-efficiency. The development of this waste management plan includes the involvement and participation of the general public so as to obtain consensus and achieve a minimum level of common understanding. This study is focused on the municipality of Preveza in the Hellenic region of Epirus and the potential industrial and MSW symbiosis achieved in the area. Multiple scenarios regarding solid waste generation, local management and co-management options, as well as downstream fate regarding the households as well as the companies and enterprises operating in the area were developed for the next two decades. The results of the study have shown the effectiveness and efficiency of the implementation of the selected rational waste management especially these of the recycling scheme. The output for the municipality of Preveza for the next decades will be very positive in terms both of the waste management cost reduction and the elimination of the negative environmental impacts in the greater of the municipality area.

Keywords: Eco-efficiency, Waste diversion, Recycling, Scenarios analysis, Energy recovery

JEL classifications: Q53, Q42

The brown side of the green economy: urban garbage and the zero-waste utopia, by Antonio Massarutto

This article illustrates the result of a study based on the life-cycle costing technique applied to urban waste management in a typical Italian setting, in order to discuss the economic and ecological foundations of a management paradigm inspired by the “zero-waste” philosophy. We identify landfill availability as a critical natural capital requiring the adoption of strong sustainability indicators.

We argue that the zero-waste approach is neither feasible nor desirable. Instead, strong arguments can be found in favour of a “zero-landfill” strategy, to be achieved through an adequate mix of material and energy recovery.

Keywords: Waste management, Sustainability, Natural critical capital, Life-cycle, Costs externality

JEL classifications: Q53, Q57, H23

“Sunny” prospects: an analysis of the photovoltaic industry in Italy, by Bernardina Algieri, Antonio Aquino, Marianna Succurro

The present study provides an analysis of the Italian photovoltaic sector (PV). To this purpose, we first evaluate the main characteristics of the Italian PV incentive scheme by focusing on its costs and benefits. The analysis then turns to the evolution of PV demand over recent years, the key features of the Italian PV supply and its performances by identifying the strengths, limitations and growth prospects of the sector. The investigation relies on accounting data of the Italian producers collected from the Bureau van Dijk’s Amadeus database, over the 2000-2010 years. Some industrial policy implications conclude the work.

Keywords: Photovoltaic sector, Tariff schemes, Italy

JEL classifications: L11, Q41, Q42

A new-institutional framework to explore the trade-off between Agriculture, Environment and Landscape, by Francesco Caracciolo, P. Lombardi

The focus on sustainability issues in recent years has revived interest in the complex relations between economic development and environmental impact. New characteristics are being attributed to the rural landscape, while agriculture is taking on ever-increasing roles in public intervention policies in land management. This paper lends a further contribution to the wide-ranging discussion on the complex relations between agriculture and conservation of the rural landscape, revisiting the subject in the light of the new context of the multifunctional landscape and heterodox environmental economics. Analysis of both cultural and economic changes suggests the formulation of a new paradigm of sustainable development whose theoretical basis is laid by a multi-objective optimal allocation model. Farming must be remunerated directly by the market with the right combination of intrinsic product quality and attraction capacity thanks to positive externalities and the supply of public goods. This may lead to a reappraisal of whole areas in terms of efficiency and sustainability.

Keywords: Agriculture and environment, Externalities, Land management

JEL classifications: Q01, Q20, Q50

Issues in the calculation of antitrust damages in the energy industry, by Elisabetta Linares

In recent years, the “private enforcement” of antitrust law, through the attempt by private parties (usually harmed competitors or consumers) to recover damages in court, has been increasingly gaining attention in Europe. This paper focuses on two particular regulated network industries (electricity and gas). The purpose of this essay is, first, to describe the types of antitrust cases that could arise in the energy industry and, second, to outline the issues that a forensic economist would face in calculating damages to competitors or other parties in these cases. The identified anti-competitive practices range from the delay or the outright denial of access to major gas transportation pipelines (or the refusal to expand their capacity), unfair tariffs for the use of gas transportation networks and capacity hoarding at regasification terminals or in other gas import infrastructure, to the delayed provision of reliable information needed for customer switching and/or to allow a new entrant to plan its electricity and gas purchases and thus minimize imbalance charges. These practices might entail actual monetary loss (*damnum emergens*) due, for instance, to; higher energy costs for final consumers; sunk costs incurred by competitors to start import or sales activities; non-cost-reflective tariffs for access to gas import or transportation infrastructure; excessive imbalance charges and transmission fees; high costs sustained by traders to purchase electricity or gas for resale. Moreover, they may entail lost profits and foregone cash flows (*lucrum cessans*) due, for instance, to: definitive loss of customers; inability to serve or invoice energy consumers in a given period; lack of access to entire segments of the electricity or gas markets.

Keywords: Energy, Electricity, Gas, Antitrust, Damages

JEL classifications: L42, L49, L94, L95

ERRATUM TO:
ESTIMATING ELECTRIC CAR'S EMISSIONS IN GERMANY:
AN ANALYSIS THROUGH A PIVOTAL MARGINAL
METHOD AND COMPARISON WITH OTHER METHODS

*Jérôme Massiani**, *Jens Weinmann***

The published version of our paper contains some editing errors.

First paragraph of pag. 139 should be red as follows:

(...) Readers interested by a more detailed description of the model can refer to the project-related policy report (Gosh et al., 2011).

The beginning of pag. 140 should be red as follows:

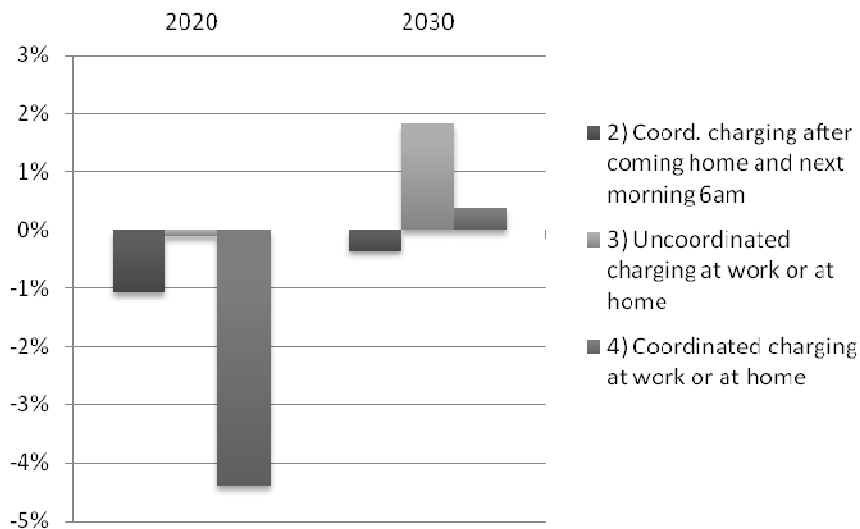
(...) defined through a meta-analysis of the literature. A separate paper is exclusively dedicated to this topic (Massiani, 2012).

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Figure 5 (pag. 151) should be amended as follows:

Fig. 5 - Changes in pivotal emissions, compared to the reference scenario



References (pagg. 152-155) should be integrated with the two following entries:

Gosh A., Hemmert G. *et al.* (2011). *MEM Report, Part 2, Technical Notes, ESMT*. Berlin, November 2011.

Massiani J. (2012). Using Stated Preferences to forecast alternative fuel vehicles market diffusion. *Italian Journal of Regional Sciences – Scienze Regionali*, 11(3): 93-122.