THE WILLINGNESS TO PAY FOR RENEWABLE ENERGY SOURCES (RES): THE CASE OF ITALY WITH DIFFERENT SURVEY APPROACHES.

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In reference to the "Renewable Sources" EU Directive 2001/77/CE the Italian goal, for 2010, is to attain the share of 22% in RES electricity production. In such context it becomes crucial to explore the existence of consumer's Willingness to Pay (WTP) in order to use green energy in the electricity production. Prior studies have found a contained consumer's WTP if compared with the national policy energy goal as in Ivanova (2004) for Queensland and Batley et al. (2001) for UK. In previous analysis I found that Italian WTP lies between 24 and 54 €yearly per household with payment card method but I obtained doubled value using contingent valuation method (Bollino – Polinori, 2006, 2007).

This study is founded on a national survey with 1601 phone interviews made in November 2006. In my framework I obtain the consumer's WTP by two different approach and to this the sample is divided in two part. In the first sub-sample (808 respondents) I propose the prices vector and the respondent faces 5 bids downward from 20 to 0 euro per household per bimonthly bill while in the second sub-sample (793 respondents) I use the same vector with a upward elicitation format. In all the elicitations formats I make a "certainty correction" proposing five degree of acceptance: definitely yes and no (DY, DN), probably yes and no (PY, PN) and don't know (DK).

This paper focus much on three issues. First one, how the different elicitation affects respondents choices, second one on the relationship between a "single point value" and "a valuation distribution" and finally on the gaps among different formats as: payment card, dichotomous referendum (single bounded) and double bounded contingent valuation method. In order to apply the quantitative analysis, the original dataset has been appropriately treated, recoding DK, PN and PY responses.

There are several reasons to take care of these issues. There is a fairly general agreement in the literature that the single bound method is potentially valid in terms of incentive compatible but, unfortunately, it is inefficient in terms of information conveyed by the elicitation process (Genius – Strazzera, 2005). On the other hand double bounded procedure improve the efficiency of the estimates and increases the precision of the estimates but iteration of the elicitation question may induce "strategic responses". Furthermore there are many papers (Welsh – Poe, 1998; Vossler et al. 2003, Wang - Whittington, 2005) that the choice of elicitation method can significantly influence estimates.

In agreement with these previous results in the study I obtain different WTP with two elicitations formats. In the first sub sample 32.7% of respondents are willing to pay a 20 euro increase in the cost of electricity bill, 37.5% would accept to pay 15 \in 48.4% have a WTP equal to 10 euro per a bill while 61.6% willing to pay no more than 5 \in The descriptive and "certain uncorrected" mean WTP is 16.50 euro. In the second sub-sample respondents are faced with upward order. In this case 61.2% have a WTP equal to 5 \in 29.6% are willing to pay 10 \in per bill the electricity produced by RES. Finally, only 8.8% would accept to pay 20 euro and then WTP is 8.50 euro.

Concerning policy implication, in previous analysis (Bollino – Polinori, 2006, 2007) the findings support the view that in Italy there is some consensus on the development of RES. In monetary value, this consensus is estimated as 35% of the total subsidy cost; in this paper I would like to point out that I use more than one econometric procedure in order to obtain more robust statistical results and, consequently, more relevant policy indication too.

References

- Batley S.L. Colbourne D. Fleming P.D. Urwin O. (2001), Citizen versus consumer: challenges in the UK green power market, Energy Policy, 29 pp. 479-487.
- Bollino C.A. Polinori P. (2006), An assessment of consumer willingness to pay for Renewable Energy Sources use in Italy: a payment card approach, 26th USAEE/IAEE North American Conferences "Energy in a Word of Changing Costs and Technologies", Ann Arbor – Michigan – USA, September 24-27.
- Bollino C.A. Polinori P. (2007), How much Italians are willing to pay for Renewable Energy Sources. A comparison of two methodological approaches, 30th Conference =OAEE/IAEE, "From Restructuring to Sustainability: Energy Policies for the 21st Century", Wellington, New Zealand 18-21 February 2007.
- Genius M. Strazzera E. (2005), Modelling elicitation effects in contingent valuation studies, in Scarpa R. Alberini A. (eds.) Application and Simulation Methods in Environmental and Resources Economics, Springer, Dordrecht.
- Ivanova G. (2005), *Queensland Consumers' Willingness to Pay for Electricity from Renewable Energy Sources*, Australia New Zeland for Ecological Economics, (anzsee2005papers).
- Vossler C.A. Ethier R.G. Poe G.L. Welsh M.P. (2003), Payment certainty in discrete choice Contingent Valuation responses: result from a field validity test, *Southern Economic Journal*, 69(4), 886-902.
- Wang H. Whittington D. (2005), Measuring individuals' valuation distribution using stochastic payment card approach, *Ecological Economics*, 55, 143-154.
- Welsh M.P. Poe G.L. (1998), Elicitation effects in Contingent Valuation: comparisons to a multiple bounded discrete choice approach, *Journal of Environmental and Management*, 36, 170-185.

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