

# QUALITATIVE ANALYSIS

## PROGRAMME CONTEXT

Programme context = Various national circumstances and national and international policies which have an impact on programme design and should be taken into account in programme planning.

Each national behavioural change programme is designed in a context which is affected by national circumstances as well as national and international policies (EU policies, Kyoto climate change agreement). The context is a significant factor in the choice what kind of behavioural programmes are designed and implemented in a given country. However, context should not only be considered in programme design but changes in the context should be monitored and corrective actions taken in programme implementation, if necessary. Exploring the context is also the phase of problem orientation, definition and ex-ante research.

Various elements of the context can be identified. The following list covers most of them but is not exhaustive. After the list, some examples identified in the case studies are presented.

- Timing
- Polity/constitution (federal country vs. not a federal country)
- Regulatory framework
- Energy and climate policy objectives
- Prevailing energy and environmental strategies, action plans and communication programmes
- Political structures and institutional setting (implementing organisations, financing organisations, NGOs, public-private relationship)
- Market structures (manufacturers, vendors, multipliers)
- Climate
- Natural resources
- Demography and social context
- Energy prices
- Energy use by consumers and information available on it
  - Energy mix, break-down to different end-uses, use patterns
  - Building stock
  - Appliance stock
- Identified barriers
- Cultural features
- Campaign resources

The list of context elements should be understood as a checklist for the contextual analysis; each element and its relevance should be given some consideration. The

importance of each element depends on national circumstances and, therefore, generic prioritisation of the context factors would not be very helpful.

### Timing

Timing of the activities is quite important. The focus of public debate, unexpected environmental or natural events, evolvment of energy prices and EU-wide initiatives can all be either drivers for national campaigns or can strengthen their impact. For example, the Finnish Climate Change Communication Programme (Fi 3) had synergy with the EU-wide public information campaign on climate change in 2006-2007.

### Polity

The polity is not as compelling factor in a non-federal country as it is in a federal one. However, in some cases even in a non-federal country local governments may have a significant role in promoting energy efficiency. This is the situation, e.g., in Spain. It may also be difficult to implement certain projects without their co-operation. Nonetheless, in a federal country it may be practically impossible to implement energy efficiency programmes initiated by the federal government. This is the case, for example, in Belgium (not a project partner) where the responsibility for energy efficiency belongs fully to the three regional governments. Similar stringent situation was not reported in the case studies but Austria mentioned the federal structure being an important consideration in programme design.

### Regulatory framework

In some cases programmes were implemented to reinforce the impact of energy efficiency legislation. Examples were “Energy label” (Fr 6), salesmen training for white goods (E 8) and economic support for the renewal of white goods (E 7) which all aimed at enhancing the knowledge of the energy efficiency labels and increasing the proportion of efficient appliances in the market. UK EST Advice programme (UK 3) is part of the infrastructure to support and reinforce the government’s Energy Efficiency Commitment (which is an obligation on energy suppliers to deliver energy efficiency savings) regulatory framework. EST’s role is key to provide independent and impartial advice to consumers. It may also be possible to implement programmes making use of laws and regulations having directly little to do with energy efficiency. For example, Austria implemented an advisory programme build on the mandatory requirements on annual chimney sweeping (Climate Herald A 2).

Regulatory framework can also become an impediment for the effective implementation of behavioural change programmes. Bulgaria reported programme implementation being difficult due to missing parts in national legislation and regulation regarding, e.g., urban planning, building proprietor’s property status, energy services contracting and implementation, financial incentives for both contractual parties. These contribute to the business climate.

### Energy and climate policy objectives

One of the Swedish energy policy objectives is the transformation of the energy system towards a sustainable system based on alternatives to oil and electricity. Therefore, wooden pellets (among several options) are promoted (Wood pellet heating S 7).

### Energy and environmental strategies, action plans and communication programmes

Several countries mentioned that they have a prevailing energy efficiency programme or that they implement a large-scale energy efficiency or climate change communication programme. Behavioural change is often a key element in them. Examples include:

- Spain: the Strategy for Energy Saving and Efficiency 2004-2012 and the associated Action Plan for the period 2005-2007.
- UK: Climate Change Programme and Energy Efficiency Strategy
- Germany: EnergieEffizienz national information and motivation campaign
- Austria climate protection campaign (Klima:aktiv)
- France: “Energy savings, let’s hurry, it’s heating up” - national communication campaign

#### Political structures and institutional setting

Most programmes are implemented by national or local energy efficiency agencies or alike. However, depending on the institutional setting and local circumstances, other organisations (consumer associations, NGOs and professional associations) as well as even energy companies and private companies have implemented behavioural change programmes. Although a programme may be initiated by a national energy agency, several intermediary organisations may be involved including public-private co-operation. The Netherlands and Sweden emphasized the effectiveness of using intermediaries in their case studies; however, similar approach appears to be quite common.

Practically all countries emphasised the need to use existing institutions and infrastructures in programme design and implementation where effective to do so, although of course in some cases these may not already exist and new solutions need to be developed. The UK reported a long-term large-scale programme whereby a new energy advisory infrastructure was set up over ten years ago for information dissemination and execution of various campaigns (EST EEAC, UK 3).

Also Austria and France reported a well-developed and distributed energy advice infrastructure which provides various information services to the consumers. While not included in the case studies, also Sweden operates a similar scheme.

Several countries (Austria, Finland, Germany, the Netherlands and Spain) either presented energy efficiency programmes implemented by energy utilities or programmes where they had an important role. This creates an interesting “conflict of interest” with the utilities’ objective to increase their sales in the liberalised energy markets. The energy service directive, on the other hand, calls for energy services provided by the utilities (among alternative approaches).

#### Market structures

Particularly programmes which promote new technologies (or just technologies in general) often call for addressing the whole chain from manufacturers to vendors, multipliers and final consumers.

In several case studies importance of addressing both consumers and multipliers such as planners and installers was emphasized in several projects, e.g., Climate active

“heat pumps” (A 4), Climate active “solar heating” (A 6), Wood pellet heating (S 7), Energy efficiency campaign in households (D 1).

### Climate

Climate is a significant factor both in terms of energy consumption as well as end-uses. It affects the need for heating and cooling as well as building codes, urban planning and the feasibility of solar energy. Many case studies presented programmes which were addressing various aspects related to heating and cooling. Several concentrated almost solely to these topics (see Table 2) while they also were a major feature of wider awareness and climate change campaigns.

### Natural resources

Natural resources are a factor in choosing which technologies to promote in the programmes. For example, wood pellet heating can only be promoted if adequate forest resources exist (Wood pellet heating, S 7).

### Demography and social context

In terms of development of energy-related behavioural change programmes, relevant factors in the social context are, e.g., age, gender, languages used, ethnicity, class, household types and ability to pay. These are also factors in market segmentation. They can also either enhance or impede access to assets, services, and public goods.

The case studies do not portray large differences in the social context or social diversity between or inside the countries. Rather, judging solely on the basis of the case studies, the countries and social issues faced by them appear surprisingly similar. Yet, differences exist. For example, there are different language groups in some countries (e.g. Finland) but this was not reflected in the case studies. In some countries (e.g. France, Germany, Spain Sweden and UK) there are large immigrant populations which were not mentioned. Despite the disappearance of former class societies, certain features remain in, e.g., France and UK. The reason for not capturing the differences could be the formulation of the detailed template which did not emphasise social considerations. The reason could also be that these are not considered important in terms of energy-related behavioural change programmes. In any case, they are worth consideration in programme design.

In countries with lower but growing GDP per capita energy consumption is growing rapidly in the household sector. People are buying more appliances because the markets are far from saturated. From energy efficiency point of view this can create equally an opportunity or a threat depending on how it is addressed. Effective information campaigns can help to ensure that the appliances purchased are efficient. However, behavioural change programmes may not always be adequate and incentives may be required.

The socio-economic status of consumers (ability to pay) can either impede or enhance their possibilities to invest in energy efficiency. Those with higher income have better opportunities to invest in equipment which may have a high investment cost but feature lower life-cycle cost or energy consumption. Those with lower income could probably gain more from better energy efficiency but may not be able to make the initial investments. In such situations, combination of different instruments is necessary. Careful consideration is required particularly in countries with large

differences in income levels. For example, in the UK fuel poverty among the elderly is a real issue whereas in the Nordic countries with different housing structures and pension or welfare systems it is usually not a major concern.

Appliances can be used to further demonstrate social context. For example, who in families makes the purchase decision of appliances (white goods, small appliances, IT and electronics) and who uses them? If the decision to purchase white goods is made by the family together, small appliances are purchased by the wife and IT and electronics are generally purchased by the husband different communication strategies may be needed. The same applies to usage. Furthermore, Swedish studies have shown that the elderly often have older and less efficient appliances. Can specific strategies be formulated to address this target group? These are questions to be addressed in the planning phase but to do it effectively, programme designer needs to know the social context.

As said above, social considerations can have an impact on the access to services and public goods. In the partner countries, however, the public has generally equal access to information through quality education and access to information. Despite technical differences in the schooling system, the level of education is roughly the same and often similar communication instruments can be used. There are some differences, however, such as access to internet.

It appears that the social context is especially important when the new Member states are concerned. For example, due to on average lower income levels, the ability to pay may become more crucial concern than in the former EU-15.

#### Energy prices

In Norway rising energy prices put pressure on politicians to act. As a result a support and information programme for electricity saving technologies was introduced (Electricity saving in households, N 3).

#### Energy use by consumers

Information on the energy end-use by consumers and lack of information can both be factors which affect behavioural programme design. In the context of increasing energy intensity per capita - which is not a common occurrence in Western Europe - Spain has introduced several large-scale behavioural programmes based on detailed studies on energy use in households. Good background studies on energy mix, its break-down to different end-uses, appliance stock and end-use patterns can help in making informed decisions about campaigns.

The characteristics of the building stock and the construction market dictate where the largest energy efficiency potential exists and what types of behavioural change programmes targeting the building sector are feasible. Austria and Bulgaria reported that there is a large building stock which requires renovation (Climate Herald A 2, National Programme for Renovation of Residential Buildings Bg 5). This probably applies to many other countries as well and can be major driver in pursuing behavioural change programmes concentrating on existing building stock. In Finland, many home-owners build their own houses. They are targeted by a campaign promoting low-energy single family houses (Energy efficient house, Fi 4).

### Identified barriers

Households have significant energy efficiency potential. Many strive for better energy efficiency by paying attention to the heating systems and their regulation, choosing energy efficient appliances and lighting and using them prudently etc. However, it is a well known fact that the market does not fully deliver cost-effective savings autonomously. Various barriers explaining the gap have been identified. As an example, one of the attempts to systematically analyse the different barriers was the BARRIERS Project of the Joule III Programme (Sorrell S. et al, 2000), although its viewpoint was energy efficiency in organisations. However, most of the barriers identified apply also to private consumers.

Most barriers applying to private consumers are mentioned hereunder:

- Imperfect information:
  - Lack of awareness of the cost-effective savings potentials
  - Missing or partial information on energy efficiency performance
  - Life-cycle costs get little attention the main emphasis being in the initial investment cost
- Principal agent problem/split incentives:
  - The typical example is the landlord-tenant issue where the landlord invests (or fails to invest) in energy efficiency but it is the tenant who pays the energy bills.
- Rational behaviour:
  - Energy efficiency is bundled-in with more important capital decision factors
  - Access to capital
  - Hidden costs (the time taken to find reputable installers or the costs of disruption)
- Behavioural barriers:
  - Credibility and trust (consumers may not trust source of information)
  - Inertia (the tendency to stick with the traditional approaches)
  - Values (lack of environmental awareness)
- Regulatory failures

Some of the above are not necessarily market barriers but are actually rational behaviour. For example, many potential investments compete for the consumer's limited time and money and the decisions made depend on their context.

At national level, the most critical barriers should be recognised. Most barriers probably apply to all countries but their significance can vary country by country. Behavioural change programmes are designed to address several of the above barriers, particularly those in categories 'imperfect information' and 'behavioural barriers'.

Due to the diverse nature of the barriers, a portfolio of policies is considered most effective, i.e. using also regulatory measures and financial instruments in addition to behavioural change programmes - or vice versa. At theoretical level these considerations are incorporated in the PRECEDE-PROCEED model where the choice of a mix of instruments happens in Phase 3.

In case studies, barriers have not been explicitly called 'barriers'. However, often it can be seen from programme design in the cases that barriers have been analysed conscientiously as this is portrayed in the programme implementation. In Norway, in the case Electricity Savings in Households (N 3) imperfect information on heating system improvements was addressed by a behavioural change campaign which also featured subsidies to address problems in access to capital. However, the programme did not address the barrier 'credibility and trust' as less serious equipment suppliers tried to skim the market which could possibly be addressed by quality control. In Spain, two separate campaigns were launched to remove less efficient appliances from the markets. Imperfect information was being addressed by training salesmen regarding energy efficiency of white goods (E8) and access to capital was enhanced by a subsidy programme in the Community of Madrid (E7). In the Spanish case also regulatory instruments were involved because of the energy-label for the white goods. If a regulated EU energy label would not have been introduced, the credibility of information on energy efficiency given by the salesmen would probably have been perceived as poor by the clients (barriers 'regulatory failure' and 'credibility and trust').

#### Cultural features

Few cultural topics were mentioned in the case studies. However, the Spanish case on collection of fried oil from households (E 9) features some related to gastronomy. Such a project can only be implemented in a country where vegetable oil is used in large quantities in the national cuisine. The Swedish large stock of holiday residences (villas) could also be interpreted as a cultural feature (Heating in villa, S 5). While not mentioned in the case studies, saunas in Finland consume large share of household electricity while being a distinctive cultural feature of the country.

#### Campaign resources

The overall availability of funding for behavioural change campaigns may vary greatly depending, e.g., on the size of the country, the status of behavioural change as a policy measure and economic situation. However, it does not appear to be systematically the case that smaller countries implement smaller programmes. For example, the Swedish Campaign on climate change (S 6) had an annual budget of €3.3 million. The Norwegian Electricity savings in households (N 3) had a budget of €1 million; however, subsidies provided are included in the total. In some cases budgetary concerns have - among other missing elements of the national legislation and regulation - limited the activities. Examples include National Programme for Renovation of Residential Buildings in Bulgaria (Bg 5) and The Challenge for the Earth (Fr 5).