REFUND + project

www.energies-renouvelables.org/refund

Operational note to market players

June 2009

Introduction

This report is based on the Refund + study (Further details on the study available on the following website: http://www.energies-renouvelables.org/refund/), which is a qualitative and quantitative impact study of the role of tax incentives in 5 EU member countries (France, Italy, Portugal, Belgium and Austria) for the solar thermal, heat pump and wood energy sectors. Since June 2006, quantitative and qualitative surveys have been conducted in these 5 countries with focus groups of:

- consumers, to gather accounts of their renewable energy appliances purchasing approaches enabling them to take advantage of a nationwide tax incentive
- installers, who guided the consumers in the purchasing process and offered insight into the tax measure
- marketing managers, who gave their point of view on the impact the tax measure has had on the market.

The tax measures studied varied from one country to another.

Main features of the fiscal measure

Country	Main features of the fiscal scheme
Austria	RES investment (equipment and installation costs) deductible from the **net income** included in a pool of expenses (up to an annual amount of 2,920€, a quarter of this amount actually reduces the taxable income). The fiscal measure can be cumulated with investment subsidies.
Belgium	40% of the equipment and installation costs (with a ceiling on income tax reduction of €1,280 in 2006) can be deducted from the sum to be paid as **income tax** on the fiscal year in which the investment was made. The fiscal measure can be cumulated with investment subsidies.
France	Since 2006, 50% of the equipment costs (with a ceiling on investment of €8,000 per person and €16,000 for a married couple) can be reimbursed to the taxpayer on the sum to be paid as **income tax** in the fiscal year in which the investment was made. If the total sum of the tax to be paid is less than the sum to be deducted, then the difference is paid to the taxpayer
Italy	36% of the equipment and installation costs (with a ceiling on investment of €77,468 in 2006) can be deducted from the sum to be paid as **income tax** on 3 fiscal years by constant instalments.
Portugal	30% of the equipment and installation costs (with a ceiling on income tax reduction of €745 in 2006) can be deducted on the sum to be paid as **income tax** on the fiscal year in which the investment was made.

1 – Some common emblematic profiles of end customers identified in the 5 countries investigated

Consumer profiles were drawn up during this study on the basis of interviews held in the 5 countries.

Three similar profiles have been identified in the five countries investigated in the project. Despite cultural, historical and sociological differences between the five countries, some interviewees in all five countries show distinctive common characteristics that enable to establish specific transversal profiles: the ecologist group, the cautious type and the techno DIY orientation.

These different profiles are associated with specific **motivations to invest in RES appliances.**

- **The Ecologists**

They are represented in all countries and constitute the profile that is characterised by an ecological consciousness. They are socially involved in associations, political parties or labour unions, as they want to be a role model by their way of life. They are not always wealthy people.

> « *The concept of investing in RES applications is not only a financial investment but far more an investment in the future that includes the idea of safeguarding an environment in which our children can grow up breathing clean air, see the trees, smell the fresh-cut grass and without illness created by environment circumstances* » *(Italy, consumer, ST).*
>
> *« The idea and feeling of being active in building a better world attracts me » (Portugal, end consumer, BHA).*

They are preoccupied by impacts of their own behaviour on their environment. The installation of RES equipment represents a way to act. It is motivated by a rejection of conventional fuels. Investing in RES appliances means reducing their impact on environment.

> *« We liked the idea to recycle wood waste. It was a way to begin our ecological process » (France, end consumer, Pellet boiler).*

Observation of the practices of this type of consumer reveals a behaviour trend in favour of purchasing domestic wood-fuelled heating appliances. Either they already have one and want to replace it, or it is their first investment in wood energy.

> *"Those people are convinced from the beginning, you don't convince them with premiums and the fiscal reduction" (Belgium, installer, Wood boiler).*

They tend to turn towards solar energy when they make the choice of investing in a second RES source.

It appears from the studies carried out in the 5 countries that individuals in the Ecologists' group typically invest in solar energy appliances. A study conducted in France last year demonstrated that they often invest in photovoltaic appliances precisely to maintain that independence. Furthermore the fact that they sell the electricity gives them an additional form of independence from the system.

Regardless of the country, this consumer group is characterised by the parallel existence of two types of ecologists – those one could call "first-generation" who had already explored ecology issues before they became fashionable and "second-generation" ecologists who have grown up with these ideas over the past decade.

These "second-generation" ecologists apply purely environmental reasoning to running costs and living comfort standards. They are better integrated into modern life than their forebears and more open to new renewable energy technologies. Some of them – often young couples – have applied environmental principles to their house-building project… passive energy, wood-fired central heating combined with a PV or solar thermal system.

Most of the consumers in this class have already reached the authorised tax measure ceiling.

- **The Cautious**

They are represented in all countries. Their cautiousness is based on their awareness that they can save money and energy with a new RES system. Their living standard is not always very high. They often belong to the middle class. Most of the time, they take advantage of the fiscal incentive to replace an old conventional equipment with a new one fuelled by a renewable energy source.

> « *The installer calculated for us how much we could save by installing a renewable energy boiler comparing to a conventional one » (France, end consumer, pellet boiler).*

> « *We wanted to use the energy of the sun, which is there anyway. It was important for us, how much solar panels cost » (Austrian, end consumer, ST).*

This profile is preoccupied by the economic situation and not confident regarding their future living standard; renewable energies are a way to protect themselves from deregulation on the energy market prices. RES applications are considered as a way to improve their way of life. It is not an end in itself. Their purchasing decision is based on a will to ensure their independence from fluctuating oil prices. Ecological motivations are secondary, they are driven by financial and security criteria.

> *« If I save energy, I save money. And that improves my financial situation, of course. This is the reason why I decided to grab this opportunity with both hands » (Italy, end consumer, Pellet boiler*).

> *« Yes because energy prices are rising steadily, but quality of living does not rise equally with the price. A heat pump is a cheap way of heating » (Austria, end consumer, HP).*

- **TechnoDYI**

They are specifically present in France, Belgium and Portugal. They are often men with technical background who like to invest themselves thoroughly in the comprehension of technical issues.

They have a good understanding of RES technologies and look for the most appropriate solutions for their own specific case. There can be profiles here that do not put the price issue as parameter number one on their list of criteria of choice.

They share a common interest in new technologies in general. They think that being more independent from an energetic point of view is a cleaver position, especially if this means more independence from fossil fuels.

> «*We had to change the boiler and we learned that we could have a system with solar panels. We chose the solution despite the price. We wanted to get the most of this investment* » *(France, end consumer, IHWH).*

> « *We also have solar energy to heat the water associated with the geothermal system (…). I have worked out this system by myself (…). I have coursed aircraft mechanics in the Air Force, so this has no secrets for me (…). It is a class A++ house. I can have it warm or cold with the minimum consumption of energy. I thought it was silly to pay for the diesel to heat the house when there is a system that is better and cheaper" (Portugal, end consumer, ST).*

> *« I have chosen a pellet heating system because of my interest in biomass-to-energy applications, I started to work in research of wood gasification, there the interest grew, now I switched jobs to a pellet boiler producer » (Italy, end consumer, pellet boiler).*

Their motivations rely on their interest for new technologies. Ecology is not a main motivation. Moreover, they feel that investing in a RES system is a smart investment.

> *« I want to produce my own smart energy and don't want to depend on any other wrong energy Policy choices » (Italia, end consumer, ST).*

Lastly, seizing the opportunity offered by the tax measure appears to them as a smart move. Representatives of this profile are often very aware of the mechanisms of the tax measure and know how much they will be saving as compared to their current consumption. They know the details of their investment and installation well.

2 – Some specific profiles identified in particular countries

Besides from these three profiles, some others profiles regarding RES purchasers were detected in the study in some countries. These profiles are meaningful regarding the evolution of RES sectors.

- **The group of comfort in Portugal**

This group is composed of people from different ages in the population, from 35 up to 50 years, often families with children. The investment in RES corresponded to the building of a new house or to their moving into a new comfortable house at low running costs. For them investing in RES means above all more comfort.

> « *My house is very cool in summer and is completely cold in winter. So it is unthinkable to live there without heating. There was always the appeal of central heating to make it comfortable. (…) I now spend 150 euros on electricity for heating up my home, but I can heat it efficiently. The indoor temperature is not 30 degrees, it is around 21-22 degrees, it is heated perfectly and the whole family is happy* » *(Portugal, consumers, GHP).*

They are looking for reaching new level of life quality at low running costs. It is the first time they are planning to install a RES heating system.

- **The group of retired people in Portugal**

They are at a particular stage of their lives: transition to retirement. As their children have left the house it gives them the opportunity to invest in another house where they intend to spend the rest of their lives. This is the moment when they can afford an investment in RES.

> « *Since we were going to make improvements in the house, we decided to install the solar panels to save on gas (…) also, we don't have to carry the gas bottles. (…) we have to think that we are getting older* » *(Portugal, consumer, ST)*

They are making a new quality investment for a lifetime, and they want efficiency and comfort.

- **Traditionalists in Austria**

They have an agricultural background most of the time linked to their family's history/past. Their way of life is similar to those of farmers. They heat their house with wood energy and they wouldn't even think of using another heating system. But some of them have completed their installation with an additional heating system for hot water.

> « *We have our own forests at my brother's farm, so there is plenty of wood. The solar panels we use to fill up the buffer store* » *(Austrian, consumer, ST).*

For them, investing in wood heating appliances is a natural thing to do as their parents also have such heating devices and they themselves have an easy access to free wood fuel.

3 – The three functions of the tax credit

3.1 – Definition of the three functions

- *Trigger role:* In this case, the end consumer would not have done the investment if the measure would not have existed. It helped them to pass the threshold of acceptability or it contributed to interest them in RE heating system. The fiscal measure was first in the purchasing process. It played a particular incentive role for this category of people, who are, most of the time, not really sensitive to renewable energies issues or simply cannot afford investing in a RES appliance. Tax credit was a trigger as people are investing for financial reasons and/or to circumvent the rise of energy prices. From a financial point of view, the ecological solution is often balanced with a classical one.

- *Facilitator role*: the fiscal incentive plays a role of reassuring the will to do the investment. It contributed to comfort people on the idea to invest in a renewable energy technology. Consequently, people for whom the fiscal incentive plays this role are encouraged to invest top of the range or to invest earlier. The fiscal measure played an accelerator role, allowing people to gain some years to realize their investment or to invest differently from the original idea. To conclude, changes are visible on constraints such as time, technology and aestheticism.

- *Good surprise*: People belonging to this category would have done the investment even if the fiscal incentive had not existed. In this category, there are people who can easily afford to invest on a renewable energy heating systems. The fiscal measure has no impact on the level of the planned investment. The credit tax has no effect as fiscal incentive in their everyday life and some of them qualified the credit tax as the icing on the cake! There are also people having strong ecological motivations had planned their investment before the State's commitment through this public policy.

3.2 – Sales pitch according each end consumer profiles

3.2.1 – General sales pitch for the various consumer groups identified

All customers want to be reassured about their purchase. Part of the argumentation is common to all profiles and should be based upon the following elements:

- *Comparing the various energies against each other*. The fieldwork revealed that renewable energies businesses have everything to gain by **confronting** the various available solutions one **against another** when selling to consumers. The aim is to produce cost comparisons of the various applications and to emphasize the most suitable solution for each household.

- *Some information on existing incentives at different scales and possible combinations.* Consumers expect to be given information about the various incentives at national, regional and local level. It is particularly important when regional subsidies are taken into account and added to the tax incentive, especially when this leads to **triggering the tax credit mechanism**.

- *Simulations from the country's fiscal mechanism.* The capacity of the tax measure to stimulate purchasing varies with the adopted fiscal aid mechanism and even the reduction percentage allocated. Recommendations will thus differ in line with the types of measure in place. It could be useful if members of the trade produced price simulations from the aid mechanism applied in the country. This tool could have a **double impact on the end consumer**:
    - A financial impact by letting the purchaser know in advance what the final purchase price of the application will be once the allowance entitlement has been deducted.
    - A psychological impact by offering reassurance on the amount that will have to be forked out/paid and the amount of aid granted.
- *Reduce the risk for a consumer of not receiving what he expects from the State,* otherwise it will diminish the confidence in the measure and its long term effect. Installers should provide a help with preparing applications forms to the authorities. Furthermore respondents generally expressed the wish for guidance with filing their tax return or drawing up applications to obtain aid to supplement the fiscal aid. This proposed service – which could be built into a service offer, and paid for – could have a **triggering effect on individuals who are be unfamiliar with tax issues** and/or ill at ease with administrative and financial procedures.
- *The State's support is very important as a confidence-inspiring argument for individuals.* The analysis of the five national experiences stressed the role of **State support in** householders' **decisions to invest**. The granting of public aid is effectively interpreted as a guarantee, an endorsement backing their choice to invest in renewables. The State is also important for supporting installer training schemes.
- *Information reassuring on the technological maturity pf RES technologies* like their success in other countries, the types of applications/models most often sold…

3.2.2 - The positive arguments in the particular context of each group and each technology

- **The Ecologists**

There is a convergent way of investing for people sensitive from an ecological point of view, a kind of tacit agreement on energy that keep independent from the global system: appliances that will allow them to preserve their independence from the liberal economic system from a technologic as well a financial or moral point of view.

All in all while wood energy tends to be the initial energy source they turn to, choosing solar energy depends more on constraints of a practical nature for this segment (space, geography, technique) rather than their “natural” choice.

First-generation ecologists are generally fairly well informed about the various models and familiar with the use that can be made of the different renewable energies. They are "customers that stand apart" from the other identified consumer segments. They should be addressed with the plainest sales approach, while the environmental line is to be avoided and talk of tax aid has the lowest appeal. At best, they will not have reached the tax credit ceiling. The sales pitch should be focused on energy saving and efficiency of appliances. It is highly probable that they will commission an activist installer for the installation; alternatively they are already well up on which is the most suitable appliance for them… or they may have already used up their eligibility to tax credit and wish to purchase an appliance to supplement their existing system. Then again, they could be receptive to talk about local incentive measures if the administrative procedure is not too binding.

The second-generation ecologists are also motivated by the issue of ideological independence yet they refuse to be subjected to consumer society restrictions that relate to upholding an ideological choice.

They should be offered solutions that put forward *a good compromise* between respect for the environment and achieving savings, daily comfort and integration into consumer society.

Therefore they are easier to *attract by recent technologies* such as heat pumps than the previous generation of ecologists.

- **The Cautious**

In Belgium, it has been noticed that cautious people are more inclined/disposed to invest/interest themselves in solar boiler systems. Most of the time, the fiscal measure was the starting point of their purchasing process. This situation is also linked to the fact that a solar boiler is easily adaptable to a traditional installation and its price is acceptable in comparison to the fiscal advantage.

> *“The financial people, they are doing it to save money… if it is today in a solar boiler and tomorrow in something else, they will invest in something to profit from the fiscal advantage… and the good thing is that it is also environmental friendly” (Belgium, installers, solar boiler).*

For France, the study shows that consumers belonging to this group didn’t choose to install a solar appliance. They invested in heat pumps, geothermal and air ones.

They don't always have a good and thorough knowledge of renewable energies. They are waiting to be convinced by arguments based on energy savings and independence. The sales pitch should be pedagogic. However, purely environmental arguments should not be used to convince them. They do not want to be equated with ecologists.

Their entrance on the subject is not motivated by an altruistic move but by financial reasons. Finally, to some extent, their profile is also connected in Austria with the idea to not produce important effort to run the heating system: "*they do not want any durt and dust*". They want to remain physically and ideologically free from their renewable energies heating system. This group of consumers tends to be interested in technologies that require no effort – such as stacking stoves or boilers with wood – that are easy to use with no particularly deep knowledge of the area.

They are receptive to the energy and financial aspects of economic arguments. They want to be reassured that their willingness to invest in this type of appliances is rational.

Additionally, they will be interested by having access to a full service offer, that also includes the upstream exercises – pre-feasibility study in the house, comparative costs and performance studies, explanation about how the tax credit works – as well as the operation itself and any maintenance and after-sales service operations.

They should be particularly responsive to the fact that the product is guaranteed and that the quality is certified.

Insofar as their knowledge of the subject-matter and associated questions is very low, they particularly need to be reassured and informed without being inundated with data because this would have the perverse effect of upsetting them.

- **The TechnoDYI**

Consumers from this profile want to be part of the decision making process, so they would appreciate to have thorough technical discussions with the seller and be associated in the choice of materials.

It is their approach to the purchase that characterises them rather than their choice of a particular technology. This consumer group typically make their technology choice in line with what suits them technically, as applied to the advantages and drawbacks of their dwelling.

This is particularly true because regardless of the field of application, they are attracted by new technologies. In the purchasing act they wish to optimise their search for a heating appliance using their intellectual curiosity and get the satisfaction of using an environmentally-friendly appliance.

Technology appeals to them, which means that fairly complex technical and financial set-ups, such as PV, can be contemplated.

The tax incentive interests them as well in that local allowances for the equipment or labour can be added to it. It may be useful to mention this and so identify the model that will enable them to make the most of their approach. They could be interested in considering an economic modelling exercise on the various types of appliance.

In the purchase/installation relationship they expect to be able to discuss the fundamental operation of today's and tomorrow's solutions as peers with the relevant professionals. They want to be explained every technical detail of the installation.

- **The group of comfort**

Consumers in this group are seeking maximum comfort at minimal cost. Satisfying an environmental ideal, matching a social standard or social image are all quite removed from their interest in renewables.

They are expecting somebody to come up with a technological solution that will allow them to achieve their aspired level of everyday comfort. They are fairly indifferent to the details of how or why the various solutions on offer work. In contrast they do expect to be informed about the value for money, convenient use of the appliance and the amount of their future energy bill.

Nonetheless their reasoning is vested in innovation as it seeks to introduce new living standards into their daily lives. In some way they are taking a bet. They are less risk-averse than the cautious profile but more on their guard than the technoDIY.

Their personal satisfaction is achieved by a simple, solid and effective solution. These consumers are looking for a customer relation – with RES professionals – based on trust and the assurance that they are dealing with competent professionals on whom they can rely.

- **The group of retired**

Consumers in this group, whose main interested members are totally aware of their needs and their ability to control them, expect to be offered a solution that is ideally geared to a routine lifestyle. There is an accomplishment of some sort in their purchasing act as well as the idea that time is short or limited.

They tend to look for a solution that is technically easy to manage on a daily basis, requiring no physical effort and does not lead to heavy dependence on a third party. They are looking for a reliable, modern solution, if needs be somewhat technical. The better-off will have no qualms about investing in expensive equipment or a known brand. The two main essential features of the appliance for this consumer category are hard-wearing and convenient use.

If they come up with environmental issues, it is probably because they are parents and grandparents and are thinking about their descendents' futures. However the prime motive for embarking on this process is basically geared to satisfaction in their life as a couple.

They will be keen to be offered a readily available after-sales service in the event of problems or need for answers to questions.

They expect an efficient, informative and friendly sales service that does not attempt to blind them with science.

They also expect to be properly informed about fiscal aid and the fact that it can be piggy-backed to other aids and furthermore expect to be assisted with filling in the administrative paperwork.

- **The traditionalists**

This consumer group tends to evoke a route to personal satisfaction as an energy solution that is perfectly in keeping with a nature-loving lifestyle, and that can be integrated in a possibly isolated environment.

They are similar to the ecologists in that they prefer wood-fuelled appliances, as they often have easy access to wood supply.

They expect to be offered a solid, reliable solution that is compatible with the system already installed in their dwelling and any specific climatic concerns.

3.3 – Functions and crossed end consumer profiles

- **Trigger role and end consumer profile**

This function of the tax credit comes out above all in the Cautious group who choose to invest for financial rather than ideological considerations.

There are also consumer profiles like “the Retired”

> *“Since we were going to make improvements in the house, we decided to install the solar panels to save on gas (…), also, we don’t have to carry the gas bottles. (…) We have to think that we are getting older (Portugal, end consumer, ST).*

or “comforts” who thus combine their desire to change their lifestyle while taking advantage of government assistance.

It also covers the less well-off ecologists that take advantage of the measure to install a heating system that is more in keeping with their concept of ecology.

A way to reinforce the trigger effect :

- ✓ play on the short term availability of a positive investment combination
- ✓ insist on the good bargain and the savings made throughout the lifetime of the appliance.

- **Facilitator role and end consumer profile**

The general trend points to this function of the tax credit having an impact on customers already predisposed to purchasing a RES system, whose are thus more likely to be consumers from the ecologists’ group.

They are often ecologists who have planned very heavy investments in constructing their dwelling.

A way to reinforce the facilitator effect :

- ✓ Try to maximise the investment by presenting what is within reach for the consumer thanks to the additional budget provided by the tax measure.

- **Good surprise and end consumer profile**

Lastly only a few consumers view the tax credit as a nice surprise. They are mainly members of the ecologists’ group who have already invested in a first installation – more or less using their own finances – without the tax credit or who have reached the ceiling.

In this case, as well, the investment can be maximised by insisting on this additional unexpected budget available thanks to the tax measure.