Regional sustainable production and consumption policies; challenges and opportunities

Policy Study European Regional Sustainable Development Network

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1. Introduction

One of the main challenges regions face in sustainable development is changing their production and consumption patterns. This paper focuses on the role of regional government in sustainable production and consumption polices, one of the specific topics in the framework of the European Regional Sustainable Development Network activities.

Issues of sustainable production and consumption are very broad. This paper focuses on policies and instruments directed towards sustainable production and consumption in regions. The paper elaborates current theory and practice in the area of sustainable production and consumption policies to answer the main question of what are the key challenges and opportunities for regional government.

The paper starts with a short overview of current (policy) thinking in the field of regional sustainable production and consumption. We then identify the theoretical and practical issues for both regional policy development and regional stakeholder involvement in the field of regional sustainable production and consumption. Finally, we explore examples of good practice in the development of regional public policy related to sustainable production and consumption patterns and identify some key messages for both the EU and the regions.

2. Sustainable production and consumption

In line with the Brundtland definition of sustainable development, sustainable production and consumption can be defined as the use of goods and services that respond to basic needs and bring a better quality of life while minimising the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardise the needs of future generations. Sustainable consumption is closely related to sustainable production. “Sustainable production concerns the supply side, focusing on the economic, social and environmental impact of production processes, while sustainable consumption addresses the demand side, focusing on consumers’ choices of goods and services, such as food, shelter, clothing, mobility and leisure, to fulfil basic needs and improve the quality of life.”

To discuss what regions can do we take the following simplified chain of needs-consumption-production and products. In literature we find much more sophisticated
schemes of interrelated processes, with more separate processes (like retail and waste processing) and more detail in the processes itself. For instance the production process can be split into a production chain which would include winning natural resources, production of primary products, processing industry, retail and transport.

There is a resemblance between this chain and a life cycle assessment of products. The main distinction is that we start from a perspective where consumers’ needs for certain products can be changed.

A useful way of looking at the theoretical opportunities for more sustainable production and consumption patterns is to think in terms of trying to change the needs of consumers, the way we consume, the manner of production and the type of products in a more sustainable direction. Theoretical opportunities are:

- Changing the needs of consumers in the direction of fewer products and fewer resources. There is still a practical and academic discussion if changing needs would only mean sustainable consumption or also less consumption. Some academics and non-governmental organisations argue that we have to bring European consumption down to sustainable levels and to free up sufficient resources for an equitable sharing with developing countries.

- Changing the consumption processes (purchase, use and disposal). This would mean consumption:
  - With fewer resources
  - With more eco-efficient resources
  - Through more eco-efficient products
  - With less waste

- Changing production (and service provision). This would mean production with less damage to the environment through different processes (with fewer resources, more eco-efficient, with less waste produced) and optimal location

- Changing products (and services) towards:
  - less environmental damaging products
  - more eco-efficient products
  - services directly aimed at reducing the environmental impact (for instance recycling services, deposit/refund schemes)
3. Strategies to reach sustainable consumption and production

3.1 Current policies

The Brundtland\(^6\) report of 1987 focused to a large extent on the issue of production\(^7\). "Agenda 21" introduced the concept of "consumption and production patterns" (Agenda 21, Chapter 4): "To achieve sustainable development and a higher quality of life for all people, states should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies." Further UNCED acknowledged in Agenda 21 that patterns of unsustainable production and consumption (mostly in the North) are the major cause for ecological deterioration all over the world. Yet, relatively little happened in the ten years after the Rio Earth Summit in developing national policies and strategies.

However, the Johannesburg World Summit on Sustainable Development World Summit agreed that "changing consumption and production patterns is one of the overarching objectives of, and essential requirements for, sustainable development", and, as such, decided to promote "a 10-year framework of programmes towards sustainable consumption and production". This 10-year Framework of Programmes on Sustainable Consumption and Production (10YFP) has to support of regional and national initiatives to accelerate the shift towards sustainable consumption and production patterns that will promote social and economic development within the carrying capacity of ecosystems.

The main objective of the 10YFP is to promote implementation of Sustainable Consumption and Production (SCP) at the national and regional level, with coordinated international support. The related activity should be linked to the thematic discussions as part of the multi-year programme of work of the Commission on Sustainable Development (CSD). This would require according to the CSD the following actions, which are also relevant for regional authorities:

- Identifying specific activities, tools, policies, measures and monitoring and assessment mechanisms, including, where appropriate, life-cycle analysis and national indicators;
- Adopting and implementing policies and measures aimed at promoting SCP patterns, applying, inter alia, the polluter-pays principle;
- Developing production and consumption policies to improve products and services;
- Developing awareness-raising programmes on the importance of SCP patterns, particularly among youth and relevant segments in all countries, through inter alia, education, public and consumer information, advertising and other media;
- Developing and adopting consumer information tools to provide the information related to SCP;
- Increasing eco-efficiency, with financial support from all sources, where mutually agreed, for capacity-building and technology transfer.

With a view to implement the actions listed before, the next phases should be carried out:


- Organizing regional consultations in all regions to promote awareness and identify priorities and needs for SCP;
- Building regional strategies and implementation mechanisms with regional and national ownership;
- Implementing concrete projects and programmes on the regional, national and local levels;
- Monitoring and evaluating progress and exchanging information and experience at the international level.

In general, these strategies will be facilitated by programmes carried out by UNEP, UN DESA and other UN agencies, as well as bilateral, regional and other international organisations.

Chapter 4 of Agenda 21 stresses the responsibility of national governments to develop national policies and strategies to encourage changes in unsustainable consumption patterns. This chapter does not explicitly mention regional administrative bodies. However, in the ten years after Rio, many regional authorities have been involved in the fields of sustainable consumption and production. Although regions are relative latecomers in the policy arena for sustainable production and consumption, they do have long term responsibility, particularly for many production processes and consumption processes to a lesser degree. They also have many standing relations with producers and their citizens, although less often in the role of consumer.

The European Commission⁸ states that action on sustainable development must be taken by all and at all levels. There are large differences between administrative competencies of (European) regions. But whatever the political and legal autonomy of regions, many of the changes needed to secure sustainable development can only be successfully undertaken at EU level or subsequent national level. An important argument is the necessity to co-ordinate actions from a (European) economy perspective, to avoid disturbing the economic balance between countries and regions. Within the multi-level governance model regions will of course often be co-implementers of these European and national actions.

Throughout this policy paper we will deal with two underlying questions for the second part of our main question what are the key opportunities for regional government to reach more regional sustainable consumption and production?

The first question is: what can regional authorities do to influence their own decisions into more sustainable consumption and production patterns?

Regional governments are both consumers and producers of services, infrastructure, etc. In 2002, the World Summit on Sustainable Development in Johannesburg committed public authorities to “promote public procurement policies that encourage development and diffusion of environmentally sound goods and services.”⁹ Sustainable procurement aims to integrate environmental considerations into all stages of the purchasing process with the goal of reducing the impact on human health and the environment. Sustainable

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⁸ A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development
⁹ Implementation Plan, paragraph 18, World Summit on Sustainable Development, 2002
procurement is also called eco-procurement, green purchasing, environmentally friendly purchasing and affirmative procurement.
Regional governments as producers of services, infrastructure, works, etc have to assess their own decisions on sustainability.

The second question is: what can regional authorities do to influence the decisions of other regional actors towards more sustainable consumption and production pattern?

In the next section we discuss the elements of a strategy of regional sustainable consumption and production patterns in different processes, for different target groups and with different strategies to directly or indirectly influence other actor’s production and consumption choices.

3.2 Elements of strategies of regional sustainable consumption and production patterns

Strategies and actions of regional sustainable consumption and production patterns can be classified according to three elements:
- Targeted processes
- Target groups
- Intervention strategies

Here we will discuss in particular what processes we could best target on the regional level, and which groups and strategies would best suit regional authorities.

3.2.1 Targeted processes

Many policy makers and academics are convinced that sustainability policy can only be effective if it consists of a coherent set of policy lines pursued on various fronts and affecting both the supply and demand sides of the consumption-production chain.

Sustainable production and consumption relate to many regional policy fields. Examples include mobility, industrial location, procurement, water management and energy use.
Regional authorities in these fields have standing relations and existing policies. In environmental government specifically, regional authorities would have responsibilities in traditional permitting and enforcement, waste and water management. If we look at these experiences one might expect a bias in regions towards sustainable production policies. Regions have less experience with consumption policies than with production policies. And although regions are closer to citizens than national governments, they are less experienced in addressing citizens (for instance awareness raising campaigns) than they have addressing producers.

3.2.2 Target groups

There is not a one-size-fits-all approach to producers and consumers, policies for sustainable production and consumption address both sides. Only a target group approach that takes into account the particular characteristics of this group and identifies and
addresses the needs of the target groups, will be able to achieve cost-effective innovative solutions.

When we talk about producers we think also about retail, mining (primary products) and service provision. But we can also include governments among the producers in so far as they supply infrastructure, public transport, etc.

While influencing production processes to the extent needed is indeed a difficult task for any ‘environmental governance’ system, the complementary influencing of consumption processes poses even more difficult challenges. Consumers are everybody, in a role often regarded as the private sphere of life. ‘Command and control’ measures soon meet cultural and ethical barriers. Market incentives to consumers need corrections, so that ‘prices tell the truth’. But with very open economies and strong ideologies in favour of freeing markets as much as possible from all government interference, price manipulation is far from a switch board freely at the disposal of environmental policy. Next, consumers are numerous, too numerous to deal with separately and too diverse be regarded as a single ‘target group’.

3.2.3 Intervention strategies

In sustainable consumption and production policies we distinguish between different levels or steps of action between policies and initiatives that:
- focus on causing less pollution (traditional environmental policy)
- focus on eco-efficiency requiring less resources and causing less pollution
- focus on improving economic, environmental and social goals (sustainable development considering volume effects of production and consumption and equity)

Here our main focus is on sustainable production and consumption patterns. Changing sustainable production and consumption patterns goes beyond environmental policy with the sole objective of limiting the environmental impact of consumption and production processes. It means that the effects and use of resources have to be brought in line with the carrying capacity of eco-systems.

Even if we manage to effectively reduce environmental impacts associated with the design and manufacture of products and the consumption of materials and resources in the production process, this doesn’t guarantee sustainable consumption. Environmental protection and eco-efficiency in themselves therefore do not adequately support sustainable consumption and production, because it does not address the increasingly significant environmental impacts associated with the selection, use and disposal of products by non-manufacturing consumers. More efficient production could actually lead to increased production and consumption. Therefore gains that have been achieved through programs aimed at making production processes cleaner and more efficient, will be lost. It is common to think of production and consumption as discrete stages in a product’s life cycle chain, with production (an industrial activity) preceding

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consumption (a domestic activity). But production and consumption are inextricably interwoven.

Strategies to influence producer’s and consumer’s choices are key for more sustainable consumption and production patterns. As mentioned above for producers or production chain we can also think about mining or producing primary products, retailers, transport, etc.

Making patterns of production and consumption sustainable is about making different choices. If we want consumers to consume fewer or better resources we need behavioural changes. If companies and government have to supply better goods or use less resources they to have to make different choices. The mechanism through which these changes in behaviour and ways of working are brought about can be persuading or forcing consumers and producers to change or by changing the decision situation in a way that the different choice will come more or less automatically. All choices that producers and consumers make are the result of a (personal) trade-off of utility and the price to pay. We therefore distinguish two main strategies:

1. The first strategy for regional authorities is trying to directly influence producer and consumer choices by persuading or forcing through:
   - offering knowledge
   - influencing the willingness to change (attitude)
   - influencing the ability to change

The knowledge of producers and consumers, their willingness and their ability to change can be influenced through the use of regulatory, economic and social instruments. We elude to the specific instruments in section 3.5 after we discuss the specific characteristics of regions that influence the feasibility of these instruments in a regional perspective.

2. The second strategy is trying to indirectly influence choices by changing production and consumption circumstances and product characteristics.
   - Regional authorities are themselves consumers. They can introduce environmental criteria and goals in procurement procedures, service provision and administration. This will influence producers and consumers by setting the good example;
   - Regional authorities can improve the understanding and analysis through promoting education and information programmes to help change lifestyles across all parts of the region;
   - Applying tools for modifying behaviour by focusing on the physical and social environment of the consumer. For instance, through land use planning mechanisms and providing local services in ways that facilitate lifestyle changes (e.g. planning policies to reduce distance and dependence on energy-intensive transport); and
   - Rethinking strategies for local development in partnership with business, local communities and NGOs to encourage sustainable consumption and production.

Key element of these strategies is the use of specific instruments. A typology of instruments for policies directed towards sustainable production and consumption would include regulatory instruments, economic instruments, public information instruments...
and land use planning. Research shows that all these instruments have their own characteristics that make them effective\textsuperscript{12}.

Regional governance has specific characteristics that make certain instruments more or less effective. For instance for economic reasons certain regulatory instruments (like performance or technology standards, certain bans or prohibitions) and economic instruments (taxes, charges, subsidies) could be less feasible on the regional level. While other instruments in the category of public information instruments (like public information campaigns, partnership projects, voluntary agreements) and land use planning and resource management could be particularly effective on the regional level.

We elaborate on the barriers and levers for strategies on the regional level in the next section. In section 4 we will discuss the feasibility of the different instruments in the regions.

### 3.4 The position and role of regional authorities: barriers and levers

Before we discuss the specific use of instruments on the regional level we first want to point to certain levers and barriers at the regional level that make some instruments more feasible than others.

**Levers** are characteristics or circumstances that make regions particularly suitable to undertake actions to change production and consumption patterns.

1. On a regional and local level the effects of macro-economic and sectoral policies become real. Regional development policies therefore can help better integrate these effects and remedy unwanted or unforeseen effects\textsuperscript{13}.
2. From an ecological perspective a region can sometimes be the best scale for action. Finally, there is a democratic argument for regional action.
3. Although public authorities have a key role in taking action on changing production and consumption patterns, it is ultimately individual citizens and businesses who will deliver the changes in patterns needed to achieve sustainable development. Regions and local authorities are relatively ‘close’ to these actors.

**Barriers** are characteristics or circumstances that hinder regions to undertake actions to change production and consumption patterns.

From a multi-level perspective not everything that would be legally possible on the regional level would be politically desirable. For instance, if a certain region, particularly


\textsuperscript{13}OECD, Sustainable development; critical issues, 2001
a richer region, relegated certain production or products to other regions, there could be an unsustainable imbalance between regions.

Nevertheless, if a particular action falls within the legal and administrative competence of a region, or a region is the best scale level, regions face two dilemmas in taking action on sustainable production and consumption:
- The threat of regional economic competition in relation to changes in production patterns; and
- Social dilemmas in alteration of consumption patterns.

These two dilemmas limit what regions will and can do. If in a multi-level governance perspective the higher levels of governance (national government, EU) don’t set the proper international and national frameworks, regions themselves must find cost-effective, innovative solutions that are acceptable for the target groups (producers and consumers).

The following diagram illustrates the role of regions as a ‘spin in the web’.

A particular barrier that hinders regions in taking action to change production and consumption patterns is the division of power in the multi governance model. The regional level needs clear (inter)national goals and strategies. Here we point to the principle of positive subsidiarity. Regional governance should be assisted to handle sustainable production and consumption affairs they can more adequately deal with than the (inter) national level.
- Which competencies should be left exclusively to the regional level (substantive subsidiarity)?
- When is regional government the appropriate level to take action when competencies are shared or concurrent?
The feasibility of regional policy options and instruments can be assessed against the three pillars of sustainable development, economic, social and ecological development. Policy options should not endanger the region’s:
- economic competitiveness (business move out of the region)
- social structure (people move out of the region)
- ecosystems (nature, biodiversity and resources vanish)

Intergovernmental consultation can be used to lift specific barriers for regional sustainable production and consumption.

3.5 Feasibility of policies and instruments on the regional level

3.5.1 Regional regulatory instruments

Regulatory instruments can be used to directly influence choices by producers and consumers. Systems of environmental law and permits can force a producer or consumer towards more sustainable patterns of consumption or production by banning products (for instance leaded fuel), regulating the process of consumption (speed limits) or production lowering emissions.

A rule is general for a specific category of producers or consumers. Permitting allows an individual or a company certain rights (run a company on a certain location, allow certain behaviour like driving a car). Through a rule or the use of permits producers and consumers can in theory be ‘commanded’ to abandon unsustainable behaviour. In regional policy practice there are two problems with the use of regulation:
- a general problem of enforcement and public acceptance;
- a particular regional problem is making ways of production or products impossible in a region which are possible in other regions (for instance banning products in the own region).

The problems of practical implementation and costs of enforcement make regulations that force consumers to pursue sustainable behaviour difficult. On the regional level there is also the problem of public acceptance, why can’t I consume this in my region when it is available in the next region. Only in times of scarcity (ban on washing car, car-free period) or if it concerns health and safety (car safety, speed limits) will the general public accept differences between regions.

The public will more easily accept restrictions in consumer choice if there are other functional products available and the price and performance remain acceptable. For producers in particular, the competitive disadvantages over competitors in other regions where prohibitions are not in place, presents an acceptance problem.

An example of region using a permit to change a company production process towards a more sustainable pattern is the case of Rockwool in the province of Limburg, the Netherlands. The factory is part of Rockwool, a leading manufacturer of mineral wool insulation for terminal, fire and acoustic protection. Although the products itself can be have a positive LCA-balance, the production process has some serious environmental impacts. The regional authority negotiated a package of process changes that went well beyond what was expected from companies with similar processes in other Dutch regions.
3.5.2 Regional economic instruments

Economic instruments such as environmental taxes and charges, green tax reform, full-cost pricing, etc can also change the choices of producers and consumers. The price of a product, given that the quality and income stay the same, dominates the choice process of a consumer. Producers are also very much driven by financial motives. Producers will theoretically change their production patterns to more sustainable ones if they are less expensive than other options. In general economic instruments have some advantages over regulatory instruments;
- it is seen as more cost-effective since we need less enforcement and control;
- it is something that governments can do alone, without other stakeholders;
- it provides incentives for technological innovation.

Nevertheless there are also some drawbacks.
- although prices are a key factor for producer and consumers, much also depends on individual and companies preferences to ignore the price signal
- in general there is the problem of social equity (fuel poverty) and this paper particularly thinks about the problem of internalising costs in production or products in a region not internalised in other regions (for instance regional environmental taxes and charges). Producers would be very concerned about the potential competitive disadvantages. High taxation of products would be seen by consumers as a trespass into their personal lives and choices as a product ban.
Less problematic is shifting the burden of taxation onto unsustainable patterns of production and consumption (for instance green tax reform).

The National Assembly for Wales committed itself to reducing the regions reliance on landfill through the Landfill Tax. This tax on the disposal of waste to landfill was introduced in October 1996 by UK national government at a rate of £7 per tonne for active wastes and a lower rate of £2 per tonne for inactive wastes. The tax was designed to promote the polluter pays principle by increasing the cost of landfill to reflect its environmental costs, and to promote a more sustainable approach to waste management in which less waste is produced and more is recovered or recycled. From April 1999 the rate for active wastes was increased to £10 per tonne, and is committed to continuing to increase it by £1 per tonne per year, with a review in 2004.

The Landfill Tax Credit Scheme allows up to 20% of the funds generated by the tax to be channelled into bodies with environmental objectives. The aims of the scheme are:
• to help promote and foster sustainable waste management practices which provide an alternative to landfill
• to help projects which benefit communities in the vicinity of landfill sites, thereby helping to compensate for the disseminate effects and environmental impact of landfill

The amount of construction and demolition waste going to landfill has reduced substantially since the introduction of the tax. Industry has found alternative uses for waste, but much more construction waste, including soil and aggregates, could be re-used.
3.5.3 Social regulation

As discussed above many policy measures are less feasible on the regional level than the local level. For economic reasons certain regulatory instruments (like performance or technology standards, certain bans or prohibitions) and economic instruments (taxes, charges, subsidies) are less feasible on the regional level.

An alternative is the use of so-called social instruments as well as participatory instruments. The purpose of the instruments is not trying to force actors to make certain choices by means of incentives or rule compliance but to change choices by giving information for better decisions, promoting more positive attitudes and supplying accessible sustainable alternatives.

An advantage for regional authorities when they use these type of instruments is that they avoid the dilemmas of economic competitiveness and social effects. Further they make use of the particular advantages of the region as an administrative level: close contact to the regional network of stakeholders, proximity to the citizenry and the ability to stimulate voluntary action and participatory policy making. A good example of awareness raising towards citizen is the following.

When the principality of Asturias was faced with the pressing need to give the population some kind of Consumer Education, the then Regional Consumption Agency of the Principality of Asturias set up in 1997 a project that was a pioneer of its kind in Spain and in Europe: the creation of Consumer Training Centres, strategically distributed throughout the Asturias. This was done in response to the population’s demands concerning the defence of their rights and also regarding environmental awareness and the rational use of natural resources.

These centres are permanent classrooms for Consumer Education, giving practical life skills training. Here, children and adults discover and evaluate their learning in different areas, finding out how their attitudes as consumers favour or are detrimental to sustainable development. The activities seek to give a value-based education that enables students to better understand and adapt to the world we live in. To summarise, the principal aim of these centres is to train critical, free and responsible consumers, these qualities being fundamental to life skills education.

The activities in the Consumer Training Centres are free and seek to encourage all sectors of Asuturian society to participate, thus spreading the knowledge necessary and developing the skills required to respond to the challenges this society faces. This will be done through the adoption of, among other things, healthy lifestyles and rational and responsible consumer behaviour.

There are currently five Consumer Training Centres, located in the towns of Ribadesella, Tineo, Blimea, Lugones and Vegadeo and aimed at all Asturian consumers (Associations, Education Centres, the over 65s, etc.). Some of the workshops run in these centres are: Environment, Energy and Consumption, Ecological Consumption, Toxic Products Used in the Home, Sea Resources and Textile Fibres.
There is always some discussion over whether voluntary action is really voluntary. Are actors changing their choices because they are persuaded by arguments and information or are they just trying to avoid a law or the payment of a high fee for the ability to pollute.

The following example of providing information for smaller business takes this explicitly in consideration.

**Netregs example**

Information for sustainable production is crucial, particularly for smaller business. The environmental impact of smaller businesses is often overlooked. Small and medium-sized enterprises often work under the misconception that they have little or no impact on the environment and have difficulty understanding the complex set of environmental legislation with which they should comply. They are reluctant to discuss their obligations with the regulators because of fear of financial consequences if they are found to be negligent in meeting the legal requirements.

In the UK ignorance of the environmental regulations is widespread, with only 18% of smaller businesses able to name any environmental legislation applying to them without prompting and only 17% having an Environmental Management System.

Information is key – nearly half of businesses would appreciate more help, with the internet fast becoming the preferred medium for environmental guidance.

NetRegs ([www.netregs.gov.uk](http://www.netregs.gov.uk)) is a unique new website developed by the Environment Agency, SEPA, EHS Northern Ireland and the Small Business Service, and funded by the UK Treasury, to help small and medium-sized businesses navigate the maze of environmental legislation. It offers general management guidelines that apply to most businesses and sector-specific advice tailored by industry.

The site explains complex environmental legislation using plain language and includes best practice advice. It is free to use and anonymous – there is no need to register, removing concerns about attracting the, sometimes unwelcome, attention of the regulator. Because in the UK devolution has led to differences in the details of the legislation between the different countries variations in the legislation are covered in the guide.

The web-based approach removes the main barriers to companies accessing environmental legislation. It provides easy access for businesses so that they can ensure that they don’t break the law but also allows them access to information that will increase their profits. From a governance point of view, if compliance with environmental legislation becomes the norm, it becomes easier to regulate businesses and to target enforcement action at those who deliberately flout the law.
One particular form of social regulation is participation and stakeholder involvement. Expanding public debate and involvement in regional policy development related to consumption and production patterns through participatory decision-making mechanisms can not only help to improve policies (by providing producer and consumer input on needs and priorities), but can also contribute to generally increasing consumer and producer awareness and commitment to environmental issues. This is an area which is likely to increase in importance in the years to come, particularly as governments adopt partnership or “multi-stakeholder” approaches to environmental policy development.

In the Australian region Capital Territory projections and consumption patterns had indicated that a new dam would be required around the year 2005. The ACTEW Corporation is responsible for the Australian Capital Territory’s water needs. The ACTEW worked in partnership with the communities it supplies to develop a detailed Future Water Supply Strategy. The underlying idea for community involvement is that a water supply strategy involves choices that affect the lives of the members of the community. Therefore involvement of these communities in drafting a water strategy is important. The community involvement showed a clear desire of the general public to defer the need for a new dam by strengthening demand management initiatives. The basis for the future water strategy under the influence of the public became controlling water demand instead of building a new dam.

In essence, the strategy recommends that ACTEW should, on the basis of the community’s clear desire to defer the need for a new dam, strengthen demand management initiatives where this is the least costly, more sustainable option for providing water. Around 80% of the population felt that the construction of any additional dams should be delayed for as long as possible. Secondly, education and awareness, pricing, regulation and innovation should be used as the primary methods of managing demand. Water conservation targets of 15% by 2000, 25% by 2010, and 35 by 2020 were adopted by the community as a reflection of their desire to defer the need for a new dam.

In the ACT example participation served in the first place as a means to garner support from the water-users for the water supply strategy and water measures in the future. Through the participation process people learned about the consequences of different choices and their own behaviour. Much information was offered to the participants about the options and consequences. The prepared future water supply strategy was presented as a decision based on community consensus.

The participation process has made a difference. Simple habit changes and the use of more water efficient appliances will lead to significant consumption reductions. Also the will of people was needed to accept alternative water sources and restrictions during periods of drought. Significant reductions in actual consumption have already been registered.

Apart from these participatory stakeholder approaches, an important set of social instruments focuses on promoting chain transparency and product information. Although all actors need to take action to achieve sustainable consumption and production, particular citizens can spur the process. By expressing a desire for sustainability, citizens
charge society with a task, but to complete this task all the various actors (government, businesses, interest groups, consumers and citizens) must take action.

According to the Dutch Social Economic Council\(^\text{14}\) this process would be as follows. Citizens demand that companies take responsibility for the negative external effects of production and that they minimise these effects. The other actors back up this demand. Although we should bear in mind that adequate information does not guarantee sustainable consumption, if consumers are to have a genuine choice when it comes to sustainability, they, or an interest group, must be able to investigate the manner in which a product was produced (chain transparency) and what the properties of the product are (for example, energy consumption). Under certain conditions, company codes and quality marks can be useful in this respect. We give two examples on a regional level how such an open and informative regional market can be stimulated.

The so-called Norwegian Environmental Home Guard is the major green consumer network in Norway. Since launching in October 1991, 90,000 people have signed up as individual participants in the movement and committed themselves to change their every-day behaviour and consumption. Apart from the voluntary commitment by individual members there is a number of the major voluntary organisations that have committed to important pressure both on the market and in politics.

The philosophy of the environmental Home Guard is of particular interest because the movement focuses on so-called ordinary people getting involved in environmental activities not just experts, environmental activists and politicians. \(\text{Secondly, the movement focuses on the use of consumer products, and the accompanying disposition of waste, as a major source of environmental problems. Thirdly, the EHG tries to take advantage of the more important position of consumers by organising consumer power for the sake of the environment. The idea is that if large numbers of consumers make the same environmentally friendly choices at the same time, we can gradually eliminate the products which do the environment most damage.}\)

The EHG operates a chain of ten "service bureaux" with a staff of 25 persons spread over the various regions of Norway. Main tasks of the service bureaux are distributing campaign materials, providing lecturers and consultants for meetings, collecting and providing relevant documentation and responding to requests from the public on environmental issues.

To achieve a general reduction in the level of consumption and changes in consumption patterns towards more environmentally friendly alternatives EHG is concentrated on four main tasks:

- To provide simple, precise and popularised information on how to make more environmentally friendly choices in everyday situations, as individuals, groups and organisations.
- To produce tools for voluntary organisations so as to assist them in involving their members and local clubs in environmental protection.
- To recruit individuals and families in a network of individuals who pledge to start changing their habits.
- To assist voluntary associations, institutions, schools, companies, kindergartens and housing co-operatives in improving the environmental profile of their conduct.

\(^{14}\) Towards a sustainable economy The Social and Economic Council’s views on sustainable development, based on its advisory reports on the Fourth National Environmental Policy Plan and sustainable consumption September 2003
The “Green Chemistry” project is a regional initiative focusing on products that are used in large volumes, have a broad use in society and where it is obvious that change is needed and alternatives exist or could be developed. The regional project is aiming at and has had direct effects on a much wider market.

The project has been working with lubricants, car tyres, petrol for two-stroke engines, antifouling boats, house paint, car-care chemicals and chemical products used in shipping including fuels. In each of these fields detailed knowledge is gathered and presented in a report. After this the project starts a process between progressive companies and advanced users of the products. The focus in implementation is on using market forces. One of the aims is to create good examples to show companies and consumers what is really possible. Hitherto it has been possible to find large companies willing to discuss and use better environmental standards as a driving force for a better long term position on the market.

Different tools are used for implementation. The project has been involved in working for lowering tax on alkylate petrol, publishing lists on car tyres without high aromatic oil (HA), making tests on environmentally adapted house paints and developing health- and environmental criteria for lubricants. Green Chemistry has a long history but was only established in its current form in the year 2000. The project is driven by the Gothenburg Region, Region Västra Götaland, the County Administration of Västra Götaland and Business Region Göteborg.

Few chemical products have as high risk a profile and are so much used as HA-oil in car-tyres. Green chemistry has been one of the prime driving forces in Sweden to ensure that approx. 75% of the winter tyres for cars in Sweden do not contain HA-oil. On standard tyres new models without HA-oil are now available. International producers have changed their production methods. Every year a list of winter and summer tyres is presented after a large test made in co-operation with the leading test institute in Sweden, SP, in Borås, Västra Götaland. The list has a strong influence on the market especially for larger buyers in the public sector.

Alkylate petrol – “the best petrol for the worst engines” - when used for two stroke engines reduce emissions of PAH (giving cancer etc) by more than 90%. Green Chemistry has been one of the driving forces behind a special tax reduction for this fuel making it more or less directly competitive with ordinary petrol. Furthermore the project works on hydraulic fluids and lubricant grease and has led to a more environmentally adapted Swedish standard in this field.

The regional level really can work as a driver for change and a fore-runner even in the foremost national and international areas as those described above. It’s a fact that when developing new products it is useful to start at a small scale. A region like Västra Götaland or Västsverige with 1.5 to 2 million inhabitants seems to be ideal for this kind of activity. Success depends on motivated politicians, strong links to relevant companies and a good knowledge and interest in the latest research.
4. Regional actions in the field of sustainable production and consumption

In policy practice and literature we find many handbooks and guides by international organizations, government and academics that sum up options for sustainable production and consumption. In this policy study it would be impossible to cover all the options.

Instead we focus on the key opportunities for regions. Literature and policy practice show that regulatory instruments can be applied by regional government towards producers (pollution control, product standards) while economic instruments (tax reforms, product charges) are directed towards consumers. Both type of instruments have their specific disadvantages that we sketched in the last section, particular when national governments do not have the proper framework in place. Social instruments are for both consumers (awareness raising campaigns, education) and producers (labeling, voluntary initiatives).

In line with the last section’s reasoning we pay here particular attention to the use of voluntary, social and soft instruments with special attention to partnerships and participatory approaches. In the next section we will work out some strong points of regions in the form of key messages.

<table>
<thead>
<tr>
<th>Actor</th>
<th>Actions</th>
<th>less feasible regional instruments and actions</th>
<th>more feasible regional instruments and actions</th>
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</thead>
<tbody>
<tr>
<td>regions as public authorities themselves</td>
<td>Green procurement</td>
<td>include general environmental objectives in purchasing decisions</td>
<td>include environmental considerations in purchasing decisions</td>
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<td></td>
<td>Supply better infrastructure and information</td>
<td></td>
<td>any measures that improves market transparency</td>
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<tr>
<td>regional policy targeting consumers</td>
<td>To use fewer resources</td>
<td>regional ban of resources</td>
<td>regional ban of resources in time of scarcity or for safety/health reasons</td>
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<td></td>
<td>To use better resources</td>
<td>regional product standards</td>
<td>discussions on standards and products with consumers/producers</td>
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<tr>
<td></td>
<td>To use fewer goods</td>
<td>forbid consumption</td>
<td>forbid consumption in time of scarcity</td>
</tr>
<tr>
<td></td>
<td>To use better goods</td>
<td>ban on unsustainable products</td>
<td>fair trade, labels</td>
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<td></td>
<td>To produce less waste</td>
<td>forbid waste production, forbid consumption because of waste</td>
<td>labels, stimulate eco-design, recycling</td>
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<tr>
<td>regional policy targeting producers</td>
<td>To improve production process</td>
<td>environmental rules like regional product standards, pollution control through negotiated permits</td>
<td>addressing corporate social responsibility</td>
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<td></td>
<td>To supply better goods and info</td>
<td>polluter pays principle</td>
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<td></td>
<td>To supply new goods or services</td>
<td>ban on unsustainable goods or services</td>
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<tr>
<td>regional policy targeting retailers</td>
<td>Practice good housekeeping (water, energy, waste)</td>
<td>polluter pays principle, measures that cost money</td>
<td>win-win situations, measures that bring money</td>
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<td></td>
<td>Supply better goods and info</td>
<td>polluter pays principle</td>
<td>addressing corporate social responsibility</td>
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<tr>
<td></td>
<td>Provide facilities for recycling &amp; repair services</td>
<td>facilities that cost money</td>
<td>subsidizing facilities</td>
</tr>
<tr>
<td>regional policy targeting NGO’s and researchers</td>
<td>Providing information and advice, lobbying, research</td>
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5. **Key messages for regional sustainable production and consumption**

In this final section we discuss a number of key messages on regional sustainable production and consumption for regional authorities and actors, national government and the EU.

We synthesize the messages from the lessons policy overview, the theoretical considerations and the good practice as illustrated by examples from the network regions.

**I. Organize and initiate the processes**
- Put sustainable production and consumption high on political agenda
- Make sustainable production and consumption an explicit aim
- Build internal capacity

**II. What regional authorities could do themselves**
*As consumers*
- Organize green public procurement
- Apply whole life-cycle costs
- Regional labels

*As producers of services and infrastructure*
- Environmental management system
- Assessment of their own decisions on sustainability criteria

**III. How could regional authorities stimulate others regional stakeholders**
- Focus more on sustainable production rather than consumption
- Working at systematic level – intervening across sectors within region
- Build a transparent regional market

**IV. What would the regions need from the EU and national government**
- Build capacity to feed into EU
- Sustainable procurement legislation
- Widen environmental impact assessment
I. Organizing and initiating the processes

The most important starting point for regional sustainable production and consumption policies is that the goal of sustainable development is and remains high on the regional political agenda. One way to achieve this is the formulation of an explicit strategic development strategy authorized by the highest regional political body.

Example sustainable strategy Wales national assembly

Unique among EU Nations, the National Assembly for Wales has a binding legal duty to pursue sustainable development in all it does. This is built into its constitution through section 121 of the Government of Wales Act. All Ministers are responsible for integrating these principles into their work, but the Minister for Environment, Planning and Countryside, is the Welsh Assembly Government Minister specifically responsible for promoting Sustainable Development. To make this possible on the 16th November 2000 the first Sustainable Development Scheme was adopted by the Assembly in plenary. It set out principles for how we would work and how sustainable development would be the centre of all our policy-making. This was accompanied by an Action Plan and the scheme is reported against a set of Wales indicators, which include a calculation of the Wales ecological footprint.

A good action point for regional administrative bodies to start with is the way they themselves influence sustainable development. By using high sustainable standards for both their own consumption and production, service, infrastructure, etc. regional administrative bodies can set a good example for all stakeholders in the region. Regional administrative bodies should have an environmental management system in place to control the impact of all regional authorities activities ranging from environmental effects through the process of administrative office work (for instance paper use and office energy use). For instance to ensure that the province as regional authorities set a good example, the Dutch province Limburg and a number of municipal authorities took part in the national ‘Office Toolkit’ upgrading project. The purpose of this project was to introduce an environmental care system in one’s own organisation.

II What regional authorities could do themselves

Very important for the role of regional authorities as consumers are procurement processes of products, services and work. The European Union’s public procurement directives establish rigorous and detailed regulations regarding publication and selection criteria in order to eliminate discriminatory award (e.g. based on nationality) of public contracts.

Two ways to incorporate environmental considerations into purchasing decisions are:
- when specifying goods or services, ensure that less environmentally damaging products and services are referred to. For instance when ordering furniture, any woods used should be from sustainable grown sources.
- calculating the whole life cost of specifying an environmentally friendly product
European Union environmental regulation permits the purchaser to set stricter demands if this benefits the environment. Under EC Procurement Directives tenderers can not be excluded from bidding on non-economic grounds. Bidders can be excluded if they fail to meet specific green procurement requirements, but not because of other general environmental considerations.

Environmental protection considerations can be incorporated into the technical requirements relating to the characteristics of the works, supplies or services covered by contracts, if the technical specifications which purchasers must indicate in the general contract documents and with which tenderers must comply, are issued in accordance with the directives. These specifications could include an obligation for all bidders to issue a declaration on materials and technical equipment, as well as the amount of contract obligations that will be passed on to other suppliers (sub-contractors). Contracting parties can also refer to available product standards like the European environmental label and (trans-national) eco-labeling schemes.

If eco-labels are not available there are other possibilities to obtain information about the product’s or service’s environmental soundness.
- use supplier questionnaires to research the suppliers’ eligibility for the contract.
- use other sources of environmentally relevant data: unofficial eco-labels, so-called green lists, test reports or life-cycle analyses (LCA)

These types of information can assist public purchasers in determining the product's or service’s environmental soundness, but cannot be taken as an objective ranking of environmental merits. Even more difficult that choosing a product is choosing more sustainable services or using environmental criteria (for instance having an EMAS-scheme) for selecting candidates. Some environmental concerns can be built in the expertise or technical capacity required for specific contracts.

The following example of the city of Stockholm15 shows how green procurement can be a catalyst for green business. The Stockholm example also touches on the necessity to build up internal capacity through training and education. In the example of the integrated approach of the province Limburg, sustainability in business also addresses the problem of internal capacity in government authorities. The participating municipal authorities in the regional policy were generally very cooperative but some of the smaller municipalities had difficulty finding adequate human and financial resources, and their contribution often dwindled as the project went on.

15 Here the network region Vastemanland is also involved
Green businesses are to be favored: the 15,000 contractors who provide the local government in Stockholm with goods and services will soon have to revise their business models. In May the authorities will launch a gigantic campaign in order to raise the environmental awareness of the city’s purchasers. The staff concerned will receive training and new procedures will be developed.

Current contractors will be informed of the new policy and may even be offered some sort of training, but that is as far as help will go. From now on, the companies with the most environmentally friendly proposals will be the winners in a competition for orders worth several billion Swedish kroner: local government money for everything from snow-clearance to school meals.

The approach chosen by Stockholm, Sweden's biggest city, may influence other local governments around the country. The initiative may even boost interest in environmental certification systems such as ISO 14001. It will contribute to benefits of investment of business in a certification system. Popular belief among business now is that the process merely swallows time and money. Businesses are expected to have a certification system in place in order to be allowed to play in the market, but no extra orders are won because of the certification. In addition, studies show that certified businesses are not necessarily the ones with the best environmental practices. The economic pressure to introduce a certification system is fairly strong, but to carry out further improvements and introduce even better practices is a waste of money.

This sad situation is a consequence of the fact that neither governmental nor industrial representatives have been skilled enough to introduce viable environmental requirements into their purchasing processes. The Stockholm initiative could start the ball rolling, so that companies that have done their ISO homework eventually see the result in their order books.

III. How regional authorities can stimulate other regional stakeholders

The first message for regions is to focus more on sustainable production rather than consumption. A good starting point for regional government to get their policy directed towards external actors is to start from what could be called standing relations. These standing relations include for instance environmental permitting and business support. Through this kind of standing relation producers form a more “natural” target group than consumers. Consumers are in general a more difficult to reach target group.

Permits give the possibility to change production processes by regulating emissions of production processes. This can either be prescribing emissions targets or a certain method of production.

Working at systematic level – intervening across sectors within region

Producers maybe an easier target group than consumers. But there are big differences in the target group business in terms of type of production processes, size, experience with changing production patterns, etc. A well thought out strategy that takes into account how actors influence each other can be helpful, considering there are forerunners and laggards. Such a strategy could also take some experimenting to find what works in practice.
Sustainability in Business in the Province of Limburg.

Although many companies have carried out waste and energy prevention projects, this is only the first step on the road to real sustainability in business. The problem is most acute in small and medium-sized enterprises. Large companies, many of which are part of a multinational concern, are already more active when it comes to sustainability in business. The Province would like companies to give greater priority to sustainability in business. In its policy memorandum ‘Sustainability in Business’, the Province describes the details of this project, zooming in on the ‘Planet’ and ‘Profit’ factors. The third factor, ‘People’, was not considered in so many words when the memorandum was drafted. The memorandum indicates the channels through which companies can be approached:

- **Strategic**: by developing tools such as a scan;
- **Individually**: by encouraging companies to introduce environmental care systems;
- **Collectively**: by encouraging sustainability in business via the sectors or in business parks;
- **Through the authorities**: by setting an example.

The strategy and the Province’s policy memorandum correspond closely with steps that Dutch national government has already taken. Furthermore the Province sought out a number of external parties which it invited to cooperate in the programme, i.e.: the Chambers of Commerce, employers’ associations, municipal authorities and the Limburg Environmental Federation (Limburgse Milieufederatie). The organisations joined forces in an executive Steering Committee and an administrative Project Team. The purpose of cooperating in this manner was to ensure that the organisations were informed, that all activities were properly coordinated and that projects were carried out jointly to the extent possible.

The biggest problem was to gain the companies’ necessary support and to be able to mobilise sufficient human and financial resources to be able to carry out the projects. The result was important because it made sustainability in business much more of a priority for companies in Limburg. In each case, the aim was to have a number of companies set a good example by taking part in pilot projects. The purpose of the project was to produce both environmental and economic benefits for the companies involved. Each project mainly explored the various options available. It was then up to the individual companies to implement the relevant measures. The Province did not monitor whether the companies in fact did so.
The following projects were carried out.

**Strategic projects**: A seminar on ‘Sustainability in Business’ was organised, along with an awareness-raising project entitled ‘Sustainability in business in start-up companies’; a sustainability award was presented to an exemplary company; the ‘Planet and Profit (Milieu en Winst)’ website was developed in cooperation with other provinces and the Ministry. The Limburg Employers’ Association is working on the project ‘Corporate Social Responsibility’ (= sustainability in business), which involves an awareness programme to draw attention to sustainability in business at approx. 600 companies and a ‘front-runner’ programme that will increase the level of sustainability in some 30 leading companies.

**Projects at individual companies**: The Province and six other provincial authorities carried out the ‘Environmental Awareness in Business’ project in a waste disposal company. Information on sustainability in business was also furnished to a number of transport companies. The City of Maastricht carried out a pilot project for restaurant and pub owners. Eight furniture manufacturers located in Limburg were subject to a scan so as to help them on their way. The Province also participated in the national projects ‘Developing biodegradable flowerpots’ and made a financial contribution to developing five new products in the building materials industry in Limburg.

**Collective projects**: Projects were carried out in the metal and electrical and chemicals industries within the context of the national target group policy. Environmental care projects were carried out in two regions for car mechanic’s shops. The contracting industry is currently taking part in a national project entitled ‘Environmental Care from office to building site.’ Studies were carried out in four business parks exploring the potential for cooperation when introducing sustainable options (joint waste collection, energy contracts, group security measures).

Although the participating companies have made sustainability in business more of a priority, companies were only moderately motivated to take part in the projects and it was difficult to maintain a high level of enthusiasm in the companies taking part in the projects. Without significant economic benefits or a large financial contribution in the form of grants or third-party financing (including from the Province), projects will simply not take off. Further companies may well be suffering from ‘seminar fatigue’. They are only interested in a highly important and topical message that involves an element of compulsion.

Based on these conclusions the province decide to discontinue working on a wide range of projects in a large number of companies (where the municipality is often the competent authority) and to focus instead on institutions and organisations that can be influenced more directly, i.e. our own organisation (setting an example) and the companies for which the Province is the competent authority in issuing environment permits.

The Limburg example shows the difference between groups of business. There will be innovators and laggards, though we expect to find more laggards among the smaller companies. A region can also focus on changing the production structure of a region. A precondition is that the region knows were it is standing and where it’s going to.

**Build a transparent regional market**

In section 4 we already sketched two example how on a regional level a more transparent regional market can be built.

- giving both producers and consumers more adequate information to influence their decisions in a sustainable direction;
- make use of the principle of consumer power
IV What would the regions need from the EU and national government

Regions need to build capacity to feed into EU policy making
Regions cope with specific problems in the field of sustainable production and consumption. Regions have specific levers which would justify a larger regional role in sustainable consumption and production polices. This means that not only more intra-governmental consultation is needed between regions, national government and the EU but also regions have to build knowledge about their problems and opportunities and have the possibility to express these challenges. The European Regional Sustainable Development Network is a good start to analyse and exchange problems and opportunities among European regions and also have the possibility to pass them on to other government layers.

Regions need clearer sustainable procurement legislation
As we have seen above the proper application of the EU procurement regulations leaves room for public authorities to promote environmental protection at several stages through green procurement. Still, questions about the relationship between public procurement, the single market and the environment remain.

Above we described Stockholm green procurement policy. The European Commission recently approached the Swedish government, expressing concern about a clause in the City of Stockholm's public procurement policy which requires sustainable transport means as a technical requirement for the awarding of procurement contracts. The Commission has doubts whether or not this requirement implies a preference for regional bidders.

Public procurement is still a pioneer area for governments to improve their environmental performance. Regions should also get into a dialogue with the European Commission's relevant Directorates on the specific relationship of environmental and single market policy goals for regional administrative bodies.

Widen environmental impact assessment
An important step for sustainable development would be a truly sustainable assessment of regional decisions. Environmental integration means making sure that environmental concerns are fully considered in the decisions and activities of other sectors. Environmental assessment procedures and strategic assessment procedures steer the ecological soundness of a decision. The EU Commission has introduced a system of extended impact assessment for major policy proposals. In practice economy is balanced against ecology. Little attention is paid to the social or equity side of decisions. And only regional economic development is seen as real economic development.