

# UK GOVERNMENT DEFINITIONS OF THE ENVIRONMENTAL GOODS AND SERVICES SECTOR

## Defining Environmental Goods and Services

Environmental goods and services concern the management and protection of our natural resources. Historically, environmental firms were largely established to help industry meet the requirements of environmental regulations (mainly so called 'end of pipe' techniques and 'clean up'). With the drive towards cleaner and more resource efficient processes, products and materials, and an increasing emphasis on life-cycle thinking ('sustainable production and consumption'), the coverage of the sector has expanded to embrace 'resources management'.

Therefore, this is a cross-cutting and emerging sector which includes both companies that have been created specifically to serve this market and companies sitting in more traditionally defined sectors (such as engineering) that are diversifying in response to this opportunity. There is no exact boundary around the sector. While some companies (e.g. environmental consultancy) will readily identify with an environmental industry sector, others may not see themselves as operating within this sector. The key point is that there is a sector with common issues arising from the nature of the market it is serving.

The term 'Environmental Technologies' is also used.

It can be defined as all technologies whose use is less environmentally harmful than relevant alternatives, or end-of-pipe technologies that clean up pollution. These include technologies to manage pollution (e.g. air pollution control, waste management); less polluting and less resource-intensive technologies and services (e.g. renewable energy); and ways to manage resources more efficiently (e.g. water supply, energy-saving technologies). Other more environmentally sound techniques are process-integrated technologies in all sectors and soil remediation techniques. Thus defined, these technologies pervade all economic activities and sectors, where they cut costs and improve competitiveness by reducing energy and resource consumption and so creating less emissions and waste.

## **Using the definitions:**

The sub-sectors listed below are all commonly regarded as part of the sector, and form a framework for its definition. Each begins with a short description, followed by some more detailed operational examples. Please refer to the *UK Government Guide to Mapping the UK Environmental Goods and Services Sector* when using these definitions.

All of the sub-sector definitions include end-of-pipe and cleaner technologies and processes. The sub-sector 'Cleaner Technologies' should only be used for new technologies that do not clearly fit elsewhere.

This Guide will be revised annually.

## **Contents:**

- Section 1: Sub-sector definitions
- Section 2: Sub-sector definitions with additional examples of types of activity covered by the definition

## **Section 1**

### **Air Pollution Control**

Defined as products, systems and services for the prevention, reduction and removal of gaseous and particulate pollutants from air. Examples include external and internal emission and odour control, filters and catalytic converters and treatment systems. This sub-sector may also include Environmental Monitoring, Instrumentation and Analysis activities specific to this sector.

### **Cleaner Technologies & Processes**

Defined as products, systems and services which, by design: use resources from more sustainable sources; transform resources to deliver same functions with less resources; transform resources with less waste; and transform resources with waste designed to be recycled effectively. ***This should only be used if it is not more appropriate to place the activity in one of the other sub-sectors.***

### **Decommissioning/Decontamination of Nuclear Sites**

Defined as products, systems and services required for the decommissioning of existing nuclear liability sites and structures.

### **Environmental Consultancy**

Defined as services to provide assessment and advice relating to environmental issues. Examples include environmental audits, environmental management systems and training, life cycle assessment, environmental impact assessment, advice on bio-diversity, environmental regulations and corporate environmental responsibility. For the purpose of statistics, this sub-sector covers consultants providing advice in two or more sub-sectors or specialists not covered elsewhere.

### **Environmental Monitoring, Instrumentation and Analysis**

Defined as products, systems and services for measuring and monitoring environmental parameters. Examples include water, air and soil quality, meteorological conditions and flow rates, including on site and laboratory analysis. For the purpose of statistics, this sub-sector includes specialist activities not covered in other sub-sectors, such as air and noise pollution, radiological monitoring, land remediation and energy management.

### **Energy Management/Efficiency**

Defined as products, systems and services for energy management and energy efficiency. Examples include energy consultancy/audits, building energy management systems, energy efficient products and efficiency advice. This sub-sector may also include Environmental Monitoring, Instrumentation and Analysis activities specific to this sector

### **Marine Pollution Control**

Defined as products, systems or services for controlling, clean up and minimising marine pollution. Examples include products such as oil absorbents and booms; and services such as marine pollution prevention training, monitoring and clean up services.

### **Noise and Vibration Control**

Defined as products, systems and services for monitoring and reducing noise and vibration. Examples include noise meters, monitoring systems, acoustic buffers, enclosures and barriers and silencers. This sub-sector may also include Environmental Monitoring, Instrumentation and Analysis activities specific to this sector.

### **Remediation and Reclamation of Land**

Defined as products, systems and services for the identification, assessment and remediation/reclamation of land and buildings, including prevention of contaminant dispersal. Examples include adsorbents and injection equipment, monitoring systems and proprietary treatment processes, and sampling/analysis and site investigation/ engineering.

**Renewable Energy**

Defined as products, systems and services for the generation and collection of energy from renewable sources such as biomass/biofuels, solar, photovoltaic, wind, hydro, tidal and geothermal sources. Examples include the manufacture of equipment, design, construction, installation, management and operation of renewable energy facilities, including microgeneration.

**Waste Management, Recovery and Recycling**

Defined as products, systems and services for the minimisation, collection, treatment, segregation, recovery, recycling and disposal of waste that may include paper, organics, metals, glass, plastics, demolition and construction wastes, electrical and white goods. Examples include advice on waste minimisation, landfill, mechanical and biological treatment, regulatory advice and technologies such as specialised containment, shredders, compactors and waste management vehicles.

**Water Supply and Wastewater Treatment**

Defined as products, systems or services for the management of the fresh water environment, provision, treatment, distribution and storage of clean water and wastewater for industrial and domestic users. Examples include resource development, demand management, manufacture of wastewater treatment equipment, design, construction, installation and operation of water and wastewater treatment facilities.

## **Section 2**

### **Air Pollution Control**

Defined as products, systems and services for the prevention, reduction and removal of gaseous and particulate pollutants from air. Examples include external and internal emission and odour control, filters and catalytic converters and treatment systems. This sub-sector may also include Environmental Monitoring, Instrumentation and Analysis activities specific to this sector.

Further examples:

- Carbon capture and storage
- Dust and particulate control
- Indoor air quality (e.g. air purifiers, ventilation systems and building design)
- Industrial ambient (workplace) air control
- Industrial emission control (scrubbers, electrostatic precipitators, etc)
- Industrial/Mobile source emission control – equipment manufacture, installation and repair
- Odour control (internal/external)
- Process engineering to reduce emissions
- Research and development, and production of, cleaner technologies & processes in the above sub-sector

### **Cleaner Technologies & Processes**

Defined as products, systems and services which, by design: use resources from more sustainable sources; transform resources to deliver same functions with less resources; transform resources with less waste; and transform resources with waste designed to be recycled effectively. ***This should only be used if it is not more appropriate to place the activity in one of the other sub-sectors. This area of activity will be regularly reviewed.***

Further examples:

- Use of renewable and biodegradable materials
- Processes using fewer and/or more benign chemicals; less dense materials delivering the same or more function(s) and with the same or better properties
- Use of more benign materials
- Homogenous or compatible recyclable materials replacing composites with the same functions and properties
- More common materials, and/or those nearer to place of processing
- Integrated processes in which the unused energy and materials from one process become part of another

### **Decommissioning/Decontamination of Nuclear Sites**

Defined as products, systems and services required for the decommissioning of existing nuclear liability sites and structures.

Further examples:

- Air, water and soil monitoring technologies, sampling and laboratory testing services
- Consultancy
- Decontamination, recycling and compaction technologies, waste collection and containment
- Groundwater treatment and soil testing technologies, soil washing and leachate control systems, site assessment, monitoring, sampling and analysis, soil excavation and project management services
- Pipes and tanks, control systems, wastewater treatment systems, facilities management services
- Pollution control advice, environmental risk analysis, environmental impact assessment
- Research and development, and production of, cleaner technologies & processes in the above sub-sector

### **Environmental Consultancy**

Defined as services to provide assessment and advice relating to environmental issues. Examples include environmental audits, environmental management systems and training, life cycle assessment, environmental impact assessment, advice on bio-diversity, environmental regulations and corporate environmental responsibility. For the purpose of statistics, this sub-sector covers consultants providing advice in two or more sub-sectors or specialists not covered elsewhere.

Further examples:

- Climate change modelling
- Eco-design
- Ecological surveys, bio-diversity assessment, habitat advice
- Environmental insurance, due diligence and eco-investment activities
- Regulatory/legal advice
- Stakeholder engagement

### **Environmental Monitoring, Instrumentation and Analysis**

Defined as products, systems and services for measuring and monitoring environmental parameters. Examples include water, air and soil quality, meteorological conditions and flow rates, including on site and laboratory analysis. For the purpose of statistics, this sub-sector includes specialist activities not covered in other sub-sectors, such as air and noise pollution, radiological monitoring, land remediation and energy management.

Further examples:

- Enforcement monitoring (oil spill detection, waste tracking, vehicle testing, environmental aspects of food testing)
- In situ monitoring e.g. emissions, nitrate levels, water quality
- Laboratory testing of samples
- Manufacture of instrumentation and laboratory equipment (including software)
- Metering of water supply services
- Research and development of new monitoring and measurement technologies to achieve cleaner technologies & processes in the above sub-sector

### **Energy Management/Efficiency**

Defined as products, systems and services for energy management and energy efficiency. Examples include energy consultancy/audits, building energy management systems, energy efficient products and efficiency advice. This sub-sector may also include Environmental Monitoring, Instrumentation and Analysis activities specific to this sector.

Further examples:

- Design of energy efficiency in new buildings and modification of existing buildings to upgrade energy performance
- Energy management advice, installation of systems
- Manufacture of CHP equipment (non-renewable feedstocks)
- Manufacture of energy conservation material (insulation)
- Manufacture of energy monitoring and control equipment
- Process engineering to make non-renewable generation cleaner/more efficient
- Research and development, and production of, cleaner technologies & processes in the above sub-sector

### **Marine Pollution Control**

Defined as products, systems or services for controlling, clean up and minimising marine pollution. Examples include products such as oil absorbents and booms; and services such as marine pollution prevention training, monitoring and clean up services.

Further examples:

- Advice on prevention and mitigation of marine pollution
- Coastal zone management
- Environmentally related offshore oil/gas technologies (e.g. produced water containment/treatment)
- Removal, treatment and containment operations and technologies
- Shoreline and shallow water remediation
- Research and development, and production of, cleaner technologies & processes in the above sub-sector

### **Noise and Vibration Control**

Defined as products, systems and services for monitoring and reducing noise and vibration. Examples include noise meters, monitoring systems, acoustic buffers, enclosures and barriers and silencers. This sub-sector may also include Environmental Monitoring, Instrumentation and Analysis activities specific to this sector.

Further examples:

- Manufacture/installation of acoustic management equipment
- Manufacture/installation of building noise insulation
- Manufacture/installation of noise/vibration control and monitoring equipment
- Noise and vibration consultancy services
- Traffic noise control measures, including surface noise modifications
- Research and development, and production of, cleaner technologies & processes in the above sub-sector

### **Remediation and Reclamation of Land**

Defined as products, systems and services for the identification, assessment and remediation/reclamation of land and buildings, including prevention of contaminant dispersal. Examples include adsorbents and injection equipment, monitoring systems and proprietary treatment processes, and sampling/analysis and site investigation/ engineering.

Further examples:

- Associated land forming and re-vegetation
- Prevention of contamination (bunds, geotextiles, storage and containment precautionary measures, oil interceptors, sustainable urban drainage systems)
- Removal, treatment and containment operations and technologies
- Soil cleaning technologies
- Specialist environmental cleaning of industrial facilities
- Surface and ground water remediation
- Research and development, and production of, cleaner technologies & processes in the above sub-sector

## **Renewable Energy**

Defined as products, systems and services for the generation and collection of energy from renewable sources such as biomass/biofuels, solar, photovoltaic, wind, hydro, tidal and geothermal sources. Examples include the manufacture of equipment, design, construction, installation, management and operation of renewable energy facilities, including microgeneration.

Further examples:

- Combined Heat and Power (renewable feedstocks)
- Distribution of renewable energy (including electricity and heat)
- Distribution/storage of renewable fuels
- Heat exchangers including ground pumps
- Manufacture/installation/repair of generation equipment
- Research and development of new/improved renewable energy technologies
- Supply of agricultural feedstocks for biomass/biofuels
- Supply of renewable energy
- Supply of renewable fuels
- Research and development, and production of, cleaner technologies & processes in the above sub-sector

## **Waste Management, Recovery and Recycling**

Defined as products, systems and services for the minimisation, collection, treatment, segregation, recovery, recycling and disposal of waste that may include paper, organics, metals, glass, plastics, demolition and construction wastes, electrical and white goods. Examples include advice on waste minimisation, landfill, mechanical and biological treatment, regulatory advice and technologies such as specialised containment, shredders, compactors and waste management vehicles.

Further examples:

- Collection and management of hazardous wastes
- Collection and transport of solid and liquid wastes
- Construction of landfills/incinerators (without energy recovery)
- Managing construction and demolition waste
- Manufacture of equipment/vehicles for storage/collection/transport of solid waste
- Research and development of new waste treatment technologies and technologies that minimise waste production
- Treatment of waste prior to landfill/incineration
- Vitrification
- Construction of energy and material recovery facilities/equipment
- Manufacture and supply of specialist equipment for collection, sorting and processing of materials
- Materials collection and reprocessing
- Operation of material and energy recovery facilities, including composting, anaerobic digestion and energy from waste
- Segregation, treatment and supply of recyclates and untreated waste materials
- Research and development, and production of, cleaner technologies & processes in the above sub-sector

## **Water Supply and Wastewater Treatment**

Defined as products, systems or services for the management of the fresh water environment, provision, treatment, distribution and storage of clean water and wastewater for industrial and domestic users. Examples include resource development, demand management, manufacture of wastewater treatment equipment, design, construction, installation and operation of water and wastewater treatment facilities.

Further examples:

- Catchment management (including compliance with the Water Framework Directive)
- Construction/maintenance of plant/infrastructure for treatment/distribution of water to buildings and wastewater (including septic tanks, natural systems)
- Construction/maintenance of sustainable urban drainage systems
- Demand management and leakage reduction
- Management of sewage sludge
- Manufacture/installation of efficient management systems for water/wastewater and systems for treatment/reuse of industrial wastewater, water-saving appliances/equipment, grey water systems and rainwater harvesting equipment
- Primary, secondary and tertiary treatment technologies (e.g. filters and screens, effluent treatment plant)
- Research and development, and production of, cleaner technologies & processes in the above sub-sector