

GREENING LOCAL TAXES IN BARCELONA TO FOSTER ENERGY EFFICIENCY

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INTRODUCTION

Cities are increasingly concerned about their energy use and urge to implement environmentally sound energy management schemes. This poster summarises the main findings of a study on the use of fiscal and economic instruments to foster energy efficiency and use of renewable energy sources among citizens and local institutions.

The study was commissioned in 2001 by the Direcció General d'Educació Ambiental i Participació of the Barcelona City Council, and coordinated by Ecoinstitut Barcelona.

DO LOCAL TAXES IN BARCELONA HAVE ANY RELATION WITH ENVIRONMENTAL IMPACT?

The starting point of the study is to find out whether there is a correspondence between the income obtained by the Council from taxes on different activities and the equivalent-CO₂ emissions related to those same activities.

CONTRIBUTION OF DIFFERENT SECTORS TO TOTAL AMOUNT COLLECTED FROM TAXES AND TO THE GREENHOUSE EMISSIONS IN BARCELONA		
	Income from taxes for the Council (%)	Equivalent-CO ₂ emissions (%)
Buildings, real states and commercial activities	73,4	36,4
Motor vehicles and parking	23,2	31,6
Waste	3,4	32,0
TOTAL	100,0	100,0

There is no correspondence between sectors in which taxes are collected and their contribution to the greenhouse effect. This is not necessarily bad, because there are reasons to set up taxes other than greenhouse effect, and there are other administrations who charge the same sectors in different proportions. However, the evolution of this correspondence could be a good indicator to check whether local taxes progressively become 'green' in the future.

SOME IDEAS TO GREEN LOCAL TAXES

From that starting point, a number of ideas to green local taxes and improve other energy uses were proposed to the Barcelona city Council.

Some of the proposals are: introduction of changes in some local taxes (on buildings and real states, commercial activities, private vehicles, waste management...), road pricing and toll rings, public transportation, creation of a capital fund to promote investments in efficient energy use, creation of a local energy company devoted to produce and commercialise green energy...

Tax on buildings and real states (IBI)

This is the main local tax in Spain. In a first step, the proposal is that empty buildings pay more than occupied ones. Empty buildings lead to deterioration, loss of architectural heritage and development of new areas of the city instead of refurbishing the old ones. A way to do that according to the national legislation would be to increase the tax for everyone and return part of it (as a rebate) to the owners of occupied buildings. Some other rebates are proposed for energy efficient buildings and for those using solar panels.

In a second step, this tax should be a function of the energy efficiency of a building, measured as a new European Directive defines.

Tax on commercial activities (IAE)

This tax is under consideration at the moment and might be suppressed in the short term. However, it is proposed to take into consideration the ecological performance of the activities by means of an independent certification

Tax on private cars (Impuesto de Vehículos de Tracción Mecánica)

Since social and environmental costs are not properly considered now, using a car should be more expensive. In the mid term, national legislation should change to define this tax as a function of the power and fuel used by the car, inspired in the German tax. In the short term, exemptions should be implemented for those cars using gas, biofuels or very efficient technologies.

The implementation of a road pricing system (see Case Study) should also be considered for the City centre. Generalisation of charges for parking in the streets is also proposed, at least in some areas of the City, giving a different treatment to residents and non-residents. Parking tickets could be valid as tickets for transport public (therefore those not using public transport would specially perceive the increase of parking charges). Other forms of promoting the use of public transport are also analysed. In this sense, the extra sum collected from parking charges is suggested to be ploughed back to promotion of the public transportation system.

Waste tax

Methane emissions are a major contribution to greenhouse effect, and landfills and incinerators cause important polluting problems to water, soil and the atmosphere. To overcome this situation source reduction and recycling should be prioritised. A part from a sensible waste collection plan, the introduction of waste taxes (that are not in place at the moment), based on pay-as-you-throw schemes whenever possible, would help to achieve good results.

CASE STUDIES:

WOKING

Woking Borough Council started to implement energy saving measures at the beginning of the 1990s. Technologies used include insulation and passive solar energy measures, energy efficient lighting, Building Energy Management Systems, condensing boilers, daylight controls, movement detectors, combined heat and power... These measures lead Woking to an achieve important advances:

	Results in 2000
Reduction of electricity consumption in municipality owned buildings	37% (base year 1990)
Improvement of efficiency of energy use in the private sector	14% (base year 1991)

An interesting initiative is the 'recycling' of revenue savings into the 'Energy Efficiency Capital Fund':

1. Initial capital was 100% public
2. Investments in energy efficiency are performed
3. Savings go to the fund until the investment is returned



4. From then on, savings remain for the facilities where the investment was performed

SAARBRÜCKEN

- Saarbrücken Stadtwerke is a municipal company that provides electricity, water, gas, and district heating to Saarbrücken.
- Not only commercialises energy services, but produces electricity and heat
- Different price per kWh to disincentive high consumption and consumption during peak hours

WHY A LOCAL ENERGY COMPANY?

- ACCELERATES THE PROCESS TO A SYSTEM BASED ON RENEWABLE ENERGIES
- GUARANTEES A PERCENTAGE OF GREEN ENERGY PRODUCTION AND CONSUMPTION
- ALLOWS THE COUNCIL TO HAVE A PRICE POLICY
 - Low prices for low consumption
 - Low prices for low income households
 - Prices marginally increasing with consumption
- IT IS AN ECONOMICALLY VIABLE INITIATIVE
 - Financial autonomy
 - Separate budget and accountability
 - Recirculation of investments

HAMBURG: FIFTY - FIFTY PROJECT

Within the framework of an energy plan, Hamburg started in 1994 the 50-50 project, aimed to promote energy efficiency in schools. The pilot project started in 24 schools, but soon was extended to most of the schools and to many of other German cities.

The idea is simple. Since schools do not pay for their energy consumption, they do not have any incentive to advance towards an efficient use. The 50-50 project sets this incentive up.

Schools that implement measures that lead to a reduction of energy consumption, receive from the Council the 50% of the economic savings achieved, to be spent freely for their own needs. The other 50% remains for the Council in the form of less energy expenses.

A base year was defined, as well as an objective way to calculate energy reduction (also taking into consideration structural changes in schools).

At the end of the pilot project, energy used for heating was reduced in a 8.6% on average, and electricity in a 6.9%. The same type of system is now in place also for water consumption.

THE SAME INCENTIVE WOULD WORK FOR ANY PUBLIC FACILITY NOT DIRECTLY PAYING FOR ITS ENERGY COSTS

ROAD PRICING: PAY-AS-YOU-USE

There is a common feeling among municipal politicians that the use of the private car should be disincentivated, due to pollution, traffic jams, accidents, noise, occupation of public space... Road pricing might be an interesting way to achieve these goals.

The main goals of road pricing are:

- to disincentive the use of cars (especially in cities)
- to distribute the cost of maintaining car infrastructures according to its use

There are different possible types of road pricing:

- Toll rings: All access to a certain area have toll stations. The best known experience is that of Trondheim (Norway) since 1991: 12 stations (only in one way), some exemptions, earmarked... Oslo (Norway) has a similar system.
- Licenses: Pre-paid licenses are required to enter a certain area. E.g. Singapore, London (2003)...
- Tolls: When there are no alternative routes this one may be a simple solution. E.g. ELGAR pilot project in Bristol, with exemptions for public transport and bicycles.

In the future, taxes based on real time information of car speed, location... might be a more accurate alternative. Singapore has advanced some steps in this direction.

CONCLUSIONS

The study pointed out a number of economically viable, ecologically sound measures to be implemented in Barcelona. Some of them would be also adequate for other Spanish cities, since they share a common legal framework, or even for some non-Spanish cities as well.

It is clear that energy policies to be developed for Councils in Spain are very constrained for the Spanish Law on Finance of municipalities Ley 39/88 Reguladora de las Haciendas Locales. This Law is now under revision and it is a good chance to introduce amendments. It is also important that local initiatives be backed by national policies seeking energy efficiency. In especial, Green Tax Reforms in the sense of those implemented in the Nordic Countries.

However, with or without this changes in the legal national framework, municipalities have a long way to go. Taxes on car parking, the 50-50 concept, road pricing, local energy companies, pay-as-you-throw waste taxes... are just some of the main proposals.

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