

European Commission



**ANNEXES TO
IMPACT ASSESSMENT GUIDELINES***

15 June 2005

with 15 March 2006 update

of Annex 10. Assessing administrative costs imposed by legislation

* These Annexes replace the 2002 'A Handbook for Impact Assessment in the Commission – How to do an Impact Assessment: Technical Annexes'. As indicated in the Guidelines, some of these Annexes are of a compulsory nature (format of the roadmap; discounting; format of the IA report). Other annexes provide detailed guidance on specific moments in the IA analytical process. The more technical annexes are proposed as a non-exhaustive collection of tools open to further improvement and update.

TABLE OF CONTENTS

1.	Format of the Roadmap	4
2.	Problems calling for a solution	6
2.1.	Discrepancy between the fundamental goals of the Union and the existing situation	6
2.2.	Market failures.....	6
2.3.	Regulatory failures	8
3.	Approaches to problem definition	10
3.1.	Approximating numbers	10
3.2.	Problem tree.....	11
4.	Policy instruments	13
4.1.	Regulatory watch (monitoring self-regulation)	13
4.2.	Open method of co-ordination	14
4.3.	Provide information and guidelines.....	14
4.4.	Market-based instruments.....	14
4.5.	Direct public sector financial interventions.....	15
4.6.	Co-regulation.....	15
4.7.	Framework directives	16
4.8.	Prescriptive regulatory actions.....	16
5.	The ‘Indicators and Quantitative Tools’ software (IQ TOOLS)	18
5.1.	Objectives – Computer-assisted IA.....	18
5.2.	The tools	18
6.	How to design a questionnaire	19
6.1.	Structure of the questionnaire	19
6.2.	Formulation of the questions.....	19
6.3.	Presentation of the questionnaire	20
6.4.	After the questionnaire has been designed.....	21
7.	Quantitative Models	22
7.1.	Computable General Equilibrium (CGE) models	23
7.2.	Sectoral models	23
7.3.	Macro-econometric models:.....	24
7.4.	Environmental impact assessment models.....	24
7.5.	Microsimulation models.....	25
7.6.	Projects and Programmes.....	25
8.	How to assess cost-effectiveness	26
8.1.	How to assess cost-effectiveness of spending measures (e.g. expenditure programmes)	26
8.2.	How to assess the cost-effectiveness of non-expenditure measures.....	27

9.	Assessing impact on growth, competitiveness and jobs	29
9.1.	Impacts on international trade and cross-border investments	29
9.2.	Impacts on competition in the internal market	29
9.3.	Impacts on firms in terms of investment, operating costs, products and services	30
9.4.	Impacts on technological development and innovation	31
9.5.	Impacts on firms, especially SMEs, in terms of administrative burden.....	31
9.6.	Impacts on consumers	32
9.7.	Impacts on the number and the quality of jobs	32
9.8.	Impacts on third countries and overseas relations	33
9.9.	Impacts on public authorities	33
9.10.	Macroeconomic impacts	34
10.	Assessing administrative costs imposed by legislation.....	35
10.1.	Definition of administrative costs	Error! Bookmark not defined.
10.2.	Core equation of the cost model	Error! Bookmark not defined.
10.3.	Some examples	Error! Bookmark not defined.
10.4.	Tips for good practice.....	Error! Bookmark not defined.
11.	Assessing non-market impacts, in particular on environment and health	2
11.1.	Monetisation of non-market impacts	2
11.2.	Life cycle assessment approach.....	3
12.	Discounting	4
12.1.	An example	4
12.2.	Formula for net present value	4
12.3.	Annualised costs and benefits	5
12.4.	Table of discounted present values	5
13.	Methods of comparing impacts	7
13.1.	Cost-benefit analysis.....	7
13.2.	Cost-effectiveness analysis.....	7
13.3.	Multi-criteria analysis.....	8
13.4.	Risk analysis	8
13.5.	Sensitivity analysis	9
14.	Additional guidance on indicators, monitoring and evaluation	10
14.1.	Indicators.....	10
14.2.	Monitoring	11
14.3.	Evaluation	12
15.	The precautionary principle and irreversibility	13
16.	Format of the IA final report.....	14

1. FORMAT OF THE ROADMAP

ROADMAP (max. 5 pages)

Title of the proposal:

Lead DG/contact person:

Expected date of adoption of the proposal:

PART I – Initial IA screening & planning of further work

N.B. This part will be made public on the Europa website at the stage of the WP

A. Initial impact assessment screening

What are the main problems? Are they likely to be solved satisfactorily by the sole action of Member States? (principle of subsidiarity – necessity test)

What are the main policy objectives?

What are the policy options? What regulatory or non-regulatory instruments could be considered?

What are the impacts likely to result from each policy option and who is affected? Which impacts are likely to warrant further analysis (cf. list of impacts in the enclosed guide)?

B. Planning of further impact assessment work

What information and data is already available? What further information needs to be gathered? How will this be done (e.g. internally or by an external contractor) and by when? What type and level of analysis will be carried out (cf. principle of proportionate analysis)?

Which stakeholders & experts will be consulted, how and at what stage?

Will an inter-service steering group be set up for the IA?

PART II – More detailed planning, including of time & resources

N.B. For internal Commission use only

C. Time line

When will the impact assessment work start?

If there is to be an inter-service steering group*, when will it be set up? What DGs will be invited? How often will it meet? * Required for major, cross-cutting proposals and is strongly recommended for others. If no group is planned, please state the reasons why.

If you are planning any external contracts (e.g. for analytical studies, information gathering, etc.), what is the timing foreseen for the procurement process & the contract?

What is the planned timing for the Inter-service consultation (draft proposal and IA report)?
Launch? End?

When will the draft proposal be submitted to DGT? N.B. The IA report is a Commission staff working paper and is normally not translated.

When will the draft proposal and the IA report be submitted to Greffe?

What is the planned date for the approval of the draft proposal? What procedure is foreseen (oral or written)?

D. Resources

What human and/or financial resources have been put aside for conducting the IA and finalising the draft legislation/policy document?

2. PROBLEMS CALLING FOR A SOLUTION

2.1. Discrepancy between the fundamental goals of the Union and the existing situation

- Promoting a harmonious and sustainable development of economic activities and non-inflationary growth (Article 2 EC Treaty)
- Promoting a high level of employment and social protection (Article 2 EC Treaty). Under the EC Treaty, social protection is taken to include the promotion of employment, improved living and working conditions, proper social protection, dialogue between management and labour, the development of human resources with a view to lasting high employment and the combating of exclusion.
- Promoting a high degree of competitiveness and convergence of economic performance (Article 2 EC Treaty).
- Preserving peace and international security and promoting international co-operation objectives of the Common Foreign and Security Policy (TEU, Article 11).
- Safeguarding the security of citizens, or citizens' rights recognised by the Treaty. This includes preventing and combating crime and terrorism (TEU, Article 29)
- Preventing and combating discrimination based on nationality, sex, racial or ethnic origin, religion or belief, disability, age or sexual orientation (Articles 12 and 13 EC Treaty)
- Promoting public health (Article 152 EC Treaty) and a high level of consumer protection, which includes the protection of health, safety, and economic interests of consumers (Article 153 EC Treaty).
- Paying full regard to the welfare of animals in the Community's agriculture, transport, internal market and research policies (Protocol 33 on protection and welfare of animals).
- Strengthening economic and social cohesion. Under the EC Treaty (Article 158), this is to be achieved through reducing disparities between different levels of development of the various regions and the backwardness of the least favoured regions or islands, including rural areas.
- Protecting the environment. Environmental protection is a fundamental component of sustainable development.
- Ensuring the protection of fundamental rights within the framework of EU policies.

2.2. Market failures

The outcome of market forces may fall short of society's ideals for a number of reasons:

Market prices do not reflect the real costs to society

Externalities generate costs ('negative externalities') and benefits ('positive externalities') that are not reflected in market prices. When this happens, the prices of goods and services do not reflect their value to society. In the case of a negative externality, such as pollution, this means that we tend to produce and consume too much of the goods and services that give rise to the externality. The opposite is true of positive externalities.

Example: Externalities and Agriculture

Agriculture gives rise to a broad range of positive and negative externalities. Farming's contribution to the viability of rural communities is a positive externality, but using too much

pesticide or fertiliser can cause water pollution, a negative externality. Agriculture's impacts on landscape and biodiversity can give rise to either positive or negative externalities, depending on the particular circumstances.

Insufficient supply of public goods

The key characteristics of a public good are that (i) one person's consumption of a public good does not reduce the amount available for consumption by others, and (ii) once a public good is supplied, it is available to be consumed by all of society. The consequence is that it is difficult and/or undesirable from the point of view of society to charge individuals directly for consuming the good or service in question, so that unregulated markets will supply too little of the public good, if they supply it at all.

While very few goods and services can *strictly* be called 'public goods' – national defence is one example – many show some of the features of public goods.

Example: traffic congestion

Provided a road is not congested, then one extra car using the road does not affect other drivers' use of the road, and historically, except for special cases such as toll motorways, it has been impossible or prohibitively expensive to charge road users directly for the benefit they get from using the road.

There is some overlap between public goods and 'services of public interest', but the concepts are not identical. The latter term covers services such as health, or energy and water supply. While private markets may simply fail to supply public goods at all (because it is impossible to charge consumers directly), no such technical obstacle prevents private markets supplying services of public interest. However, they may supply too few of them, or do so at a price which society judges unacceptable.

Technological progress can alter the boundaries between public and private goods, or the likelihood that markets will deliver services of public interest at an acceptable price. For example, it should soon become technically possible and relatively inexpensive to charge road users directly, while developments in electricity generation may make it cheaper to deliver electricity to remote rural communities.

Missing or weak competition

Article 98 EC Treaty provides that the Member States and the Community shall act in accordance with the principle of an open market economy with free competition, favouring an efficient allocation of resources. If firms face no, or only weak competition, then the quantity and quality of goods and services they produce may fall short of the socially efficient level.

In assessing whether a market suffers from insufficient competition, you should look not only at the number of firms supplying the market from within the EU, but also at whether there is competition from firms in other countries. You should also look at whether existing firms face potential competition from new entrants.

These indicators of market structure serve as a warning that the market may not be working well, but on their own they are not enough to allow you to conclude that weak competition is the cause of the problem – you need more direct evidence, such as unusually high profits, or prices which are much higher than marginal cost, or signs of collusion between firms.

Be aware that some markets may not be big enough to support more than a small number of firms. This is the case where a firm cannot survive below a high level of production bringing large economies of scale – meaning that average production costs fall within a firm the more it produces – are indispensable. The risk is that, over time, the strongest firm might drive the remaining competitors out of the market and become a monopolist. As economies of scale

are often related to high market entry costs (for example, expensive equipment or research), a monopolist in such a market does not have to fear potential new competitors.

Economies of scale can also give rise to natural monopoly, a situation in which it is efficient for a single firm to supply the entire market. So-called 'network' industries – transport, energy, and telecommunications – have many of the features of natural monopolies (cf. the costs of power lines or telephone cables), even if technological change, such as the development of mobile telecommunications, may help to maintain some competition. In these sectors regulation is mainly aimed at replacing competition e.g. in order to control market power directly by setting prices or controlling entry or access or tendering rules to ensure competitive bidding to prevent abuse. Some of these rules may become obsolete over time due to changes in technology or change in the market structure.

Non-existing or incomplete markets

Markets cannot provide some goods and services, although society values them. An example is unemployment insurance. Other goods and services may be supplied under restrictive conditions. Small firms and the self-employed, in particular, may be unable to raise money to fund investment if banks require their loans to be backed by collateral; potential students may be unable to borrow against their expected future earnings.

Imperfect information

Reliable information is essential to the smooth working of markets. As information is in some ways a public good, unregulated markets will tend to supply too little of it.

Example: consumer choices and information

If consumers are unaware of factors such as the energy consumption of different models of household appliances, or the nutritional content of foodstuffs, they are unable to make well-informed choices in their own interest or the wider interests of society.

2.3. Regulatory failures

The actions of public authorities can also have results that are not in the best interests of society. In such cases we talk about 'regulatory failure'.

Inadequately defined property rights/legal framework

Well-functioning markets depend on the existence of well-defined and recognised property rights.

Example: inadequate property rights

You will not be willing to buy a car if the person you buy it from can take it back from you without fear of sanction. Externalities such as pollution arise due to a failure of public authorities to define property rights in the environment, thereby implicitly giving them to polluters.

Poorly defined targets and objectives

Policy makers or public authorities might use imprecisely defined notions to describe targets and objectives. This might lead to regulatory failures.

Unintended consequences

Public authorities may not be able to anticipate all the effects of their actions.

Example of unintended consequences

1. Environmental regulation which imposes tighter emission standards on new sources of pollution than on existing installations may prolong the operating life of older, dirtier plants, slow the diffusion of new technologies, raise the cost of entry to the industry and thereby reduce competition instead of leading to less pollution.

2. Regulation directly interfering with the ways companies compete is often intended to make up for market failures (e.g. information asymmetries, lack of buyer power, insufficient incentives to invest in innovation, etc). Examples include regulation on maximum prices or minimum quality standards, regulation determining the characteristics of products and services, restrictions on advertising or the provision of certain services. Regulation may also restrict access to important resources such as raw materials, land, IPRs, know-how or technology concerning production methods. These rules may have unintended side effects as they reduce the variety of innovative goods and services. They may create or increase entry barriers and suppliers of certain goods and services may be excluded from the market, thus reducing the choice for consumers. As market participants' incentives and possibilities to compete decrease, so does consumer welfare;

3. A further type of regulation which may have negative side effects is legislation which facilitates anti-competitive behaviour by market participants or strengthens its effects (e.g. regulation establishing fixed sales quota for certain products or regulation facilitating the discussion and coordination of business conditions between companies). Such regulation may, as a by-product, induce businesses to agree on prices and business conditions; this makes it more difficult for newcomers to enter the market and prices may be maintained at an artificially high level. Customers will be worse off.

'Regulatory capture'

Public authorities are unlikely to have perfect information about the effects of actions they propose to undertake. Interest groups in society may therefore volunteer information to the authorities in the hope of influencing regulation in their favour. Since some sections of society, such as small businesses, or consumers, are less able to make their views known to the authorities than others, this may lead to regulation which benefits one group at the expense of others, and is not in the best interests of society as a whole.

Implementation and enforcement failures

Policies may be implemented using complex mechanisms or structures. If responsibility for implementing them is delegated to other levels of government – as is the norm for EU policies – then we may find it difficult to ensure that the policy is adequately implemented and enforced by the national authorities who are ultimately responsible for it. In addition, implementation and enforcement might be insufficiently regulated in the policy proposal. This may lead to the introduction of distortions to competition in the internal market when EU law is transposed into national law. One practical example of the past is Directive 98/93 obliging Member States to hold crude oil reserves to supply the domestic market. The absence of clearly defined implementing principles gave rise to competition and internal market problems (e.g. national rules favoured refiners over non-refiners and obliged companies to keep security stocks in the Member State of consumption thus impeding free circulation of motor fuels).

Another interesting example is Directive 97/13 on a Common Framework for general authorisations and individual licences in the field of telecommunications services (UMTS licences). Under this Directive Member States must grant individual licences through open, non-discriminatory and transparent procedures but are free to decide to request fees for the grant of those licences. While some Member States organised tenders to benefit from the high revenues for the sale of these licences, others granted the same licences for free. This issue raised important questions regarding discrimination of certain undertakings.

3. APPROACHES TO PROBLEM DEFINITION

Describing a problem is sometimes quite difficult. Approximation approaches and problem tree, among other basic methods, may help in overcoming this difficulty.

3.1. Approximating numbers

Patton and Sawicki (1993) offer the following guidance for determining unknown figures. Most of this guidance is valid for qualitative analysis⁵⁴.

Using reference sources

- Check the details of how the numbers were derived. Various sources may use different operational definitions.
- Use multiple sources, but ensure that your valuations are consistent.
- Avoid, if you can, sources that don't offer operational definitions.

Using surveys

- Survey systematically interested parties.
- If there is not enough time / resources to conduct an ad hoc survey, look for national / local surveys done on a regular basis by well-known organisations (research centres, leading newspapers, ...)

Guessing

- Use rates that do not vary much from place to place to guess an absolute number (to guess the number of deaths, multiply death rates by a population – instead of compiling actual figures from population registries)
- Look if there are widely accepted rules of thumb.
- Use rates characterizing similar phenomena.
- Use a known variable to guess another when a relationship between the two is known (population growth as a function of time and previous growth rates).
- Set boundaries by reference to another variable (the maximum number of children using diapers cannot be larger than the population between the age of birth to four years).
- Employ triangulation, i.e. using several separate approaches / data sources to estimate a quantity and comparing the results.

Using experts

- Verify the credentials of the experts.
- Use methods for pooling their estimates and lowering their estimate margin of error (see Delphi method).⁵⁵

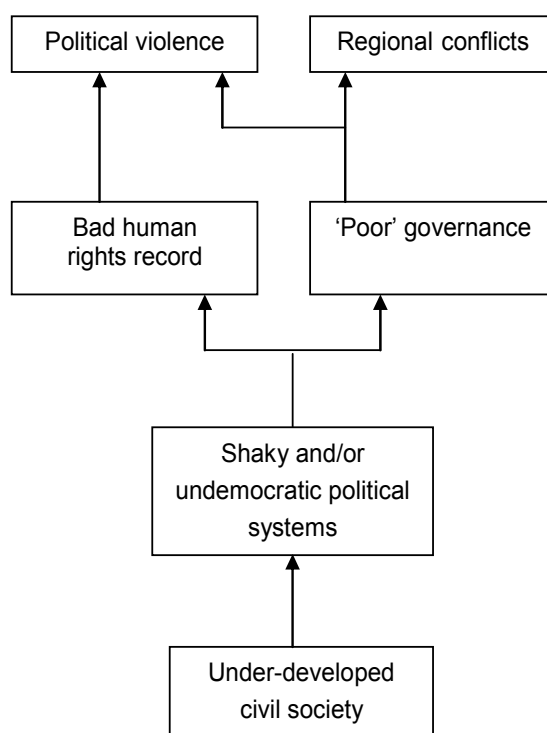
⁵⁴ In social science, qualitative analysis usually refers to research approaches concerned with investigating the phenomenon in situ – cf. studying the actual behaviour of the targeted population through face-to-face interviews. Here the term is simply used to designate non-quantitative approaches.

3.2. Problem tree

The problem tree approach consists of three steps:

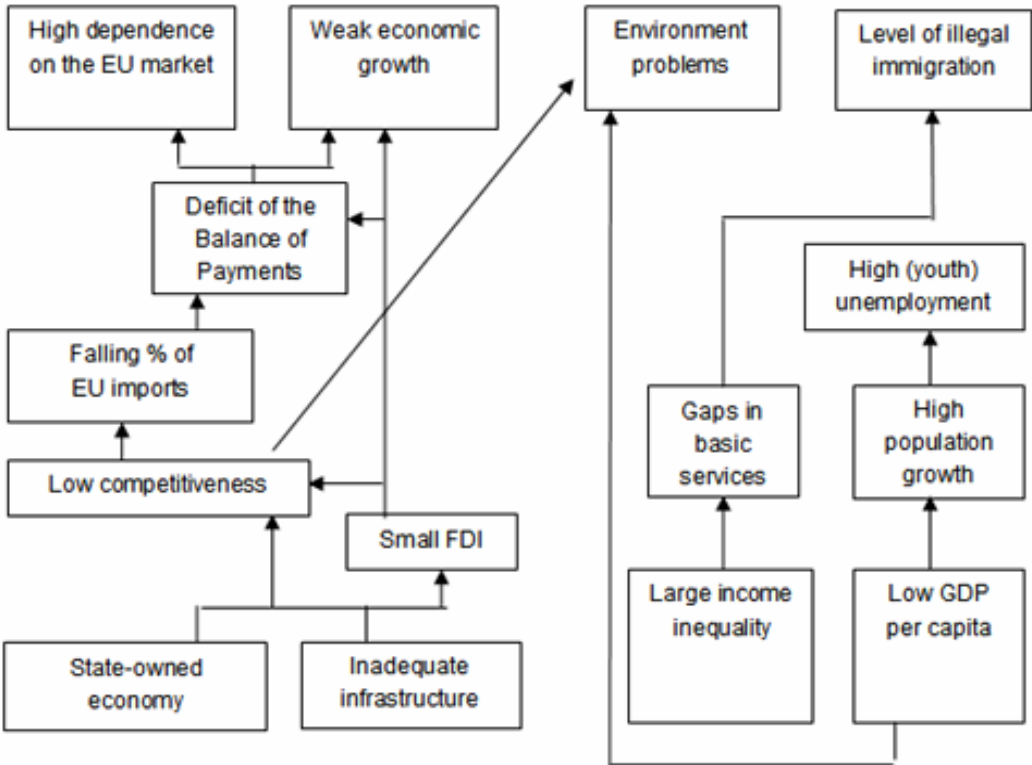
1. listing the various problems linked to the issue at stake;
2. setting out problems in a hierarchical order, i.e. identifying the relationship between problems (primary causes at the lower level; effect going above; if neither a cause nor an effect, it goes on the same level);
3. draw a tree-like structure (in complex situations, there can be several root problems or initial nodes of the tree).

Take for example a region in the world posing security and economic problems for the Union. Start by writing on separate fiches the various political and security problems in the region: regional conflicts, political violence, poor respect for human rights, shaky democratic political systems, undemocratic political systems, bad governance (accountability) and under-developed civil society. Examine the relationship between, say, bad human rights record and undemocratic political systems. Conclude that the human rights record is a consequence of the authoritarian nature of the regime. Put the authoritarian fiche below the human right record fiche. Once all likely causal relationships have been identified, draw the problem tree. For instance:



⁵⁵ Delphi method: "A technique to arrive at a group position regarding an issue under investigation, the Delphi method consists of a series of repeated interrogations, usually by means of questionnaires, of a group of individuals whose opinions or judgments are of interest. After the initial interrogation of each individual, each subsequent interrogation is accompanied by information regarding the preceding round of replies, usually presented anonymously. The individual is thus encouraged to reconsider and, if appropriate, to change his previous reply in light of the replies of other members of the group. After two or three rounds, the group position is determined by averaging." (IIASA).

The higher the number of problems a policy is supposed to address the more complex the tree. If you add to your list economic and financial problems⁵⁶ and socio-economic problems⁵⁷, the tree could look like this:



⁵⁶ For instance, falling economic growth, small volume of foreign direct investment, inadequate infrastructure, unsustainable balance of payments deficits, comparatively low competitiveness, falling share in EU imports, incompatible legislative framework with WTO rules, and high dependence on the EU market.

⁵⁷ For instance, huge and widening per capita income gap between the EU and the countries in the region, huge inequalities in income within the countries, gaps in basic services among areas and population groups (depressed rural areas, underprivileged farmers, women and the young), high population growth, high youth unemployment, severe environmental problems (coastal areas, quality of the water, desertification, urban and industrial waste).

4. POLICY INSTRUMENTS

Normally there are a number of different policy instruments available to reach (operational) objectives. It is very important that several options are considered as part of the impact assessment, and that careful consideration is given in all impact assessments to alternatives to 'traditional' forms of regulation. The instruments described below are not given in any order of preference.

4.1. Regulatory watch (monitoring self-regulation)

The Commission may consider it preferable not to make a legislative proposal where voluntary agreements already exist and are sufficient to achieve the objectives set out in the Treaty and do not create competition problems (see Chapter 9.2). It can also suggest, by a recommendation⁵⁸ for example, that this type of agreement be concluded by the parties concerned to avoid having to use legislation, without ruling out the possibility of legislating if the agreement proves insufficient or inefficient. In the Inter-Institutional Agreement on Better Lawmaking⁵⁹ the three institutions recognise the potential of self-regulation. The Commission has committed to undertake monitoring of self-regulatory agreements. It may consider proposing a legislative act if the self-regulatory practice is not considered satisfactory in terms of the representativeness of the parties concerned, sectoral and geographical cover and the added value of the commitments given.

Self-regulation covers a large number of practices, common rules, codes of conduct and voluntary agreements by which economic actors, social players, NGOs and organised groups establish themselves voluntarily to regulate and organise their activities. Self-regulation does not involve a legislative act.

The ability to use self-regulation largely depends on the existence of bodies and processes to support self-regulation, including the building up of consensus amongst market players on the contents and the monitoring of enforcement.

Self-regulation may provide greater speed, responsiveness and flexibility as it can be established and altered more quickly than legislation. It may therefore be preferable in markets that are changing rapidly.

Self-regulation needs to be an open and transparent process as it may provide an opportunity for collusive arrangements amongst rivals. In some cases however self-regulation may prepare the ground for industries to abstain from competing and to coordinate their actions to fence off competition by newcomers to the disadvantage of consumers. This could also be true for liberal professions characterised by a high level of self-regulation by professional bodies. Price fixing, recommended prices, advertising regulations, entry requirements, reserved rights and rules governing business structure and multi-disciplinary practices enacted by such bodies may indeed be restrictive and harmful for consumers⁶⁰.

Example: The Self-Regulatory Charter of the European Advertising Standards Alliance (EASA).

⁵⁸ On the basis of Article 249 EC Treaty the Commission may make recommendations. Furthermore Article 211 EC Treaty states that the Commission shall formulate recommendations or deliver opinions on matters dealt with in this Treaty, if it expressly so provides or if the Commission considers it necessary. The difference with legislative instruments is that a recommendation has no binding force and that they do not necessarily bear a direct link to existing EC regulation or Treaty provisions. Recommendations are often used to stimulate coordination of national policies. They can be used in the context of self-regulation rather than that of co-regulation, because the latter typically involves a legislative act.

⁵⁹ OJ C 321/1 of 31 December 2003. See http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/c_321/c_32120031231en00010005.pdf.

⁶⁰ See the Commission's report of 9 February 2004 on competition in liberal professions; http://europa.eu.int/comm/competition/liberal_professions/final_communication_en.pdf.

4.2. Open method of co-ordination

In some areas, EU measures could be complemented or reinforced by Member States' actions using the so-called 'open method of co-ordination'. This implies encouraging co-operation, the exchange of best practice and agreeing common targets and guidelines for Member States, sometimes backed up by national action plans. The method can be a way of adding value at Community level in areas where there is little scope for legislative action.

Example: The method is being successfully used in the European Employment Strategy and through Best procedure projects, notably on entrepreneurship.

4.3. Provide information and guidelines

EU objectives may be reached by ensuring that citizens, consumers and producers are better informed. This type of policy instrument includes information and publicity campaigns, training, guidelines, disclosure requirements, and/or the introduction of standardised testing or rating systems.

The instrument has some important advantages. In many cases, it is cost-effective. Moreover, it is easily adaptable to changing situations. It is generally most useful in areas where sociological and psychological factors have a great impact on behaviours. However, in fields where economic or legal factors are predominant, the instrument has to be used with caution, as its efficiency might be limited.

Examples: impose transparency obligations on service providers (e.g. hospitals to publish statistics on success rates for certain treatments, or service providers such as lawyers providing information on their special skills).

4.4. Market-based instruments

Unlike classical 'command and control' approach (legislation prescribing one course of action - see below), market-based instruments influence the behaviour of market players through (negative/positive) incentives or by guaranteeing some basic rules of the game.

Possible alternative types are:

- Marketable offsets. Allowing producers to negotiate with each other and agents to ensure overall compliance, without this being necessarily enforced on all producers at the same level.
- Marketable permits.

The main advantage of marketable offsets and permits is their flexibility and cost-effectiveness. They allow potentially major reductions in compliance costs, since these can be redistributed to firms facing the lowest adjustment costs. Moreover, they may be easier to police since they offer incentives to firms to comply.

Their main disadvantages are their potential complexity related to issues such as the need to ensure a satisfactory initial distribution of permits. The use of market based instruments most likely involves legislation.

Example: The Commission's proposal for an EC scheme for greenhouse gas allowance trading⁶¹. In environmental policy, taxes are often used to make polluters pay.

⁶¹ COM(2001)581 of 23 October 2001.

- Taxes or charges

The use of taxes and/or fees is potentially useful as a policy instrument to influence private behaviour towards public objectives. Such instruments are market-based and could in principle ensure that users pay the social price of their consumption. However, the ability to co-ordinate taxes at EU level is highly limited due to the need for a unanimous decision by the Council. The applicability of such instruments depends on their compliance with EC rules on state aid

Example: In environmental policy, taxes are often used to make polluters pay.

- Under certain circumstances, enforcement of the competition rules⁶²;
- Imposing insurance and financial assurance requirements. Besides ensuring that sufficient resources are available to remedy potential damages, such rules create incentives to minimise such damage;
- Property and liability rules
- Limits to price and/or quantity (licences, quotas, etc.)

4.5. Direct public sector financial interventions

Public sector financial interventions should be used to complement other forms of intervention or when the use of other instruments is more expensive or infeasible. They are often used in emergency cases or as transitional measures. These financial interventions usually mean public sector provision of goods and services through public expenditure programmes. Such interventions can have re-distributive effects. The application of such instruments depends on their compliance with EC rules in state aid.

Example: EU Structural Funds

4.6. Co-regulation

The co-regulation approach implies a regulatory framework in which the overall objectives, the deadlines and mechanisms for implementation, the methods of monitoring the application of the legislation and any sanctions are set out. The regulator also determines to what extent defining and implementing the measures can be left to the concerned parties. Such provisions, for example sectoral agreements, must be compatible with Community law⁶³ and must be in the interests of the public.

Co-regulation must be transparent. Members of the public must have access to the act and to the implementing provisions. Sectoral agreements and means of implementation must be made public in accordance with arrangements that have yet to be defined. The parties concerned must be considered to be representative, organised and responsible by the Commission, Council and European Parliament and according to the IIA they must be 'recognised in the field' (such as economic operators, the social partners, non-governmental organisations, or associations). Co-regulation combines the advantages of the binding nature of legislation with a flexible self-regulatory approach to implementation that encourages innovation and draws on the experience of the parties concerned. A drawback is the need to set up monitoring arrangements.

⁶² For more information please consult DG COMP.

⁶³ The Inter-Institutional Agreement on Better Lawmaking (OJ C 321/1 of 31 December 2003) specifically mentions the proportionality principle and as far as agreements between social partners are concerned the Articles 138 and 139 of the EC Treaty. See http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/c_321/c_32120031231en00010005.pdf.

Examples:

- The 'New Approach' to product regulation, where essential requirements are laid down in a regulatory framework, leaving business and industry to decide for themselves how to meet their obligations, including through the use of harmonised standards;
- Agreements between the social partners as an alternative method of regulation in fields concerned with working conditions and access to work.

4.7. Framework directives

In its Action plan 'Simplifying and improving the regulatory environment⁶⁴, the Commission committed itself to revert to the original definition of a directive as laid down in the Treaty, that is, to limit the content of a directive to the essential aspects of legislation. Hence, directives should, as far as possible, be general in nature and cover the objectives, periods of validity and essential aspects of legislation, while technicalities and details should be a matter of executive measures or be left to Member States.

Framework directives set out general principles, procedures, and requirements for legislation in different sectors. Subsequent 'daughter' directives in each sector must conform to the general requirements of the framework directive.

While framework directives offer greater flexibility to Member States, their disadvantage is that they risk resulting in a diversity of more or less incompatible measures being implemented in different Member States. However 'daughter directives' should not undo the flexibility gained by being overly prescriptive. In accordance with the Inter-Institutional Agreement on Better Lawmaking⁶⁵ a proper balance should be struck between general principles and detailed provisions, in a manner that avoids excessive use of Community implementing measures.

Example: The National Emissions Ceilings Directive⁶⁶ sets out national emissions targets for Member States, without specifying exactly how these are to be achieved.

4.8. Prescriptive regulatory actions

Incorporating obligatory standards into legislation (regulations, directives or decisions) is a frequently used policy solution. A useful distinction can be made between:

- **Traditional 'command and control' policies.** These specify the use of certain practices, technologies, or designs. The advantage is relative ease of monitoring and enforcement. The disadvantages are that they are likely to be less cost-effective and they do not encourage technological innovation or to go beyond standards.

Examples: The most relevant examples can be found in a large number of regulations applicable to the manufacturing of automotive products or in some of the BREFs ('Best available techniques REFERENCE documents') prepared under the Integrated Pollution Prevention and Control Directive⁶⁷.

- **Performance-orientated standards.** Performance-orientated standards specify the required performance of the target population. They do not detail the exact mechanisms

⁶⁴ COM(2002) 278, see http://europa.eu.int/eur-lex/en/com/cnc/2002/com2002_0278en01.pdf.

⁶⁵ OJ C 321/1 of 31 December 2003, see http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/c_321/c_32120031231en00010005.pdf.

⁶⁶ Directive 2001/81/EC, OJ L309/22 of 27 November 2001, see http://europa.eu.int/eur-lex/pri/en/oj/dat/2001/l_309/l_30920011127en00220030.pdf.

⁶⁷ Directive 1996/61/EC, OJ L 257/26 of 10 October 1996, see <http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31996L0061:EN:HTML>.

by which compliance is obtained, but rather specify the criteria to be followed to achieve such compliance. They are often to be preferred to engineering or design standards, since they increase flexibility to achieve the regulatory standard. Standards should be flexible allowing aggregation or offsetting between different plants or agents, even regionally or nationally provided this does not unacceptably affect the overall outcome.

Example: The standards expected to be achieved by new plants under the Large Combustion Plants Directives (1998 and 2001)⁶⁸.

If existing legislation seems to work inefficiently, an alternative to tighter rules or regulations might be reinforcing investigation and sanctioning powers or perhaps simplification of the rules with which compliance seems to be difficult.

⁶⁸ Directives 1998/609/EEC and 2001/80/EC (OJ L 309/1 of 27 November 2001).

5. THE 'INDICATORS AND QUANTITATIVE TOOLS' SOFTWARE (IQ TOOLS)

The 'Indicators and Quantitative Tools for Improving the Impact Assessment Process for Sustainability' (IQ TOOLS) project is funded by the 'Scientific Support to Policies' initiative under the Community's Sixth Research Framework Programme. The project Steering Group includes representatives from RTD, SG, ENV, ECFIN, EMPL and ENTR.

5.1. Objectives – Computer-assisted IA

By early 2006, internet-based software will provide desk officers with information on good practice and on models and tools available for quantitative assessment. In addition, it will provide guidance on identifying the possible economic, environmental and social impacts of policy initiatives. It will also include features to assist with planning, inter-service communication and transparency.

5.2. The tools

Several interactions with the IA process are planned. The user is guided by a list of keywords (including policy areas, impacts and instruments) through a review of previous IAs, an overview of impact data and a guide to selecting models.

A **good practice inventory** will be set up on the basis of a review of IAs carried out in 2003 and 2004. The inventory will provide a brief description of these practices with references to completed IAs.

An **impact inventory** will provide information about the main impacts listed in Tables 2, 3 and 4 of the Guidelines (links to relevant information from Eurostat regarding data and methodology for each impact). The inventory should help desk-officers to identify and structure the impacts associated with a given policy proposal.

A **model inventory** will provide information on tools used at the Commission and integrating the different dimensions of sustainable development. It describes the potentials and limitations of existing models, including their interlinkages (e.g. which outputs of a model can be used as inputs in other models). This tool intends to assist desk officers when launching external quantitative studies for IAs. In addition, a **quantitative model** will be made available to analyse interlinkages and indirect effects across specific impacts and separate policy areas or sectors. A Computable General Equilibrium (CGE) model will be expanded to provide quantitative results for selected measures and basic impacts. The software will also provide simplified **on-line simulations** for specific policy issues. Extensions of the CGE model are under development to respond to additional needs e.g. in the area of carbon storage and imperfect competition. This constitutes Part Q of the IQ TOOL (Q for Quantification).

Note that these inventories should be used as an aid to the impact assessment process; the IQ TOOLS software can never be a substitute for sound analysis and judgment.

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6. HOW TO DESIGN A QUESTIONNAIRE

6.1. Structure of the questionnaire

- Include an introduction summarising the context, scope and objectives of the consultation. Explain what feedback respondents can expect, and provide information on the next stages of the process.
- Ask respondents to provide sufficient identification information (i.e. enough to assess the representativeness of responses etc.), while including an appropriate data protection clause into the questionnaire.
- Put instructions to respondents where they are directly relevant.
- If the questionnaire is not or only partially addressed to the general public, then indicate unequivocally the targeted respondent(s). If not all questions are applicable to all respondents then put 'filtering' questions first (for example, in the Commission consultation on pre-packaging respondents were asked if they were consumers, producers or retailers, and were subsequently directed to specific sets of questions).
- Proceed from general to detailed questions.
- Where appropriate, consider including standard questions or questions used in previous consultations. Such questions allow comparability across studies.
- At the end of the questionnaire, ask whether or not the Commission may contact the respondent if further details on the submitted information are required.
- At the end of the questionnaire, leave room for feedback (allow respondents to comment on the consultation – relevance of the questionnaire, etc.) and thank respondents for completing the questionnaire.

6.2. Formulation of the questions

Good practices in general

- Keep questions as short and simple as possible, especially if they are to be translated. In particular avoid double negatives. For example, don't ask: *How much would you dislike the inability to receive all relevant information from a single source? It makes for difficult reading. Say: How much would you like the possibility...?*
- If it is impossible to come up with a short and simple question, insert a 'control question'. A control question is a reformulation of the problematic question, placed in a different part of the questionnaire. If the answer to both questions is not identical, it indicates that the respondent has not fully understood the question. Both answers should therefore be discarded.
- Ask only one question at a time. The answers to double-barrelled questions might be difficult or impossible to interpret. Don't ask: *Did you try to collect information about new rules from government services, but failed to get appropriate answers? Yes / No.* If the answer is 'No', does this mean that the respondent did not try to collect information or that they failed to get appropriate answers? When the question is formulated this way, there is no way to tell.
- Include enough sufficient information to jog people's memories or to make them aware of features of a phenomenon they might otherwise overlook, but avoid questions suggesting

the 'right' answer. Do not formulate questions like in the following way: *'Wouldn't you say that.....'* or *'Don't you agree that.....'*

- Make the question specific. Don't ask: Are consultation opportunities well publicised? The word 'well' is too vague to be analytically useful. Ask instead: Are consultation opportunities publicised through (tick all relevant answers): 1) the press; 2) TV; 3) internet; ... Be particularly wary of the word 'regularly'. Replace it with a specific reference such as 'how many times over the last three months'. When asking respondents to recall past events, it is preferable to limit the time period.

Closed-ended questions

Closed-ended questions allow for rapid answers. They are easy to code and level differences between articulate and inarticulate respondents. However, because of their limited range of options, closed-ended questions can lead to misleading conclusions. Therefore when designing a closed-ended question:

- Try to avoid 'yes/no' questions which give relatively little information.
- Instead, provide several types of scaled answers. In particular make sure that the available options allow a 'neutral' or 'medium' answer. Common formats include:
Tobacco advertising should be banned from sport events: I 'agree strongly', 'agree', 'undecided', 'disagree strongly' (Likert scaling).
I would like to see tobacco advertising: 'banned completely', 'more restricted than it is now', 'continue as it is now', or 'less restricted than it is now' (Guttman scaling).
Alternatively ask where the respondent would place him- or herself on a scale from 1 to 10, where 1 means 'not at all' and 10 means 'completely.'
- Make sure that the available options include answers such as 'don't know', 'decline to state', or 'not applicable', if there is any chance that these may represent some people's answers.

Open-ended questions

Open-ended questions allow for greater freedom of expression. Respondents can qualify their answers. There is therefore no bias due to limited response's range. However, it is much more time consuming to code/interpret such replies and there is a greater risk of misinterpretation.

6.3. Presentation of the questionnaire

- Use graphics sparingly. Graphics significantly slow download times, especially for respondents connecting to the internet via modem.
- Use appropriately colours and fonts. Using bolds and italics, or changing the colours of key words, can make your questions easier to understand. On the other hand, too much diversity of design may be distracting for respondents.
- Avoid designing large pages that require respondents to scroll horizontally to view part of the questionnaire.
- Allow enough space for long replies, especially when dealing with open-ended questions.

6.4. After the questionnaire has been designed...

- If a consultation is conducted in several languages, provide sufficient time and resources for translation of the questionnaire, working instructions etc. Translation of an electronic instrument should take place only after the original version is completed and tested.
- Thoroughly test the finalised questionnaire before putting it on the website. Check the presentation of the pages and make sure that all skips, features, randomisations and other links work as you intend them to (for example check whether the respondent can only choose one option when answering multiple choice questions with mutually exclusive answers).
- When analysing responses to open ended questions, be sensitive to cultural differences. Your respondents are likely to be very multinational in their composition.

7. QUANTITATIVE MODELS

The tools illustrated here are well suited to defining impacts in a quantitative way, either in physical terms if multi-criteria analysis is applied in policy appraisal or in monetary terms if cost-effectiveness and cost-benefit analysis are used.

The models described here illustrate the kind of models that have been developed with the financial support of the Commission. Some of them are available at the Commission and are owned by the Commission, but the majority have been developed by research centres within the Research Framework Programmes and are owned by them.

The models cover different impacts, policy areas and instruments. A software program for selecting relevant models using keywords is being developed as part of the IQ TOOLS project described in these guidelines (see Annex 5). Table 1 illustrates selected criteria for choosing the appropriate model:

Table 1: Suitability of models with respect to selected criteria

	CGE models	Sectoral models	Macro-econometric models	Environmental impact assessment models	Micro-simulation models
Range of coverage of measure					
Single-market analysis without economy-wide impacts		X			
Single-market analysis with economy-wide impacts	X		X		
Multi-market analysis with effects in secondary markets	X		X		
Ecosystem				X	
Purpose of model analysis					
Simulation (long-term)	X	X		X	X
Forecasting (short-/medium term)			X		
Effects to be analysed					
Economic effects (within given model framework)	X	X	X		
Ecological effects of economic activities	X	X	X	X	
Ecological effects				X	
Distributional effects					
between countries	X	X	X	(X)	
between sectors	X		X		
between households	X		X		X
Degree of disaggregation					
Between sectors or households					
potentially high	X				X
potentially low			X		
Within a sector					
potentially high		X			
potentially low	X		X		
Effects on:					
GDP	X		X		
Ecological damages				X	
Unemployment	X		X		
Public budget	X		X		
International trade	X		X		
Emissions	X	X	X	X	
Immission/deposition				X	
Household income	X		X		X

Most of the relevant and well-developed **quantitative tools** for impact analysis purposes are models, which can be broken down into:

7.1. Computable General Equilibrium (CGE) models

CGE models calculate a vector of prices such that all the markets of the economy are in equilibrium, implying that resources are allocated efficiently. They are based on economic theory and theoretical coherence (i.e. the Walrasian representations of the economy). Therefore, parameters and coefficients are calibrated with mathematical methods and not estimated as in econometric modelling. They can be static – comparing the situation at one or more dates – or dynamic, showing developments from one period to another. CGE models require a Social Accounting Matrix that is built by combining Input-Output tables (to model interrelations between productive sectors) with national account data.

The strength of CGE models is their internal consistency; i.e. they allow for consistent comparative analysis of policy scenarios by ensuring that in all scenarios the economic system remains in general equilibrium (however, extensions to model market imperfections are possible). They integrate micro-economic mechanisms and institutional features into a consistent macro-economic framework and consider feedback mechanisms between all markets. All behavioural equations (demand and supply) are derived from microeconomic principles. Since CGE models are calibrated to a base year data set, data requirements are limited even if the degree of disaggregation is high. This allows for the evaluation of distributional effects, across countries, economic sectors and agents. CGE models are advantageous in analysing general economic policies like public finance, taxation and social policy, and their impact on longer-term structural change.

The weakness of CGE models is their somewhat tautological construction (all results are implicitly linked to the assumptions and calibration made). In contrast to macro-econometric models CGE models can be used only for simulation purposes, not for forecasts. Another disadvantage compared to sectoral models is that, in following the top-down approach, CGE models typically lack a detailed bottom-up representation of the production and supply side. Since top-down models rely on the assumption that all 'best available technologies' have already been installed, the calculated cost of a specific emission reduction measure is typically higher than in bottom-up studies.

Examples of EU-funded CGE models:

EDGE
GEM-CCGT
GEM-E3
OECDTAX
PACE
WORLDSCAN

7.2. Sectoral models

These models are constructed on the equilibrium of one specific sector of the economy.

The strength of sectoral models is that they focus only on one economic sector and thus enable a relatively high degree of disaggregation and a detailed representation of the specific economic and institutional factors. Partial models are an appropriate tool if the focus of policy analysis is on a specific sector (e.g. transport) and if feedback between the rest of the economy (e.g. via substitution and demand effects) can be ignored to a large extent. Note that the importance of these indirect feedback effects increases with the degree of regulatory intensity. Sectoral models are often very detailed since they are sometimes complemented by more specific (e.g., engineering-economic) bottom-up models. The latter are advantageous since they, for example, are able to handle nonlinearities.

The most important drawback of sectoral models is their inability to capture the effects on other markets and the feedback into the specific market under consideration.

Examples of EU funded sectoral models:

Energy: PRIMES, POLES, SAFIRE

Transport: ASTRA, EXPEDITE, SCENES, TREMOVE
Agriculture: CAPRI
Emissions Trading: SIMAC

7.3. Macro-econometric models:

These models are empirical and are therefore developed using coherent datasets. The parameters of the equations are estimated using econometric methods. They are fundamentally designed to evaluate macro-sectoral impacts of economic policies, although they have been extended to incorporate environmental dimensions.

The strength of macro-economic models lies in the validation of the equations of the model with statistical methods and on the model's ability to provide short-medium term forecasting and to evaluate the impact of policies. These models also ensure a coherent framework for analysing inter-linkages between variables. The weakness of such models is that it is difficult to catch longer run phenomena, since the equations on which they are based are linked to a given time framework. Moreover, due to the extensive need for data the degree of sectoral disaggregation is usually smaller than in calibrated CGE models. Behavioural assumptions do not always rely on microeconomic theory.⁶⁹

Examples of EU funded macro-econometric models:

E3ME
NEMESIS
QUEST II
WARM

7.4. Environmental impact assessment models.

These models are intended to measure and evaluate the environmental impact of economic activities or policy measures. An established approach in these models is 'impact pathway analysis'. This is a bottom-up approach for estimating external costs starting from a particular process and its emissions, moving through their interactions with the environment to a physical measure of impact (the main component being health), and where possible a monetary valuation. The Dose-Response step of analysis uses data from the physical, biological sciences and epidemiology to link a particular pollutant at different levels (the dose) with different levels of physical damage to human health and ecosystems. The calculation process is highly site-sensitive, as the aggregate impact is determined by the geographical distribution of victims or receptor ecosystems.

Impact pathway analysis has allowed the Commission to review many of its decisions in the environmental sphere, in order to reach a better compromise between economic and environmental objectives. By quantifying the environmental and health damages, the methodology has often helped to produce better-informed policy decisions that are more consonant with the goals of Sustainable Development.

Examples of EU funded environmental impact assessment models:

ECOSENSE
FUND
IMAGE
RAINS
SMART

⁶⁹ Models must be carefully checked if not developed in-house.

7.5. Microsimulation models.

Based on micro-data these models compute the impacts of various policy changes on small units such as individuals, households or firms. These are characterised by individual properties (e.g. income and expenditures, age, family status, profits). By using a representative sample micro-level changes can be aggregated in order to reproduce macro-level effects. Microsimulation models are tools for policy recommendations: over the last ten years they have been widely used particularly in empirical tax policy analysis in several European and OECD countries. Typical applications of tax-benefit models are, for example, the calculation of the distributional effects of different tax-benefit policy scenarios (i.e. the calculation of the tax payable, identification of individuals who would gain or lose under a specific policy, etc.).

Examples of EU funded microsimulation models:

EspaSim
ETA
EUROMOD
TAXBEN

7.6. Projects and Programmes.

This category includes projects and programmes funded by the European Commission. Typically these projects/programmes use other models, but are well known and widely used. Due to their importance it was decided to include the following projects and programmes:

CITY DELTA

DYNAMO

EMEP

Information on single models can be found at the current website of the IQ TOOLS project: <http://gloster.iwr.uni-heidelberg.de>

8. HOW TO ASSESS COST-EFFECTIVENESS

Public funds should be used in accordance with the principles of sound financial management, which includes aiming for the best relationship between resources employed and results achieved. A public intervention could hence be considered as 'efficient' or 'cost effective' if its set objectives are achieved at least cost, or if its desired impact is maximised at a given level of resources.

An Impact Assessment should provide a reasonable basis for making this judgement. The purpose of this part of the Impact Assessment is to analyse and compare the cost effectiveness of the various policy options.

All proposals with financial implications for the Community budget must also be accompanied by a legislative financial statement that includes a detailed calculation of the financial and human resources to be allocated to the intervention.⁷⁰

8.1. How to assess cost-effectiveness of spending measures (e.g. expenditure programmes)

A budgetary *cost-effectiveness analysis* relates the effects of an intervention to the total amount of inputs (total cost) needed to produce those effects. The criterion for judgement is usually the cost per unit of outcome achieved (for example, the cost per job created or child fed). This unit cost is then compared to other interventions or to other methods for delivering the same outcome. Whether or not a policy proposal is cost-effective depends on whether it outperforms other competing proposals in reaching given objectives for less cost.

Example

If the objective of an intervention is to reduce traffic accidents in a given area by a certain amount, an Impact Assessment of cost-effectiveness could involve comparing the costs and expected results of the following three options for action:

- a road safety awareness campaign;
- building bridges to separate pedestrian and vehicle traffic;
- introducing more traffic lights.

Types of cost that you should take into account are:

- direct financial outlays (to beneficiaries or third parties) from the EU budget and other public funds;
- administrative costs for the Commission and public authorities (e.g. external assistance in the form of feasibility or evaluation studies, informatics costs etc);
- human resources needed to manage the intervention.

The level of cost and the expected level of results that can be achieved are obviously different in each of the three options. Their cost-effectiveness could be compared with the help of quantified estimates for the cost per number of accidents avoided in each case.

The more clearly objectives and expected results are specified, the easier it will be to assess the cost-effectiveness of the proposal. If the objectives of an initiative are multiple and not well specified in terms of expected results, it will be difficult to attribute costs to any impacts. Calculating cost-effectiveness ratios may require making a number of assumptions. These should always be clearly stated in the Impact Assessment Report.

However, even if it is not possible to make well-founded estimates of cost-effectiveness, the process of identifying impacts should help you to understand and explain the consequences

⁷⁰ For further guidance see <http://www.cc.cec/budg/preparation/en/preparation/fiche-fin/summary.htm>.

of the proposal in terms of different types of costs. In some respects, this is more important than doing exact measurements and calculations. As a minimum, an Impact Assessment should

- present a broad estimate of the cost of the proposed intervention;
- ask if the objectives justify the cost – bearing in mind that ultimately this is a political judgement;
- ask if the same results could be achieved at less cost by using a different approach or other instruments, or if more or better results could be achieved with the same cost by using a different approach or other instruments.

These questions might lead to a re-assessment either of the objectives, of the action itself, of alternative options and delivery mechanisms, or any combination of them.

This part of the analysis can be combined with the comparison of alternative delivery mechanisms. Evidence for the comparisons can be drawn, for example, from earlier evaluations of similar interventions.

8.2. How to assess the cost-effectiveness of non-expenditure measures

The types of cost identified above occur in the context of expenditure programmes (or comparable measures), which are targeted towards clearly identified addressees that are meant to *benefit* from the intervention (hence, they are usually referred to as ‘beneficiaries’).

By contrast, not all addressees of a non-spending measure (e.g. a policy, a piece of legislation) will necessarily ‘benefit’ from it. Such measures tend to aim at more global (or high-level) objectives than a spending programme, and may create both advantages and disadvantages for various addressees. Such disadvantages may very well constitute additional ‘costs’ to some addressees.

These additional costs represent a potentially major category of negative impact of a policy instrument, and should therefore be included in the analysis of its cost effectiveness. The below table presents the most typical types of cost that may result from policies containing spending as well as non-spending elements, both at the level of the body or bodies implementing the measure and its addressees.

<i>Type of cost</i>	<i>Body or bodies involved in the implementation of the measure</i>	<i>Addressees</i>
Budgetary cost	Direct financial outlays from the EU budget and other public funds. Administrative costs (e.g. studies) for the Commission and public authorities (e.g. Member States). Human resources needed to implement the intervention.	Not applicable
Transaction cost	Costs associated with implementing, monitoring and enforcing the policy.	Costs incurred in identifying and selecting the most appropriate compliance route.
Compliance cost	Not applicable	Direct costs incurred by addressees in order to comply

		with the policy measure, including administrative cost ⁷¹ . Opportunity costs ⁷² .
Adjustment cost	Not applicable	The costs of reallocating resources because of policy-induced changes in behaviour (concerning production or consumption).

⁷¹Unlike the administrative costs incurred by the Commission and other public authorities when implementing the measure in question, the administrative costs incurred by addressees stem from their 'legal obligations to provide information on their action or production, either to public authorities or to private parties'.

⁷² Opportunity costs refer to the most valuable alternative forgone to comply with the policy requirements. Resources needed to make a policy possible cannot be allocated for other uses. In order to assess the true costs of a policy, it is therefore necessary to take into account what these resources could have earned if allocated to the best, safe investment alternative. The reference is often the interest rate paid by saving banks on deposited funds or prevailing wage rates.

9. ASSESSING IMPACT ON GROWTH, COMPETITIVENESS AND JOBS

As a rule, the economic impacts of a policy, whether it is aimed at achieving economic, social or environmental objectives, are transmitted to the economy through changes in prices and costs. These changes affect the behaviour of (some) economic actors, which in turn affect firms, households and public authorities.

To help in the identification of the economic impacts and the understanding of their characteristics, this annex provides a **non-exhaustive** list of questions that can be used as a **first step** in the undertaking of an impact analysis.

When identifying impacts, particular attention should be paid to factors that are widely considered as being important to productivity⁷³, and hence to the competitiveness of the EU, which are embedded in 9.1 to 9.5. Competitiveness is a measure of an economy's ability to provide its population with high and rising standards of living and high rates of employment on a sustainable basis. Vigorous competition in a supportive business environment is a key driver of productivity growth and competitiveness.⁷⁴

9.1. Impacts on international trade and cross-border investments

Proposals may have consequences for the conditions under which European enterprises operate in comparison with their main competitors in non-EU countries. These consequences may differ between the short and the long term. Awareness of the main characteristics of the regime that these foreign competitors face is an essential element for the scrutiny of economic impacts.

In the context of likely impacts on trade and cross-border investments, will the proposal:

- Increase or reduce differences between the regulatory regime faced by EU companies and competitors in non-EU countries?
- Place EU firms at an advantage or disadvantage compared to their international competitors?
- Will cleaner companies and sectors be boosted either directly or indirectly through shift of demand away from polluting companies and sectors?
- Help or hinder trade and cross-border investment into the EU or from the EU to third countries?
- Contribute to the relocation of economic activity to or from non-EU countries?
- Will a 'first-mover' advantage be generated with other countries likely to follow

9.2. Impacts on competition in the internal market⁷⁵

Competition helps companies to grow by outperforming one another and by improving their offer to consumers. Competition at the same time helps them to remain competitive on a European and global scale. Proposals may have an influence on the way companies compete against each other.

⁷³ I.e. investment, innovation, entrepreneurship, human capital and the competitive environment.

⁷⁴ See the Commission's Communication on pro-active competition policy of 20 April 2004, Section 2.1.

⁷⁵ For consideration of competition impacts you should consult the additional guidance prepared by DG COMP and available via the IA website at <http://intracomm.sg.cec.eu.int/i/impact/>.

To screen the proposal for **possible negative impacts on competition**, you should start by determining in particular if the proposal includes:

- Rules on liberalisation (of formerly monopolised network utilities such as electricity, telecoms, postal sector, public transport, etc.) and internal market measures;
- Measures raising or lowering the barriers to entry or exit, making it harder or easier for firms to enter or leave the market;
- Rules introducing special commercial rights (e.g. IPRs) or exempting certain activities from the application of the competition rules;
- Sectoral rules pursuing economic, environmental or regional policy goals;
- General rules (e.g. corporate law) governing economic activity.

If so, you should ask yourself the following questions (*non-exhaustive list*):

- Does the proposal contain rules which (partially) exempt a market/sector from the application of the competition rules⁷⁶, thus possibly creating/strengthening a monopoly?
- Does the proposal contain rules which directly interfere with the way firms market or price their products/services⁷⁷; does it limit or reserve distribution for certain channels/intermediaries, thus reducing consumer choice or creating barriers for newcomers?
- Does the proposal contain rules which facilitate or induce companies to agree on prices or divide up customers/markets⁷⁸, thus driving up end consumer prices or decreasing innovative activity?
- Does the proposal contain rules which restrict access to important resources (such as raw materials, land, IPRs, know-how or process technology) in concentrated markets, thus excluding or delaying market entry of alternative products/services⁷⁹?
- Does the proposal contain rules which (de facto) favour incumbent providers at the expense of new entrants thus mitigating the beneficial effects of liberalisation⁸⁰?

9.3. Impacts on firms in terms of investment, operating costs, products and services

Proposals may intentionally or unintentionally have impacts on the production decisions of firms. In the context of likely impacts on firms in terms of investment, operating costs, products and services, will the proposal:

- Directly or indirectly affect the availability or cost⁸¹ of inputs, for example:
 - raw materials, semi-finished products, components, etc.?
 - machinery and equipment?
 - labour?
 - licence fees, inspection costs, etc.
- Have an effect on the cost and/or availability of firm financing?

⁷⁶ E.g. certain products used in the defence industry or certain agricultural products.

⁷⁷ E.g. advertising restrictions, or marketing restrictions, rules determining maximum prices/minimum quality standards.

⁷⁸ E.g. certain market organisations for agricultural products such as tobacco.

⁷⁹ E.g. in the new media or IT sectors, or in the pharmaceutical sector.

⁸⁰ E.g. depriving consumer of these benefits, such as more choice and more competitive prices in the telecoms, energy, public transport sectors.

⁸¹ Costs can also be broken down into fixed or variable costs.

- Affect the level and/or timing of investment by firms?

As a consequence of investment decisions and changes to the availability and/or cost of inputs will the proposal affect:

- how firms produce products and services?
 - the range of goods and services firms produce (new products or substitutes)?
 - the quantity of goods and services firms produce?
 - the financial viability of firms currently operating in the relevant market?
- Will companies benefit from improved brand and corporate image or through the benefits of adopting Corporate Social Responsibility practices?

Finally, if firms face increased costs as a result of the proposal, is the structure of the market such that they are able to pass on some or all of these costs downstream to their customers, or upstream to their suppliers?

9.4. Impacts on technological development and innovation

Proposals may directly or indirectly lead to impacts on the technological development and innovative activities of firms and the ways in which firms and institutions are organised. When impacts on technological development and innovation⁸² are likely, will the proposal:

- Affect the level and/or timing of research and development activities, for example by making it easier or harder for firms to finance these activities?
- Stand in the way of/promote:
 - firms' potential for innovation (know-how, finance)?
 - the development and implementation of new technologies?
 - the diffusion and take up by users of new technologies?
 - greater knowledge and know-how ?
 - the exploitability of inventions and innovations?
- Will the proposal lead to eco-innovation, for example, through new ways of working and more efficient use of natural resources and lower clean-up costs, which lower costs for companies?

9.5. Impacts on firms, especially SMEs, in terms of administrative burden

Proposals may result directly in an increased administrative burden on firms (e.g. through increased formalities and paperwork) or may conversely lead to reduction in administrative burden due to simplification/harmonisation⁸³. Both cases will have consequences on resource needs and firm costs. When there is a likely impact on firms in terms of administrative burden, will the proposal:

- Impose or reduce the administrative burden on firms, especially newly created firms and other SMEs? In particular would it decrease/increase administrative complexity or have an impact on the clarity of legal requirements and legal certainty?

⁸² Innovations take many forms. An innovation may, for example, improve the way in which products are produced (process innovation). It may concern the development of a new product (either standalone or embodied in a piece of machinery, a component, etc.). Or it may involve the development and delivery of a new service. Another type of less tangible innovation is the introduction of new structures and ways of working within organisations and institutions.

⁸³ Harmonisation may lead to increased costs in the short term as firms adjust to changes in legalisation, but may give rise to more medium and longer term gains from simplification, especially with respect to intra-EU cross-border activities.

- Impose significant adjustment, compliance or transaction costs⁸⁴ on firms?
- Include technical, legal and/or administrative requirements that require/enable/encourage firms to implement new activities and functions?

9.6. Impacts on consumers

In many cases proposals affecting the working of markets and the activities of firms give rise to indirect impacts on households. In others, households may be directly affected by proposals. In this context, consideration should be given to the question of whether the proposal is likely to:

- Affect the prices for products and services consumers have to pay? If so, which ones are concerned and by how much will prices rise?
- Affect the range/quality/safety of consumer products and services?
- Affect data protection?
- Affect (disposable) household income and wages?
- Affect the level of consumer protection?
- Affect pensions or asset holdings?
- Make it easier or harder for households to borrow or save money, for example through access to financial services?

9.7. Impacts on the number and the quality of jobs

When analysing the **impact on the number of jobs**, it is important to estimate the effects in terms of absolute variations of the number of jobs (created, destroyed or transformed), distinguishing the anticipated short-term effects from the anticipated medium-term effects. As far as possible, these estimations should also be expressed in terms of employment rates, unemployment rates and net effects. It will often be useful to establish more detailed breakdowns, by sector and type of employment (types of contract, levels, etc.). It is important to identify which population group will benefit from the creation of new jobs.

The **effects on job quality** need to be considered. Job quality depends on a number of factors. The ten main ones were outlined in a Commission Communication and in a Decision of the European Council on quality indicators⁸⁵ :

- intrinsic job quality (including level of remuneration and fairness);
- skills, life-long learning and career development ;
- gender equality;
- health and safety at work;
- balance between flexibility and security;
- inclusion and access to the labour market;
- work organisation and work-life balance;

⁸⁴ Adjustment costs are the one-off costs arising from the reallocation of resources as a result of policy induced changes. Compliance costs are the direct costs arising from complying with a policy measure. Transaction costs are incurred during the identification of the most appropriate compliance route.

⁸⁵ Communication from the Commission (2001), 'Employment and social policies: a framework for investing in quality', COM(2001) 313 final; European Council (2001), 'Indicators of Quality in Work'; Communication on 'Improving Quality in work', COM(2003) 728 final.

- social dialogue and worker involvement;
- diversity and non-discrimination;
- overall work performance (including productivity).

In analysing **the distribution of the impacts**, particular attention should be paid to:

- the sectoral distribution of the anticipated effects;
- the geographical distribution of the anticipated effects;
- the opportunities opened up for groups and individuals at present excluded from the labour market;
- distribution by sex and age-band;
- effects on the income and purchasing power of different groups.

Where there are likely to be major effects in terms of company restructuring in a particular sector, the analysis must not be confined to a static time horizon but should take account of **the implementation process and the process of adaptation** of the players. It should thus be possible to estimate the capacity of any workers affected to anticipate the changes and adapt to the pace of these changes, as well as the social backup resources available. Further, effects on the 'transitions' between work and initial education, training, inactivity and retirement should be considered.

9.8. Impacts on third countries and overseas relations

Certain proposals may have an impact on third countries and overseas relations in general. In this case, consideration should be given to whether the proposal will have an impact on:

- International agreements and alliances (e.g. WTO rules)?
- Enlargement and/or neighbouring countries?
- Developing countries?
- Other countries?

9.9. Impacts on public authorities

In the case of public authorities, consideration should be given to their role vis-à-vis the proposal:

- Are public authorities actually involved in its implementation?
- Are public authorities affected as its direct or indirect addressees?

In the first case, costs incurred (e.g. human and infrastructure costs, co-funding of projects, enforcement costs...) should not be assessed as economic impacts but as **implementation costs** and considered alongside the implementation costs incurred by the EU. In this context, consideration should be given to the likely implications of the proposal on the public expenditure, future budget commitments, taxation and where appropriate on the public sector budget balance and the quantity of government debt.

In the second case, when public authorities are addressees of an initiative often in the guise of economic agents, some of the questions raised in 9.1 to 9.7 may then be relevant.

Public authorities may also be concerned both as an actor in the implementation of a proposal and as its direct or indirect addressees.

9.10. Macroeconomic impacts

The previous sections address impacts that are of a microeconomic or sectoral nature. Although these impacts will have some effect on how the economy works, the effect on key macroeconomic aggregates such as economic growth, the unemployment rate and so on, will often be rather small, and need not be considered in much detail in the analysis. However, in some instances a proposal may have impacts that are discernable at the macroeconomic level or impacts at the microeconomic level might accumulate to an impact at the macroeconomic level and in these cases the following should be considered:

- Economic growth and its links with investment in human and physical capital, labour market participation, unemployment, the functioning of product and capital markets, etc.
- Price levels and stability and their links to aggregate demand and supply, production costs, etc.

10. ASSESSING ADMINISTRATIVE COSTS IMPOSED BY LEGISLATION

Whenever a measure is likely to impose significant administrative costs on business, the voluntary sector or public authorities, the model presented below must be applied⁸⁶. The main aim of the model is to assess the net cost of information obligations imposed by EU legislation (net costs = costs introduced by a proposal if adopted, minus the costs it would eliminate at EU and/or national level). Services are also invited to apply the model on a tentative basis for assessing costs imposed on citizens. The possibility and need for monetisation in this case is left to their discretion.

Implementation will of course be subject to the principle of proportionate analysis (see Scope of application of the model and expected level of accuracy). The degree of detail in the assessment will depend on the availability of reliable and representative data (see Step 7 - Choice of data sources and, where necessary, development of data capture tool(s)). SG coordinates the optimisation of the model, notably on a learning-by-doing basis and through exchange of best practices with Member States (see 10.5).

10.1. Outline of the model

Definition of administrative costs

Administrative costs are defined as the costs incurred by enterprises, the voluntary sector, public authorities and citizens in meeting legal obligations to provide information on their action or production, either to public authorities or to private parties. Information is to be construed in a broad sense, i.e. including costs of labelling, reporting, monitoring and assessment needed to provide the information and registration (see Box 12: Types of obligation). In some cases, the information has to be transferred to public authorities or private parties. In others, it only has to be available for inspection or supply on request.

Example: a regulation on air quality sets an obligation to keep a register of pollutant emissions and an obligation to meet an air pollution threshold. Keeping a register of pollutant emissions is an administrative cost, while action taken to meet an air pollution threshold is not. That type of compliance cost is sometime referred to as 'substantive cost' because the obligation affects the essence of the (industry) activity. Keeping a register does not entail in itself any obligation to change the production process, the nature of the end-products or the treatment of emissions. Meeting the pollution threshold will require a substantive change at these levels (for instance the installation of new filters).

Recurring administrative costs and, where significant, one-off administrative costs have to be taken into account.

In order to keep the model as simple as possible and to minimise subjective judgment in the assessment, no distinction should be made between 'pure' administrative obligation and good practice written in the law⁸⁷.

⁸⁶ see COM(2005)518 and the annexed Commission Staff Working Document SEC(2005)1329.

⁸⁷ 'Pure' obligation refers to what one would stop doing if the legal obligation was removed. This is for instance the case when enterprises are required to provide statistics that have no direct relevance for them. By contrast, some requirements set by law correspond to what an entity would normally do. Properly managed enterprises would have an accounting system, even in the absence of legal bookkeeping obligations. However delineating what an entity would 'normally' do is open interpretation. The Commission has therefore decided to assess all legal obligations.

Where appropriate, caveats accompanying the assessment should list obligations that correspond to good practices. This information is important for policy-making because new legal obligations codifying good practices are by definition less burdensome for targeted entities and, conversely, a proposal suppressing 'pure' obligations will provide greater cost relief.

Core equation of the cost model

Administrative costs should be assessed on the basis of the average cost of the required action (Price) multiplied by the total number of actions performed per year (Quantity). The average cost per action will be generally estimated by multiplying a tariff (based on average labour cost per hour including prorated overheads) and the time required per action. Where appropriate, other types of costs such as equipment or supplies' costs will be taken into account. The quantity will be calculated as the frequency of required actions multiplied by the number of entities concerned.

$$\Sigma P \times Q$$

where P (for Price) = Tariff x Time
and Q (for Quantity) = Number of entities concerned x Frequency).

Net cost

Many proposals aim at simplifying existing rules in general and reducing administrative costs in particular. Assessing the cost of an obligation made to enterprises to submit data on their turnover once a year may therefore be misleading. Examined in isolation, such proposal will always be perceived as an additional burden on enterprises. If it happens that the proposal's aim is to reduce the existing reporting frequency, this should be clearly flagged.

Assessing the net cost of information obligations imposed by EU legislation also has a major advantage in the perspective of sectoral estimates. The assessment of cumulative burden is complex, time consuming and costly. Once such estimate done, it is preferable to use a net approach in order to avoid the cost of having to repeat baseline measurements at regular intervals. It is also preferable because it provides real time indication on the amount of administrative costs imposed by legislation, contrary to baseline measurements conducted every 4 or 5 years. A database built on the assessment of net costs is by definition continuously updated.

Scope of application of the model and expected level of accuracy

The effort of assessment should remain proportionate to the scale of the administrative costs imposed by the legislation. For administrative obligations requiring little equipment, if the amount of time per action is small and the frequency low, the obligation does not need to be quantified.

In order to keep assessment of costs at a reasonable level and ensure compatibility with national methodologies, estimates will be based on working assumptions simplifying the complex reality of the Union. These assumptions are presented together with step specific guidelines below.

Besides caveats, the possibility to take that distinction into account through standard discounting ratios for some sectors or types of legislation will be examined as part of the optimisation of the model (see III.10.5).

10.2. Step by step guide

The application of the model can be divided in a number of steps. The entire workflow is summarised in Table 1 below, followed by a detailed description of each step's requirements⁸⁸.

Table 4: Step by step application of the model

Phase 1: Preparatory analysis	
Step 1:	Identification and classification of information obligations <i>(e.g. certification of products) & data requirements (e.g. date of production and composition of the product)</i>
Step 2:	Identification of required actions <i>(e.g. training members and employees about the information obligations, filling forms)</i>
Step 3:	Classification by regulatory origin <i>(e.g. EU rule on certification is the transposition of an agreement of the World Trade Organisation)</i>
Step 4	Identification of target group(s), also called segmentation <i>(e.g. large enterprises that have to fulfil obligation 'A' and small enterprises that have to fulfil obligation 'B', the size of the enterprise being defined by its turnover)</i>
Step 5	Identification of the frequency of required actions <i>(e.g. small enterprises have to fill a form once a year)</i>
Step 6	Identification of relevant cost parameters <i>(e.g. particular relevance of external costs and equipment)</i>
Step 7	Choice of data sources and, where necessary, development of data capture tool(s) <i>(e.g. deciding that the number of entities concerned will be extrapolated on the basis of data available on Eurostat, but that the number of hours each need to perform required actions will be based on the results of interviews of enterprises; for the later task, preparation of an interview guide and selection of a representative sample of entities)</i>
Phase 2: data capture and standardisation	
Step 8	Assessment of the number of entities concerned <i>(e.g. 100.000 small enterprises)</i>
Step 9	Assessment of the performance of a "normally efficient entity" in each target group, taking into account cost parameters identified in step 6. <i>(e.g. enterprises have once a year to spend, on average, 25 hours of work by an engineer to gather information and 5 hours of work by a clerk to fill the annual form)</i>
Phase 3: calculation and reporting	
Step 10	Extrapolation of validated data to EU level
Step 11	Reporting and transfer to database

⁸⁸ Assessment is an iterative process, where earlier steps may need to be revisited in the light of work undertaken later in the process. This is of course also true here.

Step 1 - Identification and classification of information obligations

In order to facilitate reporting and the assessment of cumulative burden, services are asked to use the following typology on the nature of the administrative obligation. This list is inserted in the excel Report Sheet.

Box 12: Types of obligation

1. Notification of (specific) activities (e.g. for transportation of dangerous cargoes)
2. Submission of (recurring) reports
3. Information labelling for third parties (e.g. energy labelling of domestic appliances)
4. Non labelling information for third parties (e.g. financial prospectus)
5. Application for individual authorisation or exemption (i.e. authorisation required each time a particular task has to be carried out; e.g. building permits)
6. Application for general authorisation or exemption (e.g. licence granting permission to engage in an activity such as banking or liquor selling)
7. Registration (e.g. entry in a business register or a professional list)
8. Certification of products or processes
9. Inspection (e.g. monitoring the conditions for employees)
10. Cooperation with audits
11. Application for subsidy or grant
12. Other

Distinguishing an obligation to provide information from other regulatory obligations is normally straight forward. There could however be a number of borderline cases where it is difficult to decide whether a rule falls within the scope of the model or not. It is important to ensure that such borderline cases are discussed and evaluated in the light of decisions taken in other similar areas so as to ensure consistency. This is why sectoral services (preferably horizontal units providing support for IA) are invited to report such cases to the service responsible for better regulation in the SG.

Box 13: Examples of borderline information obligations

Costs induced by exercising a right to complain. These costs are not considered as an administrative burden by Member States quantifying administrative costs on the basis of the Standard Cost Model because there is no 'obligation' to complain.

Costs induced by inspection. The usual purpose of an inspection is to collect the information needed to verify compliance with legal obligations (review of corporate books, etc.). Ensuing costs are clearly administrative costs. However inspections are sometimes used to collect information unrelated to legal obligations (level of satisfaction of businesses, etc.). Submitting to such inspection is by definition voluntary and ensuing costs therefore fall outside the definition of administrative costs imposed by legislation.

Costs induced by policy assessment. Some EU programmes require Member States to draw up national reform programmes. Designing a reform programme is of course quite different from an obligation to provide information. However designing monitoring schemes, collecting data on the implementation of the policy, filling tables and submitting them to the Commission are clearly linked to information obligations. So policy design should not be considered as administrative burden, with the sole exception of policy assessment design.

Step 2 - Identification of required actions

In order to facilitate reporting and the assessment of cumulative burden, services are asked to use the following typology on the type of required action (inserted in the excel report sheet).

Box 14: Types of required action

1. Familiarising with the information obligation
2. Training members and employees about the information obligations
3. Retrieving relevant information from existing data
4. Adjusting existing data
5. Producing new data
6. Designing information material (leaflet conception...)
7. Filling forms and tables
8. Holding meetings (internal an external with an auditor, lawyer and the like)
9. Inspecting and checking (including assistance to inspection by public authorities)
10. Copying (reproducing reports, producing labels or leaflets)
11. Submitting the information (sending it to the relevant authority, etc.)
12. Filing the information
13. Other

Step 3 - Classification by regulatory origin

In order to enhance transparency on who is responsible for what, the regulatory origin of administrative obligations needs to be identified. Three simple rules should be used for that:

1. if the obligation arises entirely from an authority that specifically states the way in which the obligation must be met, *attribute 100% of costs induced by the obligation to that authority.*
2. if the obligation set by an authority requires transposition by another authority and if the transposing authority limits itself to what is needed to meet the obligation, *attribute 100% of the costs to the authority which set the obligation.*
3. if the obligation set by an authority requires transposition by another authority and if the transposing authority goes beyond what is needed to meet the obligation, *attribute the % resulting from 'gold plating' to the transposing authority.*

Gold plating in the case of administrative obligations refers, among other things, to increasing the reporting frequency, the degree of precision or the list of target groups.

In the context of the Impact Assessment, services are only requested to determine costs originating from the international and EU levels, not those that may originate at national or lower levels. The reporting sheet (see Step 11 - Report) has been conceived to be used by EU institutions and Member State authorities, for (ex ante) assessment of proposed measures and (ex post) evaluation of existing legislation. If a national government decides to evaluate the administrative burden put on a sector in its country, it needs to account for purely national and regional obligations in addition to obligations of international and EU origins. By contrast, when the Commission assesses a possible measure, there is no point guessing what level of gold plating transposing authorities in each Member State might

introduce. The Commission only has to account for proposals transposing international obligations in the EU and those resulting from its own initiative. There is by definition no obligation of national or regional origin applying to the entire Union.

Example: the World Health Organisation has adopted a framework convention on tobacco control. The Community and the Member States, as signatories to the Convention, are bound by these international rules. Article 11 provides that information on emissions of tobacco products must appear on each package of tobacco products. It also provides that labels may include warnings in the form of pictures.

Supposing that the Commission envisages a measure obliging manufacturers to provide information on tobacco emissions as well as to print cancer pictures on each package, 100% of the costs induced by the first obligation will be attributed to the 'international' level, while 100% of the costs induced by the second obligation will be attributed to the 'EU' level. By imposing the inclusion of pictures, the EU would indeed go beyond what is needed to meet WHO obligations.

Particular attention should be paid to the references of the act at the origin of the obligation. In order to ensure optimal addition and comparison of data, all parties using the EU common methodology (Commission, European Parliament, Council) or contributing data (Member States at different levels of authority) will be asked to use the EU-Lex format. The enumeration order varies with the type of act⁸⁹ and it is therefore easier to make a 'cut and paste' of the reference given by the search engine (http://europa.eu.int/eur-lex/lex/RECH_menu.do?ihmlang=en) than list formatting rules.

For Commission proposals, EU-Lex will normally use the following format: "Proposal for a Directive of the European Parliament and of the Council on the exercise of voting rights by shareholders of companies having their registered office in a Member State and whose shares are admitted to trading on a regulated market and amending Directive 2004/109/EC, COM/2005/0685 final."

For an EU act transposing an international act, services will also provide the name and reference of that international act, as well as information on the transposition. They will fill the simple concordance table included in the report sheet. The table is made of two columns: the first column gives the reference of the article detailing the obligation assessed; the second column gives the reference of the 'original' obligation, i.e. the article of the act laying down the obligation transposed by the act being assessed.

Step 4 - Identification of target group(s)

As for the "target groups", it may be useful to distinguish between groups on the basis of their size, type or location. Size may be particularly pertinent for enterprises. It is indeed often the case that an obligation is more burdensome for small enterprises than for large ones.

Regulation often adjusts the type of information obligations according to a number of objective criteria (number of employees, turnover level, financial capacity of the citizens, etc.)

Step 5 - Identification of the frequency of required actions

The frequency indicates how many times a year an action is required. If, for instance, an information has to be submitted once a year, the frequency = 1; if it is every 6 months, the frequency = 2; if it is every three years, the frequency = 0,33; etc.

For one-off costs such as 'familiarising with the information obligation', the frequency is by definition '1' but for the first year only. In order to be able to assess the evolution of the

⁸⁹ "Regulation (EC) No 2560/2001 of the European Parliament and of the Council of 19 December 2001 on cross-border payments in euro, Official Journal L 344 , 28/12/2001 P. 0013 – 0016"; but "Council Regulation (EC) No 2580/2001 of 27 December 2001 on specific restrictive measures directed against certain persons and entities with a view to combating terrorism, Official Journal L 344 , 28/12/2001 P. 0070 – 0075".

cumulative burden over burden, it is necessary to distinguish recurring costs ('1' every year) and those that should be taken into account once only (at T1). Services will therefore put '1' in italics in the frequency column when reporting one-off costs.

In some cases, the frequency may vary in time. For instance, in a number of statistics regulations such as Intrastat, enterprises have to report if their dispatches are above a set threshold. Their level of intra-EU sales will therefore determine if they have to report or not. Here again, the advice is to keep things simple. If such fluctuations apparently concern a limited number of enterprises, they should not be taken into account.

Step 6 - Identification of relevant cost parameters

The relevant cost parameters are of course deduced from the core equation (see Core equation of the cost model). It is assumed that the main costs induced by information obligations are labour costs. Where appropriate, equipments and supplies' costs will also have to be taken into account.

- The cost parameters for the *internal tariff* (administrative action carried by the targeted entity itself) are the number of hours spent on a specific action, the hourly pay of those performing the action and overhead.
- The cost parameters for '*internal*' *equipment & supplies* (i.e. acquired by the targeted entity to comply with the information obligation and solely used for that purpose) are the acquisition price and the depreciation period (service life of 'x' years).
- The cost parameters for the *external tariff* (administrative action contracted out) are the number of hours spent on a specific action and the hourly pay charged by the service provider (in this case, overhead and specific equipment & supplies costs are already included in the hourly pay).

If the time required is two hours, the number of hours = 2; if the time required is 30 minutes, the number of hours = 0,5; if the time required is 20 minutes, the number of hours = 0,33; etc.

Acquisitions of equipment and supplies used solely for meeting information obligations include post stamps, cover paper, printer cartridges and labelling machines.

The distinction between internal and external costs may be particularly important for policy design. For instance, if the objective pursued is to boost the competitiveness of a specific industrial sector, measures reducing internal costs will most likely be more effective. The industrial sector would immediately have more resources for direct investment. If reduction measures mainly concern external costs, the benefit will come when service providers (accountants, lawyers, ...) adjust their rates downwards. This adjustment however may take some time, because of information asymmetry or supply elasticity in services.⁹⁰

Step 7 - Choice of data sources and, where necessary, development of data capture tool(s)

The advice provided in the general guidelines and in the other annexes applies also for the assessment of administrative burden. Data collection methods to be chosen according to the individual case include: focus groups, consultation of stakeholders, field trials, consultancy studies, and expert assessment. Irrespective of the source and mode of collection, services need to verify and interpret collected data (see Annex 3, 3.1 Approximating numbers).

⁹⁰ If little publicity is made around legislative changes aimed at reducing administrative burden, if freelance accountants are in short supply and if the latter work on the basis of price packages, the industrial sector will not ask and/or get a reduction of external tariff.

In standard cases, it will be sufficient to produce rough estimates based on: available EU statistics (provided, among others, by Eurostat <http://epp.eurostat.ec.eu.int/> and the Small and Medium-Sized Enterprises Observatory); standard ratios (for example assessing overheads on the basis of a mark-up percentage on labour costs or discounting costs of legal obligations corresponding to “normal business operation”); the opinion of experts; and Member State studies. Specific links to data on the number of businesses, labour costs and other sectoral parameters are provided on http://www.europa.eu.int/comm/secretariat_general/impact/docs_en.htm.

In exceptional cases, field work limited to a sample of Member States and/or questionnaires sent to a standard sample of the business community and simulation may have to be used. This was for instance done for assessing the information costs imposed by the Intrastat Regulation (See 10.3). Even if data are not collected by these means, it is always useful to talk to the future addressees, insofar as they are well placed to identify hidden costs.

Member States have agreed to assist the Commission to collect data where standard sources do not suffice⁹¹.

Step 8 - Assessment of the number of entities concerned

In order to ensure comparability of estimates made by different DGs and ensure compatibility with estimates conducted by a large number of Member States, services will base their assessment of administrative costs on the basis of an assumption of full compliance by all entities concerned.

Step 9 - Assessment of the performance of a “normally efficient entity”

In order to keep assessment of costs at a reasonable level and ensure compatibility with national methodologies, the assessment will be based on ideal types (typical firms, typical public service, etc.). National databases don't work with ranges of estimates, but with discrete figures corresponding to standardised costs.

To start with, services will make a critical review of available data, identify and remove obvious outliers (entities whose performance is clearly eccentric, i.e. greatly below or above the other performances). In many cases, calculating the median or the average of remaining data might be sufficient. The standard deviation and variance (measuring how spread validated data are) will help deciding on the most appropriate method for identifying the performance of the “normally efficient entity”.

The following example borrowed from the ‘International SCM Manual’ shows how to proceed with simple cases.

⁹¹ “The Council ... reiterates its October 2004 commitment to assist the Commission in implementing the methodology. In this context Ministers agree: to provide, on request and in a proportionate manner, the information needed to carry out assessments of EU administrative burdens and; that the methodology proposed by the Commission provides a common basis for the collection and exchange of data” (The Council of the European Union (ECOFIN) 2688th meeting, 8 November 2005). “The European Council recognises the importance for Member States to provide, on request and in a proportionate manner, the information needed to assess administrative costs imposed by EU legislation” (Presidency Conclusions of the Brussels European Council, 15/16 December 2005).

Box 15: Identifying typical business

Required action A		Required action B	
Company 1	10 min.	Company 1	10 min.
Company 2	10 min.	Company 2	20 min.
Company 3	10 min.	Company 3	10 min.
Company 4	10 min.	Company 4	20 min.
Company 5	30 min.	Company 5	15 min.

Required action C		Required action D	
Company 1	10 min.	Company 1	10 min.
Company 2	20 min.	Company 2	20 min.
Company 3	50 min.	Company 3	25 min.
Company 4	2 min.	Expert 1	20 min.
Company 5	5 min.	Expert 2	15 min.

As far as action A is concerned, Company 5 is clearly different from the others and should therefore not be taken into account to determine the performance of a typical (or normally efficient) business. The convergence of the other data is sufficient to choose 10 minutes as a basis for the calculation of the cost imposed on a “normally efficient entity”. In the case of action B, there are no obvious outliers. The standard performance could be assessed on the basis of the average (13 min.) or the median value (15 min.). The difference being negligible (2 min.) any method would do. No estimate can be made on the basis of data concerning action C because the latter vary too much. More research needs to be done. Consideration should first be given to whether companies selected are not representative or whether specific circumstances can explain this wide variation of performance. The segmentation (see Step 4 - Identification of target group(s)) should be reconsidered and, if necessary, more interviews done. In the case of action D, only three companies answered the questionnaire. An expert assessment was seen as necessary. The combination of the two data sets leads to opt for 20 minutes.

In addition to the number of hours, services will have to determine ‘normal’ level of qualification required by the main actions linked to information obligations and the ‘normal’ labour cost per hour including prorated overheads (expenses for premises, telephone, heating, electricity, IT equipment, etc.).

EU statistics on sectoral labour costs are highly aggregated, but can serve as a basis for the assessment - in line with the principle of proportionate analysis. As there is no central statistical source on overheads, it is difficult to specify a percentage that should be added to the hourly pay for all sectors. Denmark, the Netherlands and Sweden usually apply an overhead percentage of 25%. For the assessment of regulations for the financial sector, the Netherlands apply an overhead percentage of 50%. The United Kingdom has an initial overhead percentage of 30%, subject to review during the baseline measurement.

Step 10 – Extrapolation of validated data to EU level

There is no need to provide specific estimates for each Member State or administrative body concerned, unless to do so would be proportionate. In most cases, services will estimate EU costs by extrapolating available data at national or EU level.

When data are available for only a very limited number of Member States, extrapolation could be done on the basis of the country distribution of administrative costs in a similar sector or for a similar event. Benchmarking projects conducted by several Member States and the most advanced Commission Impact Assessments are a prime source of information on country distributions.. In the absence of specific country distribution, services may want to use figures on total administrative costs, keeping in mind that resulting estimates will be very rough.

Example. CPB estimated total administrative burden in the Union by extrapolating the Dutch figure. For doing that, the study used the difference of costs for setting up an identical standard firm in each Member State. This differentiation gave the following country distribution, where NL = 100:

Country	AT	BE	CZ	DE	DK	EL	ES	FI	FR	HU	IE	IT	NL	PL	PT	SE	SI	SK	UK
Distrib.	81	73	100	86	65	119	78	65	78	119	65	65	100	119	65	65	119	65	65

DG ENTR - Industrial Policy and Economic Reforms Papers No. 1, *The new Lisbon Strategy - An estimation of the economic impact of reaching five Lisbon Targets* by George M.M. Gelauff and Arjan M. Lejour (CPB Netherlands Bureau for Economic Policy Analysis), January 2006, based Kox, H., 2005, Intra-EU differences in regulation-caused administrative burden for companies, CPB memorandum. http://europa.eu.int/comm/enterprise/enterprise_policy/competitiveness/doc/industrial_policy_and_economic_reforms_papers_1.pdf

The SG will collect country distributions and make them available on http://www.europa.eu.int/comm/secretariat_general/impact/docs_en.htm. Services are invited to report country distributions to the service responsible for better regulation in SG.

Step 11 - Report

Estimates need to be reported in a standardised manner to allow for their comparison and addition. The report sheet downloadable on the SG IA website should therefore be used [http://www.europa.eu.int/comm/secretariat_general/impact/docs_en.htm]. Calculation is automatically done by the Excel report sheet.

The development of a database is under examination. This would facilitate data extrapolation, assessment of cumulative burden at sectoral level and interfacing with national databases developed by some Member States.

Users may however add ad hoc information to the report sheet, as long as this does not alter the standard part of the report sheet⁹². For strategic proposals, the common report sheet will often act as a summary of more detailed analyses. It does not prevent services from presenting more detailed data (such as ranges of costs or key uncertainties) in separate tables and texts.

Encoding instructions. When reporting equipment costs, leave the 'tariff' and 'time' columns empty; put the equipment yearly cost based on the depreciation period in the 'price' column. For one-off costs, put '1' in the frequency column in italics. When a measure amends existing provisions and if it removes administrative obligations, the sheet will include negative figures

⁹² For compilation reasons, the same sequence of columns should be used to provide core information. Information required for add-ons could be presented in the remaining columns. This could include the ranges for cost figures.

corresponding to the burden reduction. Detailed instructions are included in the spread sheet (see below).

Methodological caveats. When reporting on their assessment, particular care must be taken to indicate, succinctly but clearly, the working assumptions and methodological limitations. This will include assumptions concerning compliance rate, warning about the nature of the data presented (estimates and not exact measures); and indication of the margin of error.

10.3. Example of data capture tool

This section provides an example of a questionnaire designed to capture data needed to apply the model on administrative costs. The questionnaire is targeting a representative sample of the business community.

Some questions are meant to collect quantitative data needed to assess the monetary cost of the regulation (number of hours ...).

Others are meant to collect qualitative information useful for caveats (e.g. putting into perspective the very notion of 'burden' by indicating that some obligations will correspond to business' good practices) or useful for policy design. For instance, knowing which types of obligations are a major irritant is an important element for setting simplification priorities, improving perception of the regulatory environment and improving compliance.

Table 5: Questionnaire for collecting data on a statistical regulation

European survey on the administrative costs of producing statistics on intra-EU trade in goods (European Business Test Panel) ⁹³	
<p>In recent years the issue of better regulation and in particular, the issue of administrative costs on enterprises has gained increasing attention internationally, at EU level and in the Member States.</p> <p>The European Commission and its statistical office, Eurostat, are therefore increasing their efforts to measure and better manage the administrative costs caused by European legislation.</p> <p>The system known as Intrastat was devised to collect statistics on intra-Community trade. Developed by Eurostat and operational since 1 January 1993, Intrastat involves collecting information directly from businesses on a monthly basis. Companies exceeding a certain amount of trade in goods within the European Union are liable for Intrastat declarations.</p> <p>To improve our knowledge on administrative costs caused by this specific legislation, we invite you to fill in and submit this short questionnaire.</p>	
1	Does your company have to provide Intrastat declarations to your competent national administration (CNA)? (usually the national statistical office or the national bank). - YES / - NO (if NO, please go to question 9).
2	Does this information concern: - Dispatches & shipments only / - Arrivals & receipts only / - Both arrivals & receipts and dispatches & shipments
3	How much hours are spent each month, on average, for collecting the information required for the Intrastat declaration? What is the average labour cost per hour (including prorated overheads)? (please do not use currency symbols, spaces or dots between thousands)
4	How much hours are spent each month, on average, for drawing up the Intrastat declaration? What is the average labour cost per hour (including prorated overheads)? (please do not use currency symbols, spaces or dots between thousands)
5	How does your company transmit the data to the CNA? – Electronically / - On paper
6	Do you think that the preparation/transmission of your Intrastat declaration today takes less time than when it was initially introduced some 10 years ago? - YES / - NO / - DON'T KNOW. If YES, could you express the change in %:

⁹³ The European Business Test Panel is a representative group of around 3600 European companies that can be directly consulted on the development of important initiatives. The actual survey took place in August and September 2005.

7	Do you expect the time required by Intrastat to evolve in the future, for instance because of organisational or technological adaptations? - YES / - NO / - DON'T KNOW. If yes, will it - DECLINE / - INCREASE - Could you express the change in %:
8	Do you consider Intrastat reporting to be (on a scale of 1 to 5) not at all burdensome (1) to very burdensome (5)?
9	Does your company make use of the statistics on Intra-EU trade in goods as they are published at national level and/or by Eurostat? - YES, please specify the use: / - NO
Thank you for your cooperation	

Comments on the adaptation of the data capture tool to the regulation assessed.

There was no need to ask questions on external costs, because very few enterprises outsource the management of their shipments and arrivals.

In the present case (sending a table of figures), expert judgment was sufficient to assess transmission costs. The cost of electronic transmission is negligible because it requires very little time and no specific equipment (enterprises use IT equipment and connection they need for their professional work). The time and level of qualification needed for paper transmission is fairly standard and the cost of national mail is easy to determine. It was therefore enough to assess the proportion of enterprises using paper transmission. This contributed to keep the questionnaire as short as possible and ensure higher response rate.

On the contrary, because of the specific reporting frequency and overall costs of the regulation, it was important to collect information on the enterprises' learning curve 'see questions 6 & 7) and to have a rather precise idea of routine costs to avoid overestimation. That information also helps assessing indirectly one off costs.

10.4. Example of Report Sheet filled out

Note that information obligations and figures presented in the report sheet below are purely illustrative. They are not based on actual estimates.

Actions 1, 2 and 10 should not have been fully assessed and reported. With a very low frequency, very limited time required and no specific acquisition required, their total cost was bound to be insignificantly low. The analysis should have been stopped after the assessment of the required number of hours. There was no need to assess other parameters such as hourly pay or overhead, and produce a monetised estimate of these information obligations (see 10.1 Scope of application of the model and expected level of accuracy). The possibility of setting more precise *de minimis* thresholds (for instance 50 hours per entity) will be further examined. Services are invited to report on thresholds they use to the service responsible for better regulation in the SG.

Regulation (EC) No 2560/2001 of the European Parliament and of the Council of 19 December 2001 on cross-border payments in euro, Official Journal L 344 , 28/12/2001 P. 0013 - 0016						Tariff (€ per hour)		Time (hour)		Price (per action or equip)	Freq (per year)	Nbr of entities	Total nbr of actions	Total cost (€)	Regulatory origin (%)			
No.	Ass. Art.	Orig. Art.	Type of obligation	Description of required action(s)	Target group	i	e	i	e						Int	EU	Nat	Reg
1	4§1		Non-labelling information for third parties	Familiarising with the information obligation	Banking sector	30		1,00		30,0	1	500	500	15.000		100%		
2	4§1		Non-labelling information for third parties	Retrieving relevant information from existing data	Banking sector	25		0,50		12,5	1	500	500	6.250		100%		
3	4§1		Non-labelling information for third parties	Designing information material (leaflet conception...)	Banking sector		50		8,00	400,0	1	500	500	200.000		100%		
4	4§1		Non-labelling information for third parties	Copying (reproducing reports, producing labels or leaflets)	Banking sector					30000,0	1	500	500	15.000.000		100%		
5	4§1		Non-labelling information for third parties	Submitting the information (sending it to the designated recipient)	Banking sector					0,5	300.000	500	150.000.000	75.000.000		100%		
6	5§1		Non-labelling information for third parties	Retrieving relevant information from existing data	Banking sector	25		0,10		2,5	3.000	500	1.500.000	3.750.000		100%		
7	5§1		Non-labelling information for third parties	Submitting the information (sending it to the designated recipient)	Banking sector					1,0	3.000	500	1.500.000	1.500.000		100%		
8	6§1		Submission of (recurring) reports	Retrieving relevant information from existing data	Banking sector	25		-15,00		-375,0	1	500	500	-187.500		100%		
9	6§1		Submission of (recurring) reports	Filing forms and tables	Banking sector	50		-5,00		-250,0	1	500	500	-125.000		100%		
10	6§1		Submission of (recurring) reports	Submitting the information (sending it to the designated recipient)	Banking sector					-10,0	1	500	500	-5.000		100%		

Art.4§1 = informing by mail all customers on charges for transborder and 'local' payments

Art.5§1 = informing each customer upon request of his International Bank Account Number

Art.6§1 = suppressing the obligation to report to public authorities individual cross-border payments below 12500 €

Total administrative costs (€) 95.153.750

Administrative costs by origin (€)

100%

10.5. Appendix – Planned optimisation of the model

Sectoral services (preferably horizontal units providing support for IA) are invited to report to the service responsible for better regulation in SG on cases likely to contribute to the optimisation of the model and its application. Issues of particular interest include⁹⁴:

1. Possible adjustments of the model when assessing administrative costs put on citizens.
2. Possible difficulties to distinguish information obligations from the other regulatory costs and how to overcome them.
3. Identification of specific threshold(s) below which quantification is not necessary (minimum thresholds for the application of the model).
4. Identification of the average margin of error of administrative cost assessments.
5. Identification of weighting systems for assessing EU-wide costs on the basis of a limited quantity of national data
6. Identification of standard ratios for overheads, training costs and learning curves and for costs corresponding to normal business operation, among other things.
7. How to define a 'typical' entity
8. Definition of simple typology of target groups
9. Identification of best practices regarding Member States contribution to the application of the model [definition of delivery systems]

⁹⁴ List derived from Commission Staff Working Document SEC(2005)1329.

11. ASSESSING NON-MARKET IMPACTS, IN PARTICULAR ON ENVIRONMENT AND HEALTH

A first step in identifying non-market impacts, such as environmental impacts is obviously to undergo the general scoping (Step 1 in III.4.2 of the main Guidelines). Having done this, it is important to proceed, when possible, with quantification and then monetisation of those impacts. Given the difficulty of valuing some impacts, particularly environmental ones, it is especially useful to set out the process from qualitative to quantified to monetised estimates in a transparent manner and avoid a black-box approach.

11.1. Monetisation of non-market impacts

Monetisation of non-market impacts is easiest when the values are revealed in the market. For example, air pollution damage to crops might reduce crop yields and thus be relatively easily monetised. However, where values of impacts are not directly revealed through markets then it may be necessary to use other techniques.

Techniques have been developed to estimate the costs and benefits in money terms of goods that do not have a market value, describing the 'willingness to pay' or the 'willingness to accept' a particular outcome. They include **Stated preference methods** (contingent valuation, conjoint analysis, choice experiments) and **Revealed preferences methods** (travel cost method, hedonic pricing).

Stated preference methods can be obtained by constructing hypothetical markets and asking people via questionnaires and interviews the value of a given outcome. These techniques have been used, for example, to value reduction in risks of premature deaths and non-fatal injuries, and existence value for the environment and historic buildings. Revealed preference methods are based on evidence from market transactions, for example the correlation of noise disturbance with house prices.

The technique of **benefit or cost transfer** (usually just called 'benefits transfer') can also be used to estimate values of impacts that do not have market prices. In this technique, values obtained in one study are transferred to a different study. For example, estimates of the costs of preventing a motorway accident in one Member State might be used to estimate the costs in other Member States. Using this technique increases the uncertainty of the estimated values, but can be helpful to give an order of magnitude of likely impacts, or if there are time and money constraints.

Databases of valuation studies have been developed to make the technique of benefits transfer easier. You can find an evaluation of the possibility of adapting one such database for use in the EU on the Europa website⁹⁵. When valuing impacts, the proportionality principle applies, as in all parts of Impact Assessment: don't devote a lot of energy to putting a value on non-marketed impacts if they are a very small part of the overall impacts. DG RTD is also building up a database of externalities, called RED (Review of Externalities Data).

Example: valuing health impact

Health impacts are often a significant portion of the benefits of improvements in environmental quality. For instance, in air quality benefit assessments, the value of reducing the risk of fatalities can often be 80 per cent of the total benefits. We often cannot reduce risks to zero without incurring significant costs. If we did not seek a balance, then we might spend money on reducing air pollution that would save more lives if spent on health care.

Q. Why do we want a monetary value of risk?

If we seek to balance the costs of a policy against its benefits, then we must compare the benefit of reductions in risk against costs. Any decision in this context means placing an implicit monetary value on health benefits. Decision-making will be easier and become more

⁹⁵ <http://europa.eu.int/comm/environment/enveco/others/evripart1.pdf>.

consistent if we have a monetary estimate of the value of health benefits. The monetary value represents the strengths of society's preferences.

Q. Can we value risk?

We cannot – and do not seek to – place a monetary value on our own lives or on other individuals' lives. However, changes in risks are a different matter. While no one would trade their life for a sum of money, most people will be prepared to choose between safety equipment with different prices and offering different levels of safety, or between different ways of crossing a street compared to the saving of time. We can therefore identify the value individuals place on small changes in risk.

Q. How can we value health using small changes in risk over large populations?

Suppose that air pollution can be expected to generate a risk of premature death of 1 in 1,000. Also suppose that 1,000 people were subject to this risk and each was willing to pay an average of €1,500 to reduce this risk of premature death to zero. Then, as this risk factor applied to this group would lead us to expect one death on average (1 in 1,000 * 1,000), and aggregate willingness to pay to avoid this risk is €1,500 * 1,000, then the value of preventing that statistical fatality is €1.5 million.

Q. What value should I use?

It is recommended that you use a figure of €1.0m as a best estimate. Reflecting the difficulty in analysis, figures of €2.5m and €0.65m are recommended for the upper and lower bounds in sensitivity analysis. These estimates are used for the value of preventing a fatality in the environmental context where small reductions in risk occur over a large population. They are applicable to deaths in a largely elderly population where the reduction in life expectancy is likely to be short – maybe one year or less.

Q. How should these be presented?

In all cases, the quantitative and monetary estimates should be presented together. This means that the estimate of the number of lives that would be saved should be presented together with the monetary value assumed for the benefits.

11.2. Life cycle assessment approach

One of the tools commonly used in assessing environmental impacts⁹⁶ is **Life-cycle Assessment (LCA)**. This is the process of evaluating the effects that a product has on the environment over the entire period of its life. It can be used to study the environmental impact of either a product or the function the product is designed to perform. LCA is commonly referred to as a 'cradle-to-grave' analysis and can be used to ensure that maximum resource-use efficiency has been achieved and that environmental problems are not simply being shifted from one part of its life to another⁹⁷.

The LCA approach is useful because some materials are used in many different products – aluminium, for example, is present in window frames, aeroplanes and beverage cans – and looking at the environmental impact of such a resource in only one product does not tell us much about its overall impact, and how best to tackle it. This approach can also be used for products: for example, any consumer electrical good will have had environmental impacts (such as energy use) in its production, transport to market and disposal and not just during its use. Finally, understanding how end-of-pipe technologies shift environmental impacts upstream can be another example.

Key elements of LCA are:

- Identifies and quantifies the environmental loads involved; e.g. the energy and raw materials consumed, the emissions and wastes generated;
- Evaluates the potential environmental impacts of these loads;
- Assesses the options available for reducing these environmental impacts.

⁹⁶ Another useful tool for the identification and assessment of environmental impacts is the **Driving Forces, Pressures, States, Impacts, Responses (DPSIR) framework** (see EEA website (<http://www.eea.eu.int/main.html>) 'how we reason' brochure (accessed Feb 2005)). The DPSIR framework, used extensively by the European Environment Agency is an extension of the Pressure-State-Response model developed by the OECD.

⁹⁷ See EEA website for further details http://glossary.eea.eu.int/EEAGlossary/L/life_cycle_assessment.

12. DISCOUNTING

Most policy options result in costs and benefits that arise at different times. Building a railway line has an immediate cost, but provides benefits over a long period. When beneficiaries receive a constant amount of money over a set period of time, their benefit will worth more on the first year than on the last year of the programme. Conversely, costs to be paid in the future are less onerous.

The discount rate is a correction factor reflecting these facts. All in all, discounting allows the direct comparison of costs and benefits occurring in different points in time, valuing immediate costs and benefits more highly than those that occur later. When 'discounting' is used, it should be applied both to costs and benefits.

You should use a discount rate of 4%⁹⁸. This discount rate is expressed in real terms, taking account of inflation. You should therefore apply it to costs and benefits expressed in constant prices. The total of the discounted costs and benefits of a policy option is called its **net present value**.

12.1. An example

Suppose a project incurs costs of €1,000,000 this year, and yields benefits of €200,000 each year for the following 6 years, after adjusting for inflation.

Then, using the discount rate of 4% recommended by these guidelines, the **net present value** of the project is

$$\frac{200,000}{1.04} + \frac{200,000}{1.04^2} + \frac{200,000}{1.04^3} + \frac{200,000}{1.04^4} + \frac{200,000}{1.04^5} + \frac{200,000}{1.04^6} - 1,000,000$$

This equals 1,048,427 – 1,000,000, so that the net present value of the project is

$$€48,427.$$

Thus, the project generates net benefits to society, and as long as the distribution of costs and benefits among different social groups is judged acceptable, the project should go ahead.

For some cases involving very long horizons – such as the effects of climate change – it may be appropriate to use a lower discount rate. This might be justified by the longer-term implications of sustainable development and in particular, the need to take proper account of the preferences of future generations (for more on this see 'Discounting and sustainability: Issues on the choice of discount rate for long-term environmental policy', background paper prepared for ENVECO meeting, 2-3 June 1999).

12.2. Formula for net present value

The net present value of a project is calculated as

(discounted value of benefits) – (discounted value of costs).

Algebraically, if B_i and C_i are the benefits and costs in year i of a project which has a lifetime of $n+1$ years (counting this year as year 0), and if r is the discount rate (expressed as a decimal), then the net present value of the project is

⁹⁸ This rate broadly corresponds to the average real yield on longer-term government debt in the EU over a period since the early 1980s.

$$\sum_{i=0}^{i=n} \frac{Bi}{(1+r)^i} - \sum_{i=0}^{i=n} \frac{Ci}{(1+r)^i}$$

12.3. Annualised costs and benefits

You need to be careful when comparing policies with different time horizons, because the net present value criterion is no longer valid. To make valid comparisons in such circumstances, it is often useful to calculate the *annualised value* of alternative policies. This is defined as the fixed annual stream of income that would be paid by a fixed-interest annuity with the same net present value as the policy. It is determined by the formula:

$$\text{Annualised value} = \frac{\text{present value} \times \text{discount rate}}{1 - (1 + \text{discount rate})^{-\text{time horizon}}}$$

where the time horizon is defined in years and the discount rate is divided by 100 (that is, 4% is 0.04).

So to compare a project with a present value of €1500 and a lifetime of 5 years with a project with a present value of €1750 and a lifetime of 7 years, we calculate their annualised values. For the first project:

$$\frac{1500 \times 0.04}{1 - (1 + 0.04)^{-5}}, \text{ which equals } \frac{60}{1 - 0.822}, \text{ so that its annualised value is €336.94.}$$

For the second project:

$$\frac{1750 \times 0.04}{1 - (1 + 0.04)^{-7}}, \text{ or } \frac{70}{1 - 0.76}, \text{ giving an annualised value of €291.57.}$$

Thus, although the second project yields higher net benefits, because these are spread out more thinly over time the first project in fact represents better value.

For additional material on discounting see sections 3.7 and 3.8 of DG ENV's 'Guidelines on costing environmental policies', October 1999, and 'Guidelines for defining and documenting data on costs of possible environmental protection measures'⁹⁹, European Environment Agency, Technical Report no. 27, 1999.

12.4. Table of discounted present values

The table shows the value of €1,000 discounted at various rates for periods from 1 to 25 years. Thus, a benefit of €1,000 (in constant prices) which occurs in the 12th year has a present value of €624.60 when discounted at 4%, or €318.63 when discounted at 10%.

year	Discount rate in percent									
	1	2	3	4	5	6	7	8	9	10
0	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1	990.10	980.39	970.87	961.54	952.38	943.40	934.58	925.93	917.43	909.09

⁹⁹ <http://reports.eea.eu.int/TEC27/en>.

2	980.30	961.17	942.60	924.56	907.03	890.00	873.44	857.34	841.68	826.45
3	970.59	942.32	915.14	889.00	863.84	839.62	816.30	793.83	772.18	751.31
4	960.98	923.85	888.49	854.80	822.70	792.09	762.90	735.03	708.43	683.01
5	951.47	905.73	862.61	821.93	783.53	747.26	712.99	680.58	649.93	620.92
6	942.05	887.97	837.48	790.31	746.22	704.96	666.34	630.17	596.27	564.47
7	932.72	870.56	813.09	759.92	710.68	665.06	622.75	583.49	547.03	513.16
8	923.48	853.49	789.41	730.69	676.84	627.41	582.01	540.27	501.87	466.51
9	914.34	836.76	766.42	702.59	644.61	591.90	543.93	500.25	460.43	424.10
10	905.29	820.35	744.09	675.56	613.91	558.39	508.35	463.19	422.41	385.54
11	896.32	804.26	722.42	649.58	584.68	526.79	475.09	428.88	387.53	350.49
12	887.45	788.49	701.38	624.60	556.84	496.97	444.01	397.11	355.53	318.63
13	878.66	773.03	680.95	600.57	530.32	468.84	414.96	367.70	326.18	289.66
14	869.96	757.88	661.12	577.48	505.07	442.30	387.82	340.46	299.25	263.33
15	861.35	743.01	641.86	555.26	481.02	417.27	362.45	315.24	274.54	239.39
16	852.82	728.45	623.17	533.91	458.11	393.65	338.73	291.89	251.87	217.63
17	844.38	714.16	605.02	513.37	436.30	371.36	316.57	270.27	231.07	197.84
18	836.02	700.16	587.39	493.63	415.52	350.34	295.86	250.25	211.99	179.86
19	827.74	686.43	570.29	474.64	395.73	330.51	276.51	231.71	194.49	163.51
20	819.54	672.97	553.68	456.39	376.89	311.80	258.42	214.55	178.43	148.64
21	811.43	659.78	537.55	438.83	358.94	294.16	241.51	198.66	163.70	135.13
22	803.40	646.84	521.89	421.96	341.85	277.51	225.71	183.94	150.18	122.85
23	795.44	634.16	506.69	405.73	325.57	261.80	210.95	170.32	137.78	111.68
24	787.57	621.72	491.93	390.12	310.07	246.98	197.15	157.70	126.40	101.53
25	779.77	609.53	477.61	375.12	295.30	233.00	184.25	146.02	115.97	92.30

13. METHODS OF COMPARING IMPACTS

13.1. Cost-benefit analysis

This entails identifying and evaluating expected economic, environmental and social benefits and costs of proposed public initiatives. A measure is considered justified where net benefits can be expected from the intervention.

Advantages

- accounts for all (negative and positive) effects of policy measures
- allows comparison of the ordering of costs with the ordering of benefits of the proposal over time
- can also be used to rank alternative (including non-regulatory) proposals in terms of their net social gains (or losses).

Disadvantages

- cannot include impacts for which there exist no quantitative or monetary data
- difficulties in establishing the social discount rate
- usually more expensive and time consuming than other, less broad, methods
- may lead to distributional issues being overlooked.

13.2. Cost-effectiveness analysis

This requires calculating the cost needed to achieve a desired outcome, allowing the costs of different options to be compared. It is an alternative to cost-benefit analysis in cases where it is difficult to value benefits in money terms. Cost-effectiveness analysis offers a ranking of regulatory options based on 'cost per unit of effectiveness' of each measure.

Advantages

- offers a more relaxed approach towards benefit measurement than cost-benefit analysis
- useful to compare alternatives that are expected to have more or less the same outcome.

Disadvantages

- does not resolve the choice of the optimal level of benefits
- concentrates on a single type of benefit (the intended effect of the measure), excluding possible side-effects
- provides no assistance as to whether a regulatory proposal would provide net gains to society

13.3. Multi-criteria analysis

This term covers a wide range of techniques that share the aim of combining a range of positive and negative impacts in a single framework to allow easier comparison of scenarios and decision-making. The technique can be useful where there is a large amount of information on a number of different impacts, and that information is in different formats. It allows impacts to be presented that are a mixture of qualitative, quantitative and monetary and of varying degrees of certainty.

Key steps generally include

- identifying the objective;
- identifying options to achieve the objective;
- establishing criteria to be used to compare the options (these criteria must be measurable, at least in qualitative terms);
- scoring how well each option meets the criteria;
- assigning weights to each criterion to reflect its relative importance in the decision, using e.g. participatory techniques, ethical principles, technical grounds or an interactive procedure with the policy-makers;
- ranking the options by combining their respective weights and scores.

Advantages

- recognises multi-dimensionality of sustainability
- allows different types of data (monetary, quantitative, qualitative) to be compared and analysed in the same framework with varying degrees of certainty
- provides a transparent presentation of the key issues at stake and allows trade-offs to be outlined clearly; contrary to other approaches such as cost-benefit analysis, it does not allow implicit weighing
- enables distributional issues and trade-offs to be highlighted.

Disadvantages

- includes elements of subjectivity, especially in the weighting stage where the analyst needs to assign relative importance to the criteria
- because of the mix of different types of data, cannot always show whether benefits outweigh costs
- time preferences may not always be reflected.

13.4. Risk analysis

This assesses the risk of an undesirable event occurring, and the possible consequences to individuals and to society if it occurs. Risk appraisals can then be used to determine the options available to reduce or eliminate the risk and/or its consequences.

To carry out risk analysis, you need to:

- identify the risk
- assess how likely that risk is to happen
- assess the potential impact to the proposed programme / measure if the risk identified were to occur.

Advantages

- scientific assessments of risks make crucial contributions to regulatory decisions, especially in the areas of public health and safety, environmental protection, resource exploitation, wealth creation, innovation and national security indicating whether the policy will be effective in reducing risks in a significant manner.

Disadvantages

- risk impacts may be diverse and not commensurate (that is, brought into a common measure);
- does not normally involve an assessment of the costs likely to occur if the undesirable event does happen;
- takes no account of negative and positive impacts other than risks linked with the proposed measures to deal with the risk and/or its consequences;
- should not be used as the sole basis for deciding whether to take action or for determining the type of action to be taken.

Variants of these methods exist and can be used when appropriate. Examples are cost assessment, risk-risk assessment, etc.

We can also use techniques to value changes in risks of events occurring. This is extremely useful, indeed necessary, when looking at many environmental or health impacts. For example, many policies will try to reduce the risk of illness or death. We cannot – and do not seek to – place a monetary value on our own lives or on other individuals' lives. However, changes in risks are a different matter. While no one would trade their life for a sum of money, most people will be prepared to choose between safety equipment with different prices and offering different levels of safety, or between different ways of crossing a street compared to the saving of time. We can therefore identify the value individuals place on small changes in risk.

13.5. Sensitivity analysis

Sensitivity analysis explores how the outcomes or impacts of a course of action would change in response to variations in key parameters and their interactions. Useful techniques are presented in a book published by the JRC.¹⁰⁰ It may be that a single factor is crucial to the decision of whether or not an option is worth implementing. In such cases a useful form of sensitivity analysis is to identify how much the value of the factor would have to fall (if it is a benefit) or rise (if it is a cost) to make it not worth undertaking the option.

To carry out sensitivity analysis, you need to:

- Focus on the most important alternatives
- Search for switching value / point

Advantages

- it is often the best way to handle the analysis of uncertainties.

¹⁰⁰ <http://sensitivity-analysis.jrc.cec.eu.int/>.

14. ADDITIONAL GUIDANCE ON INDICATORS, MONITORING AND EVALUATION

14.1. Indicators

Like objectives, indicators should be defined at different levels. For expenditure programmes, these levels are as follows:

<i>Level of objective</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Examples</i>
	Resource indicators	Provide information on the financial, human, material, organisational or regulatory means needed for the implementation of the programme	Annual budget absorption; n° of people working on the implementation of the programme; etc.
Operational objective	Output indicators	Relate to the deliverables that the programme is expected to produce	Kilometres of roads built; n° of SMEs receiving advice; n° of training places offered; etc.
Specific objective	Result indicators	Represent the immediate effects of the programme on the direct addressees or recipients	Time saved by users of a road; qualifications earned by trainees; satisfaction of businesses which have received consultancy services; etc.
General objective	Impact indicators	Represent the consequences of the programme beyond its direct and immediate interaction with the addressees or recipients. These include the medium-term impacts on: a) the direct addressees or recipients of the programme; b) people or organisations not directly addressed by the programme, as well as c) unintended impacts.	a) The placement rate of trainees after twelve months; survival rate of businesses created with programme support b) Impact on suppliers or sub-contractors of the assisted firms c) Net jobs lost after the introduction of a product ban.
	Context indicators	Apply to an entire territory, population or category of population – without distinguishing between those that have been reached by the programme and those that have not.	Number of jobs in the tourist sector; Level of connection to the internet in territory X; unemployment rate in territory Y

As far as **purely regulatory proposals** (or policies) are concerned, most of the elements contained in the above table can be applied *mutatis mutandis*. The most striking difference between spending programmes and regulatory proposals concerns the concept of outputs. In a spending programme, the output is considered as that which is financed and accomplished with the money allocated to the intervention (e.g. 20 kilometres of road built). What would be the output in the case of a Directive? Neither the adoption of the Directive by Council and Parliament, nor its transposition into the national laws of Member States should be considered as outputs (although both steps are important parameters in the monitoring of the implementation of the proposal). The outputs at EU level could in such a case be based on a typology of the 'key types of measures' adopted by Member States in order to comply with the Directive.

To the extent that this is feasible (which *inter alia* depends on the nature of the proposed intervention) all indicators should be 'RACER', i.e.:

- relevant, i.e. closely linked to the objectives to be reached;
- accepted (e.g. by staff, stakeholders);
- credible for non experts, unambiguous and easy to interpret;
- easy to monitor (e.g. data collection should be possible at low cost);
- robust against manipulation.

14.2. Monitoring

By the time you present your concrete proposal, you have to give more detailed thought on the need for, and nature of, appropriate monitoring arrangements.

You should in particular:

- plan how to collect data on indicators and other factors relevant for later analysis of achievement;
- analyse the soundness and reliability of the proposed methods and instruments for collecting, storing and processing follow-up data;
- ensure that the monitoring system works from the outset and that adequate legal provisions are in place to ensure that data from Member States or from third parties will be collected reliably and smoothly. Often it is necessary to spell out monitoring requirements in the legal basis for the action.

The above is particularly true for **expenditure programmes**, where systematic monitoring provides data in particular with regard to inputs/resources consumed (e.g. rate of consumption of budget; compliance with project costs programmed); the implementation process (e.g. number of project applications approved; time taken for payments; etc.); outputs (e.g. number and average size of projects funded; number and average size of subsidies granted); results (e.g. number of trainees qualifying with the required level); and context (e.g. rate of unemployment in territory X).

In the case of purely **regulatory proposals** (or policies), monitoring systems are likely to have a different scope and purpose. They could, for instance, focus on:

- implementation at Member State level (e.g. transposition of Directives);
- compliance of addressees (e.g. enterprises producing according to certain minimum standards);

- context variables.

14.3. Evaluation

According to the Commission's rules on evaluation¹⁰¹, all programmes and (ABB) activities have to be evaluated on a regular basis¹⁰². With regard to proposals occasioning expenditure from the EU budget:

- multi-annual programmes 'shall be periodically evaluated in accordance with a timetable which enables the findings of that evaluation to be taken into account for any decision on the renewal, modification or suspension of the programme';
- activities financed on an annual basis have to be evaluated at least every six years.
- When planning evaluations, you should aim to set up a clear link between the evaluation, its results and decision-making. Where relevant, you should identify, at the latest at the time of making the concrete proposal for the intervention envisaged:
 - what types of evaluations are needed and when;
 - the main focus and purpose of these exercises;
 - who is responsible for carrying them out (e.g. Commission, Member States);
 - how, and to whom, the evaluation results are to be communicated (for example, by means of a Communication to European Parliament, Council of Ministers, where appropriate); as a minimum, the results should be communicated to the institution(s) that approve(s) the proposal in question.

Example:

Integrated Action Programme in the field of Life-long Learning

The Commission commits itself to proceed to the following evaluation exercises:

- A series of independent external evaluations of various aspects of the integrated programme; a work plan will be proposed for agreement to the integrated programme Committee.
- An interim evaluation report on the qualitative and quantitative implementation of the programme and on the results so far achieved by 31 March 2011.
- A communication on the continuation of the programme by 31 December 2011.
- An ex post evaluation report by 31 March 2016.
- On the accession of new Member States, a report on the financial consequences of these accessions, followed, if appropriate by financial proposals to deal with the financial consequences of these accessions.

For more information on

- **objectives and indicators**, consult the guide on the SPP website: http://www.cc.cec/home/dqserv/sg/i/spp/index.cfm?lang=en&page=obj_ind
- **evaluation**, consult the guide 'Evaluating EU Activities' on http://europa.eu.int/comm/budget/evaluation/Key_documents/evalguides_en.htm

¹⁰¹ See Communication on Evaluation SEC(2000)1051, as well as Article 27(4) of the Financial Regulation and Article 21 of its Implementing Rules.

¹⁰² However, as 'ABB activities' typically embrace a complex set of sub-activities, it will be necessary in practice to carry out evaluations at a disaggregated level (e.g. by action, theme, budget line, etc.). These individual evaluations should always include an analysis of the contribution of the sub-activity in question to the attainment of the overall policy objectives at activity level.

15. THE PRECAUTIONARY PRINCIPLE AND IRREVERSIBILITY

Put simply, the idea behind the precautionary principle¹⁰³ is that action can be taken to protect the environment and human, animal or plant health even where scientific certainty is lacking, for example initial scientific evaluation indicates reasonable grounds for concern that the potentially dangerous effects may be inconsistent with the chosen level of protection. Similarly, the precautionary principle could also lead to refraining from an action that entails the placing on the market of certain substances or the authorisation of the use of certain techniques.

The principle applies where:

7. we have identified potentially unacceptable risks, and
8. we cannot determine these risks with sufficient certainty. In these circumstances, a decision can be taken despite a lack of certainty.

The principle must therefore be viewed within the overall framework of risk analysis, with the possible extreme scenarios identified by undertaking routine sensitivity analysis.

The use of the precautionary principle is often advocated for cases with irreversible impacts. For example, once a particular species has been lost, it is lost forever. In such cases, the possibility of irreversible losses may point towards caution and the application of the precautionary principle.

Measures based on the precautionary principle should comply with the basic principles for all other legislation, such as proportionality to the chosen level of protection, non-discrimination and consistency with similar measures already taken, and should be based on an examination of the potential benefits and costs of action or inaction. They should assign responsibility for producing the scientific evidence needed for a more comprehensive risk assessment and be subject to review in the light of new scientific data.

¹⁰³ See Communication on the precautionary principle, COM(2000) 1.

16. FORMAT OF THE IA FINAL REPORT

To ensure consistency across the Commission, the following format should be used for the final IA Report. The bullet points follow the key points of the impact assessment analysis. Assumptions, possible uncertainties and lack of (reliable) data must be flagged in the sections presenting the key steps of the IA analysis. Reference should also be made in the various sections to the underlying material on which the conclusions have been drawn (e.g. external studies, reports, statistical data, expert advice, stakeholder input, etc.).

The IA support function/unit in your DG and the Secretariat General will check that all these key points have been adequately addressed.

When the impact assessment work has led to the decision not to present a draft proposal or to postpone it, this format should be followed as far as possible. This will allow readers to follow the reasoning behind the decision to amend the Commission's Work Programme. The report should be written in non-technical language and should not normally exceed 30 pages.

Lead DG:

Other involved services:

Agenda planning or WP reference:

Executive summary

No more than one page, written in non-technical language, presenting the conclusions of the comparison of short-listed options.

Section 1: Procedural issues and consultation of interested parties

- Organisation and timing
 - Clearly state the reference to the associated item in Agenda Planning or the Work Programme.
 - Provide the general chronology of the IA and specify if an inter-service steering group was established (if so, state which DGs participated).
- Consultation and expertise
 - Indicate if external expertise was used, and, if so, how
 - Indicate how and at what stage(s) stakeholders have been consulted.
 - Indicate if the Commission's minimum standards could all be met and, if not, why.
 - Indicate the main results and how this input has been taken into account¹⁰⁴ or why it has not been taken into account.

¹⁰⁴ Report on specific input in the following sections presenting the key steps of the IA analysis.

Section 2: Problem definition

- What is the issue or problem that may require action?
- What are the underlying drivers of the problem?
- Who is affected, in what ways, and to what extent?
- How would the problem evolve, all things being equal? N.B. Scenario(s) should take into account actions already taken or planned by the EU, Member States and other actors.
- Does the EU have the right to act – Treaty base, ‘necessity test’ (subsidiarity) and fundamental rights limits?

Section 3: Objectives

- What are the general policy objectives? What are the more specific/operational objectives?
- Underline the consistency of these objectives with other EU policies and, if applicable, horizontal objectives, such as the Lisbon and Sustainable Development strategies or respect for fundamental rights.

Section 4: Policy options

- What are the possible options for meeting the objectives and tackling the problem? N.B. the ‘no EU action’ option should always be considered and it is highly recommended to include a non-regulatory option, unless a decision of the College has already ruled this out.
- Which options have been discarded at an early stage and why? N.B. Refer to the pre-screening criteria (poor effectiveness, efficiency or consistency with other objectives and policies). Be particularly specific and precise for discarded options enjoying significant support among stakeholders.

Section 5: Analysis of impacts

- What are the likely economic, social and environmental impacts of each of the short-listed options?
- List positive and negative impacts, direct and indirect, including those outside the EU.
- Specify uncertainties and how impact may be affected by changes in parameters (uncertainty and sensitivity analysis).
- Include impacts in the EU and outside the EU.
- Specify which impacts are likely to change over time and how.
- As relevant, specify which social groups, economic sectors or particular regions are affected.
- What are the potential obstacles to compliance?

Section 6: Comparing the options

- Indicate how positive and negative impacts have been weighed for each short-listed option.
- Present results of the weighing.
- Present the aggregated and disaggregated results?
- Indicate if the analysis confirms whether EU action would have an added value.
- Highlight the trade-offs and synergies associated with each option.
- If possible, rank the options in terms of the various evaluation criteria?
- If possible and appropriate, set out a preferred option.

Section 7: Monitoring and evaluation

- What are the core indicators of progress towards meeting the objectives?
- What is the broad outline for possible monitoring and evaluation arrangements?