ASECO opinion on nanotechnology

INTRODUCTION

About the ASECO

The ASECO - Alliance of Social and Ecological Consumer Organisations – is an association of consumer organisations from all Europe¹. At local level, member associations work independently with consumers on those issues that are relevant in their own contexts, whilst in the ASECO they focus in common on **sustainability**, the consumer right by which the 1985 UN Guidelines for Consumer Protection have been expanded in 1999.

In representing consumers, ASECO members are aware that consumption issues need to be considered through the *life-cycle thinking* approach and inside the wider frame of people's *values* - not independently from and not in contrast with; observance of human rights² and individual civil liberties (as privacy, for instance) are therefore a presupposition in our activity. Whichever the definition of sustainability, that will always imply <u>care for the future</u>. By definition nobody knows what will be needed, desired or aversed by next generations: caring for the future therefore necessarily implicates safeguarding *diversity* in the environment and in present possibilities, while trying to improve the existing.

Consumers & sustainability

The eight consumers' rights³ in the original 1985 UN Guidelines had mainly the aim to balance existing maket asymmetries: the document therefore focussed on consumers as production's output <u>receivers</u>, whilst the new 1999 articles openly address consumers' role as the market <u>demand</u> that would steer producers' decisions. What should be intended as the consumers' right to sustainability is in the UN Guidelines point G, artt. 42-55⁴; artt. 45, 48, 50 expressly mention the issue of new technologies we will be discussing here, but in fact all point G applies.

In spite our current **pattern of production and consumption** is not sustainable, it increasingly prevails in all parts of the planet. Substantial improvement is therefore urgently needed, and consumers are especially interested in propositions that intend and have the capability to satisfy existing needs in new ways that would both warrant consumers' rights in all parts of the planet.

As a first step towards sustainability, the ASECO is in favour of any provision that would improve ongoing patterns of production and consumption, but is also aware their optimisation cannot be sufficient in order sustainability is actually gained; in some cases, optimisations that at present may be felt as an improvement can in fact be nostrum and worsen - in the sustainability perspective - the world system (e.g. cause delay in adopting sound provisions).

ASECO acknowledges <u>new technologies are needed</u>, and is aware nanotechnologies may hopefully be part of the solution. **At given conditions, though.**

¹ ASECO members' list is in the Annex

² Human rights: http://www.un.org/Overview/rights.html

³ consumer rights are recalled in the Annex hereafter

⁴ full text of paragraph G is in the Annex

CONSUMERS' EXPECTATIONS WITH REGARD TO NEW TECHNOLGIES AND THE CASE FOR NANOTECHNOLOGY

The term 'nanotechnology' is in fact a collective name for a set of different technologies, that may combine together and address a number of sectors, having in common that that they all deal with matter and materials' dimensions so small that properties that are known for bulk form will change.

Nanotechnologies are already in place in many different fields of application and an increasing number of derived products may be found in the global market and in the EU. The emerging technologies are said to be promising for a better world, but risks are part of the bet.

While basic research needs for a large degree of authonomy, its applications should be the object of public, open debate; especially public funding should be steered by citizens' expectations for their life is improved by ethical choices.

Consumers set conditions for the employment of nanotechnologies is legitimate.

Research and applications of new technologies need to ensure all consumers' rights, giving priority to health and safety for people and the environment, and to adequate information. That is mainly a task for regulations, that should base on lessons learnt in past cases.

Applications of new technologies should give priority to satisfy actual consumers' needs respecting main pople's values and goals, taking care not to create nor to support distorted patterns of consumption.

Precautionary principle, reporting and research

Understanding about the risks associated with nanotechnological products and processes to health and environment is currently limited⁵. Also there is uncertainty and a lack of information at in the assessment of risk for nanotechnological products, for example in the detection of the presence of nanoparticles as well as determination of the degree of exposure and evaluation of its effects. Nanoparticles are fundamentally different from chemicals where the application of threshold limits is used to protect consumers. This approach is not useful for nanoparticles since threshold limits do not consider the physical dimensions (forms) that the nanoparticles have. For example the relatively large surface area compared to the weight of the nanoparticle influence their toxicity and how they chemically react to other substances. Some unexpected problems with nanotechnological products have already been revealed. For example the use of titanium dioxide nanoparticles in suntan lotion has caused skin problems⁶.

ASECO finds that it is important that the precautionary principle is applied when nanotechnological products are approved for use in consumer products, minding that even the "precautionary principle" (COM 2000)⁷ may need updating to face new challeges⁸. Life cycle evaluations must be used to evaluate the risks for the production process, the consumers using the products and for when the products are thrown away or destroyed.

In fact, in present conditions drug regulation principles should apply to nanotechnology.

id., Page 30

⁵ Report: "Regulering af miljoe- og sundhedsaspekter ved nantoteknoligiske produkter og processer" (Regulation of environmental and health aspects regarding nanotechnological products and processes) from The Danish Board of Technology, June 2006. The Danish Board of Technology is an independent body established by the Danish Parliament (the Folketing) in 1995. URL: www.tekno.dk

⁷ http://ec.europa.eu/dgs/health_consumer/library/pub/pub07_en.pdf#search=%22precautionary%20principle%22

⁸ see in ANNEX the explanatory note 9 from "Nanotechnology: a preliminary risk analysis....."

When medicine is put on the market the producer has an obligation to report any problems to the health authorities. ASECO finds the GPS General Products Safety regulations⁹ should be checked against that principle, as for nanotechnological products, especially since it will help build knowledge about possible negative consequences of the use of nanotechnology.

ASECO also finds that more resources must be given to independent research into the health and environmental risks.

Deliver widespread sound information

Nanotechnologies are still the object of advanced research, and it is just normal in its majority their <u>opportunities are highlighted</u>. It is nevertheless worrying that though in all experts'opinion H&S, environemental, even financial <u>risks do exist</u> – and are not only unknown but probably unique and unpredictable - only a small part of the (publicly available) researches report on actual/possible risks that relate to those specific technological findings.

ASECO praises ongoing European Commission's efforts to investigate and disclose findings in the emerging new technologies. We welcome the web Nanoform¹⁰ implemented by the EC, carrying information on H&S risks linked to the emerging new technologies. Still, sound scientific communication in terms that would be understandable by non-experts is deficient. Need for that is most significant to consumers: all means to satisfy it (e.g. lists of accredited journalists, awards) should be implemented.

ASECO encourages governments and the EC to involve consumers, as opportune, in research and communication activities, and wishes the EU Nanoform platform content is also designed for sound though accessible scientific communication to journalists and the public.

Health: prevention and nanomedicine developments

Nanoparticles are known to *already* be in our environment because of natural or artificial events as eruptions, pollution from waste incinerators, depleted uranium fallouts, and diseases from nanoparticles entering human body due to until now unexpected causes (as ceramic dental prothesis¹¹) are already being investigated by a new branch of studies on the so called <u>nanopathologies</u>. Some consumer-citizens' groups started mobilzing around the issue. By way of prevention, timely links of nanopathology with <u>work medicine</u> should be established, strictly monitoring workers in nanometerials research and manufacturing – seemingly the most exposed to H&S risks cathegories, at present. Guidelines for prevention should be urgently made ready and delivered.

Marketed medical and drug innovations increasingly turn to service unnecessary scopes, often supporting a warped vision of healthcare: this trend should not be furthered by nanotechnology applications. ASECO supports applications in the medical field, to the extent that innovations are carefully assessed against unrealistic expectations; especially when public funding is involved in their development and delivery, previous ethical consensus should be reached by public open discussion. Provisions in the United Nations convention to protect the rights of persons with disabilities, that is due to be approved in September, need to be timely known and respected. Medical nanodiagnostics should develop in a way that would not challenge the right for privacy nor create unnecessary alarm to people; on the contrary, they should also address disregarded illnesses and world's main health problems, as in Millenniun Goal 6.

⁹ http://www.opsi.gov.uk/si/si2005/20051803.htm

¹⁰ http://www.nanoforum.org/

¹¹ http://www.nanodiagnostics.it/

ASECO asks medical research on nanopathologies is encouraged and effectively supported; that its scope embeds occupational H&S; that developments in nanomedicine address major health goals; that adequate and timely information is given to professionals that may be concerned and to the general public;

Revise and adapt the EU regulatory frame

Introduction of new products and services into the markets needs previous citizens' approval by way of regulation. The fact the field of nanotechnology is so new, that even a common terminology has not yet been agreed upon, brings with that in most sectors current regulations are likely to be inappropriate or not sufficient.

Opinions and recommendations are already being put forward by an increasing group of experts: e.g. in the EC 2004 workshop "Mapping out Nano Risks"¹², the 2004 Royal Society and Royal Academy Report "Nanoscience and nanotechnologies: opportunities and uncertainties"¹³, the 2006 Report "Nanoregulation"¹⁴ by the Swiss Innovation Society. Gaps in food and packaging regulation have been recently assessed by the UK FSA¹⁵, and under consumers' pressure because of nanoproducts on their market the FDA is entering a review process of the US regulatory schemes for drugs, cosmetics and medical aids¹⁶.

ASECO asks that the relevant EU regulatory frame is timely revised, with help from consumers, in the light of a proactive approach; that it is progressively adequated in parallel with science and experience: that the case for a specific Authority is taken into consideration.

International dimension

Market globalisation, ICT, and easier products' and services' delivery from any part of the world to all others, pose both opportunities and threats to consumption - as learned by the VIAGRA case. Taking advantage the relevant scientific community is still restricted and connected, and that investment decisions are still uncertain, as many as possible efforts should be made for international and timely consensus is gained, on the appropriate set of rules (including standardization¹⁷) for the emerging technologies.

In present uncertainty conditions about possible hazards, precaution is an obligation. An updated <u>list of the sites</u>, where nanotechnologies are researched and manufactured, needs to be publicly available. Inspiration should be driven from provisions in the 96/82/CE "Seveso" directive¹⁸, in case that same directive may not be satisfactorily and timely adapted.

The fact that globalisation is in place neeeds to be fully taken into consideration, for those new technologies whose effects and spin-offs depend from, both in positive terms (e.g. effectiveness) and in negative terms (e.g. lower control). New technologies should help lower existing <u>divides</u> and not create new ones; related technology transfer and Intellectual Property Rights issues should be timely addressed.

¹² http://ec.europa.eu/health/ph risk/events risk en.htm

¹³ http://www.nanotec.org.uk/finalReport.htm

¹⁴ http://www.nanoregulation.ch

¹⁵http://www.foodproductiondaily.com

¹⁶ http://www.fda.gov/nanotechnology/

¹⁷ http://www.iso.org/iso/en/commcentre/pressreleases/archives/2005/Ref980.html

¹⁸http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=it&numdoc=31996L0082&model =guichett

Territorial aspects: respect consumer-citizens' will

Consumers are at the joint between the market and the territory.

Technological applications to production need to be backed by appropriate social, cultural, regulatory and environmental set ups. Huge, sudden transformations in production need for social awareness and consensus in their sites' local communities, besides acceptance by the workers' community: as learnt by e.g. nuclear power, energy, waste treatment facilities' cases, disputes about do affect consumers, even distant consumers. Some nanotech products may contaminate the environment and/or people near by, in a sort of cross-contamination, and we have to take into account that nanotech products may be active or inert after using them. The risk the same mistakes that were made with GMOs are repeated is real and repeating such mistakes in the nanotechnology case would be <u>unforgivable</u>.

ASECO members were early involved in the CSR process and some of them participate to the ISO Social Responsibility wg. Supporting CSR¹⁹, consumers ask the opinion of local communities involved in one product's life-cycle is disclosed to the general public, since it is relevant in order distant consumers' right to <u>responsible consumption</u> can be exercised.

The new fact is that consumers' knowledge requirements in the case of nano products are likely to go far beyond what actually applies to known sectors. Informative costs are high to individuals, in proportion with the newness of the goods they address. Also because of that, besides risks they may be aware of, consumers may consider there are valid reasons to exclude from their market given products and to create "nano-free" purchase zones. In order to prevent cross-contamination by nanotech products still active after use or their possible metabolites, some consumer-citizens may choose for a secluded use of nantotech products from cradle to grave. ASECO asserts consumer-citizens have an unchallengeable right to do the way they wish on their territory.

If such consumer-citizens' options are opposed, the 2003 Canadian ETC group call for a <u>global</u> <u>moratorium</u>²⁰ might become a topical subject and gain widespread support.

ASECO supports provisions to regulate new technologies are agreed upon - and as far as possible adopted - at the international level, under the condition that where local communities reject or approve by stricter provisions relevant research/ production facilities, local citizens' will is not challenged and is fully respected. Likewise, where local communities reject or approve by stricter provisions the introduction of products and/or services deriving from nanotechnology in their markets.

The field for legitime offer

First of all, new technologies should <u>not be addressed towards scopes that people disapprove</u>: war aggressive scopes, for instance. Chemical and bacteriological weapons are banned by international Conventions: existing provisions should be updated to ensure that weapons are not created by way of the emerging technologies.

Applications of new technologies should <u>address top priority goals</u>, as the Millennium goals²¹ for instance.

Applications of new technologies should <u>not superpose to already satisfactory</u> production and consumption solutions, unless and until evidence of real improvement – be it from increased

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¹⁹ http://ec.europa.eu/enterprise/csr/campaign/index_en.htm;

http://www.etcgroup.org/main.asp

²¹ Millennium Goals are listed in Annex

benefits and/or reduced risks in comparison with ongoing solutions – can be provided: as an example, ASECO opposes food irradiation and supports the global campaign against. The EPD Environmental Product Declaration²² may prove to be a useful tool, in order evidence is given of comparative benefits of new products and solutions.

Special attention and cautiousness should be dedicated to <u>food and agriculture</u> applications, not only under the risk profile: consumers ask for food sovreignty²³ in all parts of the world and ASECO members support the Food Sovereignty campaign.

Radical innovation, especially to face not yet solved problems and to provide <u>enabling solutions</u> that would decrease present unwanted dependencies, is of course most welcome. Consumers strongly support nanotechnology <u>applications</u> to <u>preserve the environment</u> (e.g. for energy production, especially solar electricity) and for energy savings (e.g. in building materials).

ASECO asks public procurement takes the lead in the use and diffusion of relevant applications.

Retailers' and service deliveres' role and responsibility

The GMOs case, increasing demand for "ethical" products, request for traceability, etc., sufficiently illustrate that more and more consumers take into consideration the whole life-cycle of a product and are interested in many of its material/immaterial aspects, wishing to take into account both benefits and damages deriving from their purchase when questioning the opportunity to buy or before expressing their choice.

<u>Retailers</u> are not adequately prepared, in general, to satisfy such information needs and only few – though deserving - distribution chains openly declare what policies they adopt on behalf of their consumers.

ASECO asks retailers and service deliveres are timely made aware of consumers' concerns about nanotechnology applications, and that they assess and disclose their policy with regard to products and services they offer.

Basic purchasers' rights

The issues of labelling and advertising have been studied in depth and long discussed with regard to a range of diverse products. A set of needs for labelling, including addition of nanoparticulate material in the ingredients lists, information on use of nanotechnology in the production process, traceability, should look by now <u>obvious</u>. In the revision process, consumers' labelling requirements that have been advanced formerly - e.g. in the BSE or GMOs cases - should be taken into account.

The W. Wilson-Pew institutions' "Project on Emerging Nanotechnologies" database²⁴ (apparently the only publicly available database on consumer products already on the world market) lists 276 issues: amongst them, 22 are in the "food & beverage" cathegory²⁵ and 172 in the "Health and Fitness" cathegory where cosmetics, solar screens, toothpaste mix with textiles and sporting goods. Most products are sold in the US but 46 are offered to the European consumer: 17 in Germany, 13 in France, 11 in the UK, 2 in Finland, 2 in Switzerland and 1 in Sweden; the list is far from complete, as for instance nano solar screens are commonly marketed in Italy.

²³ http://www.foodsovereignty.org/

²⁴ www.nanotechproject.org/consumerproducts

²² http://www.environdec.com/

²⁵ http://www.foodproductiondaily.com/news/ng.asp?id=70058

Experts agree that the most incumbent risks, aside to occupational risks, are linked to nanoparticles surmounting skin barriers or entering the human body through inhalation. The case of a nano-product maketed in Germany²⁶ ("Magic Nano": a bathroom cleaner, significantly marketed by the German subsidiary of a US TNC²⁷) that was recalled for causing respiratory problems to 77 consumers, highligts <u>urgency</u> to remedy to present delays in regulation, the need for consumers' education, liability assessment rules, provisions for redress to consumers. In any case demand from not/unsufficiently aware consumers shall not legitimate irresponsible production, reversing by this way the charge for liability.

As already said, drug regulation principles should apply to nanotechnology: in particular, where risks to humans need to be assessed, producers will turn to (consenting informed monitored and rewarded) volunteers for testing: no excuse is there, for (paying and unaware) consumers are used as human guinea pigs.

Aseco asks that appropriate labelling provisions, as well as liability assessment rules and standards for redress are URGENTLY adopted, with consumer associations' advice and consensus, BEFORE products and services are offered on their markets; that rules against deceptive marketing and advertisement are updated as appropriate.

As a conclusion, there is plenty of room for <u>legitime innovation</u> in areas of actual interest to consumers; however, if correctness rules are not observed, not only offered products and services will be challenged but regulators, professionals and producers will be kept liable and rejected.

27 Illinois Tool Works, "a US Fortune 200 corporation with 650 subsidiaries in 45 countries and 49,000 employees"

²⁶ Rick Weiss, "Nanotech Product Recalled in Germany," Washington Post, April 5, 2006

ANNEX

ASECO member organizations:

- Active Consumers (Denmark)
- ACU Associazione Consumatori Utenti ONLUS (Italy)
- Association for Food Safety and Consumer Protection (Czech Republic)
- BNCA Bulgarian National Consumers Association (Bulgaria)
- E.KAT.O. Hellenic Consumer Organisation (Greece)
- The Food Commission (UK)
- Goede Waar & Co (The Netherlands)
- LNCF Lithuanian National Consumers Federation (Lithuania)
- Swedish Consumer Coalition (Sweden)
- The Swedish Martha Association in Finland (Finland)
- VELT Vereniging voor Ecologische Leef- en Teeltwijze (Belgium)
- Die Verbraucher Initiative (Germany)

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Consumer rights:

- basic needs satisfaction
- health and safety
- adequate information
- choice of products and services
- representation
- redress
- education to responsible consumption
- healthy environment
- sustainability

The Millennium goals:

- Goal 1: Eradicate extreme poverty and hunger
- Goal 2: Achieve universal primary education
- Goal 3: Promote gender equality and empower women
- Goal 4: Reduce child mortality
- Goal 5: Improve Maternal Health
- Goal 6: Combat HIV/AIDS, malaria and other diseases
- Goal 7: Ensure environmental sustainability
- Goal 8: Develop a global partnership for development

United Nations Guidelines for Consumer Protection

(artt. 42 - 55)

G. Promotion of sustainable consumption

- 42. Sustainable consumption includes meeting the needs of present and future generations for goods and services in ways that are economically, socially and environmentally sustainable.
- 43. Responsibility for sustainable consumption is shared by all members and organizations of society, with informed consumers, Government, business, labour organizations, and consumer and environmental organizations playing particularly important roles. Informed consumers have an essential role in promoting consumption that is environmentally, economically and socially sustainable, including through the effects of their choices on producers. Governments should promote the development and implementation of policies for sustainable consumption and the integration of those policies with other public policies. Government policy-making should be conducted in consultation with business, consumer and environmental organizations, and other concerned groups. Business has a responsibility for promoting sustainable consumption through the design, production and distribution of goods and services. Consumer and environmental organizations have a responsibility for promoting public participation and debate on sustainable consumption, for informing consumers, and for working with Government and business towards sustainable consumption.
- 44. Governments, in partnership with business and relevant organizations of civil society, should develop and implement strategies that promote sustainable consumption through a mix of policies that could include regulations; economic and social instruments; sectoral policies in such areas as land use, transport, energy and housing; information programmes to raise awareness of the impact of consumption patterns; removal of subsidies that promote unsustainable patterns of consumption and production; and promotion of sector-specific environmental-management best practices.
- 45. Governments should encourage the design, development and use of products and services that are safe and energy and resource efficient, considering their full life-cycle impacts. Governments should encourage recycling programmes that encourage consumers to both recycle wastes and purchase recycled products.
- 46. Governments should promote the development and use of national and international environmental health and safety standards for products and services; such standards should not result in disguised barriers to trade.
- 47. Governments should encourage impartial environmental testing of products.
- 48. Governments should safely manage environmentally harmful uses of substances and encourage the development of environmentally sound alternatives for such uses. New potentially hazardous substances should be evaluated on a scientific basis for their long-term environmental impact prior to distribution.
- 49. Governments should promote awareness of the health-related benefits of sustainable consumption and production patterns, bearing in mind both direct effects on individual health and collective effects through environmental protection.
- 50. Governments, in partnership with the private sector and other relevant organizations, should encourage the transformation of unsustainable consumption patterns through the development and use of new environmentally sound products and services and new technologies, including information and communication technologies, that can meet consumer needs while reducing pollution and depletion of natural resources.
- 51. Governments are encouraged to create or strengthen effective regulatory mechanisms for the protection of consumers, including aspects of sustainable consumption.
- 52. Governments should consider a range of economic instruments, such as fiscal instruments and internalization of environmental costs, to promote sustainable consumption, taking into account social

needs, the need for disincentives for unsustainable practices and incentives for more sustainable practices, while avoiding potential negative effects for market access, in particular for developing countries.

- 53. Governments, in cooperation with business and other relevant groups, should develop indicators, methodologies and databases for measuring progress towards sustainable consumption at all levels. This information should be publicly available.
- 54. Governments and international agencies should take the lead in introducing sustainable practices in their own operations, in particular through their procurement policies. Government procurement, as appropriate, should encourage development and use of environmentally sound products and services.
- 55. Governments and other relevant organizations should promote research on consumer behaviour related to environmental damage in order to identify ways to make consumption patterns more sustainable.

Note 9 in "NANOTECHNOLOGIES: A PRELIMINARY RISK ANALYSIS ON THE BASIS OF A WORKSHOP ORGANIZED IN BRUSSELS ON 1–2 MARCH 2004 BY THE HEALTH AND CONSUMER PROTECTION DIRECTOR

Communication from the Commission on the precautionary principle (COM (2000)1 final). In order to avoid misunderstanding regarding the "Precautionary Principle" within the context of European Community legislation, it seems important to point out in particular that "the Commission stresses that the precautionary principle may only be invoked in the event of a potential risk and that it can never justify arbitrary decisions. Hence the precautionary principle may only be invoked when the three preliminary conditions are met—identification of potentially adverse effects, evaluation of the scientific data available and the extent of scientific uncertainty." (Art. 6 of COM (2000)1 final). Moreover, "as regards the measures resulting from use of the precautionary principle, they may take the form of a decision to act or not to act. The response depends on a political decision and is a function of the level of risk considered 'acceptable' by the society on which the risk is imposed." (Art. 7). Finally, "when action without awaiting further scientific information seems to be the appropriate response to the risk in application of the precautionary principle, a decision still has to be taken as to the nature of this action. Besides the adoption of legal instruments subject to review by the courts, there is a whole raft of measures for decision-makers to choose from (funding of a research programme, informing the public as to the adverse effects of a product or procedure, etc.). Under no circumstances may the measure be selected on the basis of an arbitrary decision." (Art. 8)