

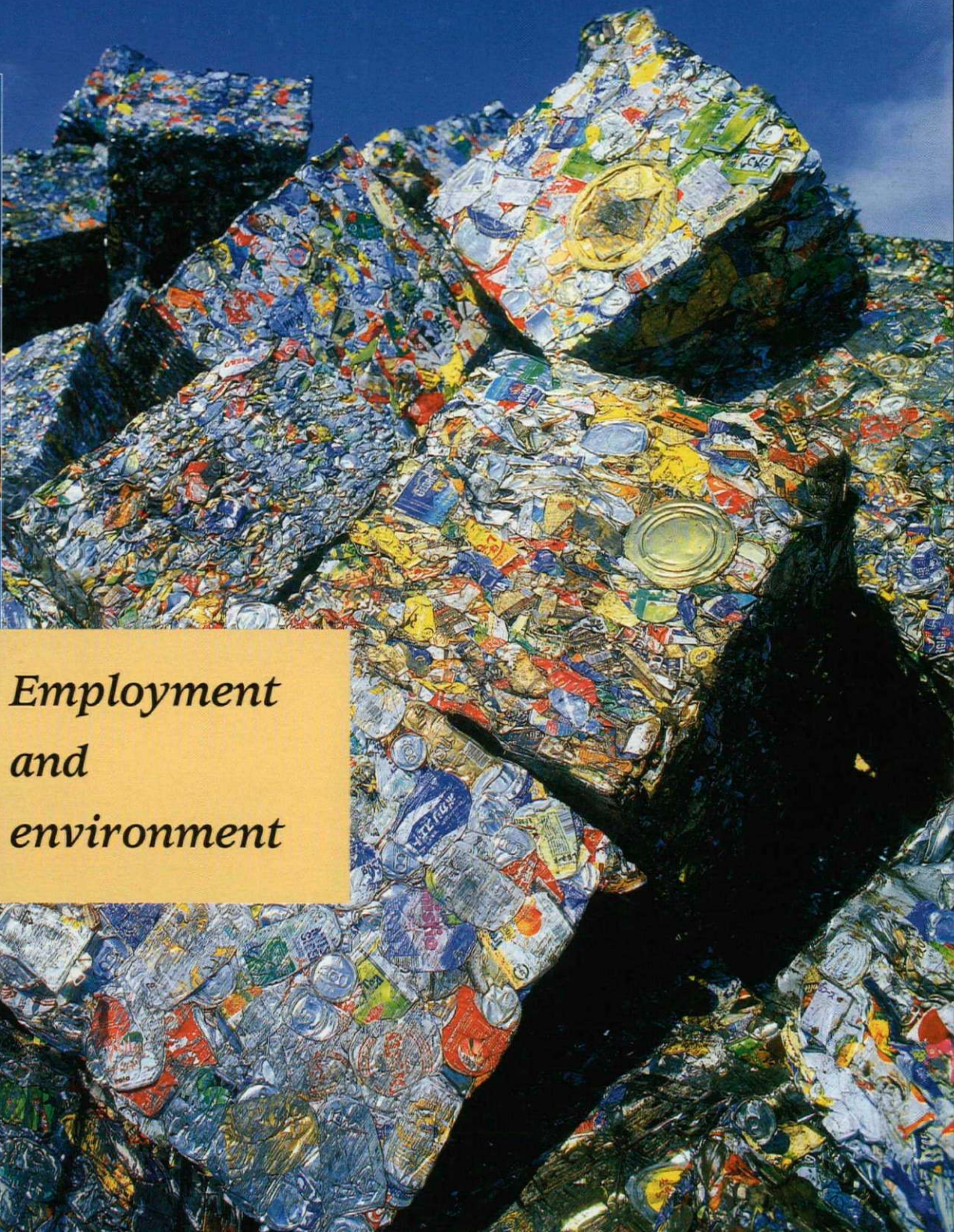
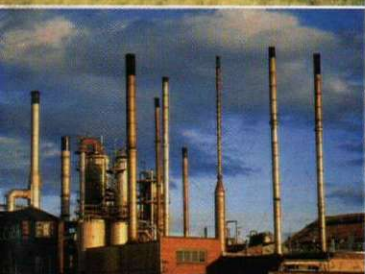
2000



COUNCIL OF EUROPE

naturupa

No. 92 / 2000 • ENGLISH



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and
environment*

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Layout

Emmanuel Georges

Printer

Bietlot - Gilly (Belgium)

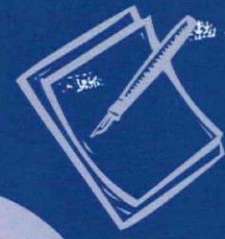
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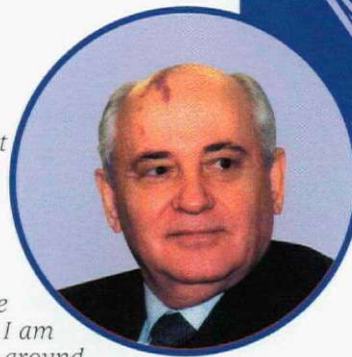
Employment and environment

Two of Europe's most pressing problems, unemployment and environmental degradation, could be substantially reduced if its people, and particularly government and economic leaders, would reappraise the worth of the environment and recognise the true economic value of protecting nature. In Europe, the western countries have made progress in environmental awareness, but this is still seen as an expense rather than an income-generator; in the east, countries believe that they are faced with a choice between economic growth and environmental protection. There should be no separation between the economic development of a state and the welfare of its natural assets, such as the physical environment and the people who depend on it. Any growth at the expense of these precious resources will be short-lived and ultimately detrimental to the economy, the ecosystem and the people concerned.

Nature needs protection, but people also need work and money. Without jobs and decent incomes, people understandably tire of hearing and worrying about problems that seem far from their daily needs and concerns. In both developing and developed countries unemployment and poverty are acute concerns, while urgent environmental problems persist and inevitably worsen. Developed countries continue to squander natural resources, while developing countries struggle with how to achieve basics like clean water and food security. Although there is now an unprecedented awareness and knowledge about environmental degradation, individual people as well as governments continue to view the protection of nature as a luxury in developing countries, and as a break from free-market consumerism in developed countries, rather than a necessity for survival. Environmental considerations are often mere footnotes in the plans and priorities of decision-makers. Nature and the economy are seen as conflicting interests.

The conflict is false, and if this perception is not reversed it will come to represent the most dangerous falsehood on the planet. Contrary to conventional wisdom, rather than causing losses in economic growth and job security, both can be strengthened by the translation of environmental policy and goodwill into action. In the persistent struggle between economic growth and environmental protection, job creation is a key reconciliation agent. The creation of jobs in ecotourism, in the direct protection of nature on reserves, in recycling and waste management, and in water supply and sanitation are the most obvious examples, but there are many other, indirect, sustainable incomes to be made which respect the integrity of the environment and the right of people to make their own living. This calls for a value change in the minds of decision-makers in the government and business sectors, and in the daily activities of individuals, towards recognising the

real worth of the environment as an essential component in the health and growth of the economy and the society which it sustains. This is the underlying message which Green Cross International, the environmental NGO of which I am President, is trying to spread around the globe.



In 1992, leaders and citizens of all the nations of the world rejoiced at the conclusion of the unprecedented Earth Summit held in Rio de Janeiro. At last, the world had reached a universal agreement that environmental protection and economic growth could not be separated. Environmental action is not idealism; it should be the blueprint of a new economic policy to help unlock the vast income-creation potential inherent in environmental policy. Change has been slow, but solutions exist and there are people busy all over the world putting solutions into practice against the odds, changing lives and societies for the better at local, national, regional and international levels.

The natural environment of Europe needs more than protection – it needs help to recover. The rivers, forests, mountains and wetlands have all suffered greatly as a result of the unparalleled economic growth of the last decades. To this day, lack of concern for the environment causes catastrophes which not only harm nature but also destroy the livelihoods of people who still live in harmony with it. Contamination of rivers can wreck the lives of thousands directly dependent on them. Deforestation can cause floods which destroy large areas of farmland and even human settlements. Lack of interest and investment in the search for alternative energy sources not only perpetuates the pollution problem, but puts our high living standards at risk if fossil fuels become unaffordable, or unavailable. This is not economically sustainable and is only set to worsen if action is not taken to remove the environmental time-bombs which threaten parts of Europe.

The protection and rehabilitation of Europe's environment, and the shift towards ecologically sustainable economic growth, will require tremendous financial and human resources, but still only a fraction of those used in the past century to obtain military and economic objectives. It is also not possible to isolate Europe's environmental problems from those of the rest of the world; efforts to resolve the rich-poor dichotomy in the world can only bring positive results to Europe. These changes will need political will and courage; in a word, a vision. Europe is fortunate in that the human resources, in terms of labour, expertise and knowledge, are available. Now it is time for the European continent to invest in its future.

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Environmental protection and employment:

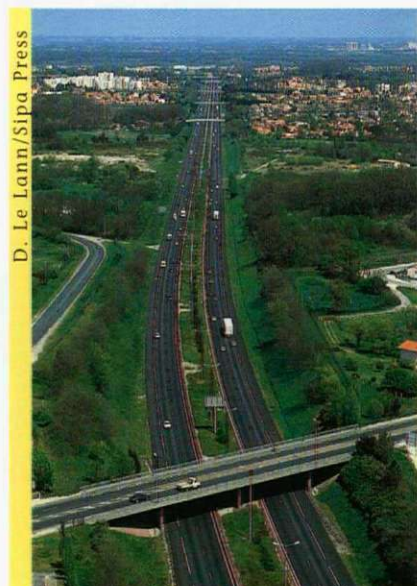


Europe is having to cope with two crises at once. In addition to mass, long-term unemployment there is a whole series of challenges involving environmental protection. It is therefore necessary to look into the possibility of a judicious blend of employment and environmental policies, in the hope of reaping a "double dividend" (see article on page 24).

Given the topicality of the subject, one could be forgiven for thinking that the impact – both real and potential – of environmental protection on employment has only recently come under scrutiny. Yet the matter has been debated, with varying degrees of interest, for around thirty years now. The debate has turned into a kind of "never-ending story" with several individual chapters.

The 1970s: the beginnings

When the first ecological clean-up programmes started to be implemented at the beginning of the 1970s, little attention was paid to their impact on the labour market.



D. Le Lann/Sipa Press

The 1974 oil crisis: environmental protection policy is condemned as the jobkiller...

In a Europe then enjoying full employment, there was more concern about whether the labour market could meet the increased demand for environmental protection technology and services without generating a surge in inflation. When production sites were closed down because of the threat they posed to the environment, employees who lost their jobs quickly found new ones.

From 1974: the job-killer

The second phase in the debate began with the 1974 oil crisis and the ensuing recession. As unemployment rose, environmental protection policies were attacked from all sides – as, indeed, were social and fiscal policies in general. Employers and trade unions alike condemned environmental policy as the "job-killer" that slowed down economic growth, hindered investment and caused company closures. At the same time, however, environmental "bureaucrats" and associations presented the first studies on the subject, which showed that environmental protection measures ultimately had relatively positive effects on employment and offered many opportunities for job creation.

The 1980s: first attempts at integration

The 1980s, the third chapter in the story, saw a more pragmatic approach and the first attempts to integrate the two sets of policies. In the meantime, several countries had conducted wide-ranging studies on the real impact of environmental policies on employment. These showed up to 3% of the working population to be employed in environmental protection activities. Moreover, the structural changes advocated under environmental policies helped to create new industries in the environmental sector. At the same time, there was no convincing evidence that environmental regulations were to blame – either in whole or in part – for job losses. Overall, there was general agreement that environmental protection measures cre-

ated jobs, but in small numbers. Given this largely positive assessment, some European countries turned to the environmental sector in the 1980s and began implementing cyclical growth programmes aimed at increasing employment (mainly involving investment in environmental protection), government-subsidised job-creation schemes and supply-side employment measures (basic and further training and business start-ups, for instance).

The 1990s: the employment situation

The fourth phase in the debate, which began in the early 1990s, was accompanied not only by a sharp increase in unemployment in Europe, but also by the persistence of various environmental problems and growing awareness of the need to protect the climate. These circumstances revived the debate, but also introduced an increasingly sceptical, not to say critical, tone.

In view of globalisation and its negative impact on the labour market, the preservation of jobs became one of the main social objectives. In contrast, improvements in environmental protection were no longer a priority in most European countries. Industrialists found environmental protection too expensive and called for a breathing-space, by way of the suspension or even abolition of environmental obligations and taxes. They maintained that rejection of their demands for deregulation in the environmental sector could lead to job losses.

At the same time, there were clear signs of disillusionment and some scepticism about the favourable impact of environmental protection on employment. This was linked to the failure of the efforts to integrate environmental and employment policies, which to date had mainly involved macroeconomic measures (imposed from above). The high level of public deficits and the need to meet the Maastricht criteria in order to achieve European mone-

a never-ending story

tary union prevented governments from developing other spending programmes geared to the environment. Moreover, the Keynesian demand-stimulation policies had no lasting effects and did not reach the groups, sectors and regions hardest hit by unemployment. Job-creation measures in the environmental sector such as those in Germany's new *Länder*, for instance, did not actually help the unemployed to find real, unsubsidised jobs, and supply-oriented labour market policies also failed to produce any significant effects. Faced with the gradual freezing of environmental legislation in the European Union, firms in the environmental sector experienced a sharp decline in the effects of demand stimulation, which they were unable to offset with exports. Moreover, the trend towards integrating environmental protection at the manufacturing stage or in products themselves did away with many jobs in the "downstream protection" sector.

Against this background of rising unemployment and declining interest in environmental policies, a new relationship developed between environmental and employment policies. Those in charge of employment policies began citing the opportunities for job creation in the environmental sector more and more frequently in support of their programmes. For their part, environmental associations and environment ministries tried to give more weight to their demands by invoking projections that indicated major benefits in terms of employment. A near-symbiotic relationship based on mutual interests thus developed between the two areas of policy.

Clearly identified priorities

In view of these trends, the debate on the subject entered a new phase at the end of the 1990s.

The integration of environmental and employment policies and the need to give consideration to the environmental and employment

aspects of all other policy areas were established as priorities for the EU (see, in particular, the Amsterdam Treaty, the communication from the European Commission COM/97/592 final, and the EU directives on employment policy).

Mr Delors' White Paper on *Growth, competitiveness and employment* called for a radical, green tax reform that would involve shifting the tax burden from work, where it is already high, to the use of natural resources and energy supplies, which are overexploited. These proposals are already being implemented, albeit cautiously, in Scandinavia, the Netherlands, the United Kingdom and Germany.

Even though great hopes have been placed in the authorities' attempts to carry out a green tax reform which would yield a double dividend, many initiatives have also been taken at grassroots level with a view to integrating economic, employment and environmental policies at local and regional level. Networks devoted to environmental protection, cluster initiatives, centres of environmental excellence, local projects linked to Agenda 21 and local schemes and agreements between local authorities concerning the environment and employment are all signs of a trend towards greater individual initiative and a lasting commitment at local level. These developments all reflect also the efforts to achieve sustainable development at regional level.

Lastly, consideration must be given to the role which environmental protection and employment, in the sense of paid work, will have in the process of globalisation and individualisation. This process is quite clearly being accompanied by a massive reduction in the number of jobs and the volume of material goods, as well as by question-marks over employees' social protection, social rights and powers. The central issues here are the steady growth of mass long-term unemployment and the difficulties of

Mach2 Stock/Sunset



Integration of environmental policy into the economic sector arose in the debate during the 1990s

obtaining paid employment (and hence an income, social protection, an identity and a recognised status within society). The role which environmental protection could play in efforts to find new forms of paid employment and civic initiative will therefore dominate the next chapters in this never-ending story under the heading "protection of employment and the environment"...

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Growth and employment: the eco-industries



Have you ever considered what sort of companies manufacture the equipment that reduces pollution from factories or incinerators?

Do you ever wonder what types of firm produce the reports that we hear about on the news, that tell us that a piece of derelict land is contaminated or that a large river is polluted? Do you ever imagine where your household waste ends up? In a landfill, being incinerated or perhaps being processed into recycled material that may end up in a new product? All the companies carrying out this work belong to the "eco-industries". In this article, I want to explain a little bit more about what comprises this large and expanding sector. I will then look at the impact that the eco-industries have on the European Union economy and how the sector is developing as an important source of "green" jobs.

What are eco-industries?

The OECD and Eurostat recently produced a definitive list⁽¹⁾ of what should be classified under the eco-industries. The eco-industries are defined as "activities which produce goods and services to meas-

ure, prevent, limit, minimise or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems. This includes cleaner technologies, products and services which reduce environmental risk and minimise resource use". It also includes equipment and services that relate to renewable energy and energy efficiency.

The definition categorises the sector according to equipment, construction activities and services provided in relation to pollution management, cleaner technologies and resource management. The definition therefore includes firms that provide equipment and services in areas such as wastewater treatment, air pollution control, waste management, process optimisation, environmental monitoring and instrumentation, engineering and consulting services, analytical services, water utilities, resource recovery, and renewable energy.

Eco-industries across the EU

Clearly the number of firms and organisations covered by this definition is vast. What impact therefore do the eco-industries have on the EU economy? Based on the number of companies registered

with environmental trade associations, trade directories and government departments, we know that the eco-industries comprise of around 30 000 large and small firms, and that these firms employ more than one million people. Looking at the overall eco-industries and the jobs associated with clean technologies, renewable energy, waste recycling, nature and landscape protection, and ecological renovation of urban areas, we find that up to 3.5 million jobs⁽²⁾ in the EU could be "green".

To put this in perspective, the EU car assembly industry directly employs around one million people (the largest discrete industry sector by employment), whilst the EU chemicals industry employs around 450 000.

In monetary terms the sector is also significant, supplying around 100 billion Euro of equipment and services a year to satisfy demand worldwide. Of this, 60 billion Euro relates to services and 40 million to equipment. Within the EU, investment in environmental equipment and services each year totals around 35 billion Euro. By far the greatest expenditure is on wastewater treatment (42% by value), followed by expenditure on waste management (29%) and air pollution control (19%).

There are clear knock-on effects of this expenditure in the EU economy, with benefits to the construction industry (18 billion Euro), capital goods industries (15 billion Euro) and associated service sectors (3 billion Euro). Overall, every one billion Euro of investment in environmental equipment and services leads to a further 1.6 billion Euro generated in operating expenditure and the creation of 30 000 direct jobs. These jobs are created by the businesses that make environmental investments. Such companies will often need to employ dedicated personnel, for example, to handle the day-to-day operations of



A. Boulat/Sipa Press

Within the European Union, investment in environmental equipment and services each year totals 35 billion Euro and the greatest expenditure is on wastewater treatment (42% in value)

effluent treatment plants, or to implement and maintain an environmental management system within their business.

Consolidation in the eco-industries

The structure of the eco-industries in each EU member State is broadly similar, with national differences reflecting the balance and approach to national environmental policy, as well as national variations in the detailed economic structure. In broad terms, northern Europe has the largest share of the EU eco-industries (e.g. Germany, UK and Scandinavia). However, the eco-industries are a truly international industry and companies are rapidly consolidating across the EU (e.g. the wastewater equipment and waste management industries) in order to help them develop market share in the expanding global eco-industries markets. Central and eastern Europe and south-east Asia, for example, are two of the biggest expected growth areas for eco-industries in the next ten years. All of the accession member States, such as Poland and the Czech Republic, will need to invest heavily in pollution prevention and control techniques in order to meet the stringent criteria laid down in EU environmental directives.

Although the eco-industries sector is therefore becoming more mature and the absolute number of firms involved in the industry is set to decline, the anticipated growth in environmental demand is likely to compensate this to some degree by stimulating new companies, products and services and creating more jobs, particularly in the higher technology end of the market. Products will include process control, innovative monitoring technologies and renewable energy equipment. There will also be a shift towards increased use of automation and clean processes



A. Boulat/Sipa Press

Waste management costs around 10 billion Euro in the European Union

to minimise environmental emissions at source and reduce costs.

Driving the market

Within the EU, the European Commission is helping to stimulate new pollution prevention and reduction techniques through its development and implementation of environmental law. For example, the Landfill Directive is an incentive to develop recycling and composting technologies across the EU. The proposed EU-wide energy tax could create half a million new jobs⁽²⁾, in part due to a reduction in income tax (which will help preserve jobs and stimulate job creation), but also as more investment is concentrated on energy efficient equipment and services. Such measures will inevitably stimulate further growth in the eco-industries.

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- (1) *The Environment Industry Manual*, OECD/Eurostat, Nov. 1998 (Doc. Eco-Ind/98/1)
- (2) Eurostat - for the EU Employment Report 1997
- (3) *Green Jobs - Sustainable Job Creation in the European Union*, Central Workers Union, Denmark, August 1999
- (4) The forthcoming Internet-based Eco-Industries Database, developed by ECOTEC Research & Consulting Ltd for the Environment Directorate-General of the European Commission, will enable users to access information on 7 000 EU companies involved in the production and sale of environmental equipment and services.

Jobs in renewable energy

Our society and its economic sectors have always been dynamic. The much discussed "business-as-usual" exists only in theory and in dreams of naïve persons wishing to continue simply what they have always done. Usually relatively rich persons and companies have this attitude – for obvious reasons. Fortunately, many people are creative and try very hard to find improvements for the side-effects of our economic activities and for the still unfulfilled needs of the many less privileged in the world.

Sufficient food, water and energy and less pollution are among those global needs that need much more than a business-as-usual approach. In this article the focus is on energy, but it is clear that energy is a key factor for the solution of all these challenges. With sufficient energy it is possible to grow more food, clean water, prevent pollution and recycle materials.

What is a renewable energy source?

Several renewable energy technologies are very old and have served for centuries. The industrial revolution was fuelled by fossil energy, which after a long response time of the ecosystem caused two side-effects. The first is the future scarcity of fuels, as presented convincingly by the Club of Rome in 1972. The second is the accumulation of the emitted combustion gases in the atmosphere, as predicted by Arrhenius in 1887 and taken seriously since more than a decade. The two energy crises and the Club of Rome report especially initiated an intense search for the modern renewable energy technologies.

I share the view of the growing number of people that Europe – and the rest of the world – can be self-supporting with renewable energy in the future. And that future is just some thirty to fifty years away when we start today. To understand this, you should understand that energy has two

sides – supply and use – that can be modernised. Renewable energy is usually defined as solar, wind and other energies that are generated from eternal natural flows, as opposed to energy from scarce and polluting nuclear and fossil fuels.

On the use of energy we know, since Amory Lovins told us, that a

of the old sectors is positive or negative. It is clear that the already existing "business-as usual" trend of shrinking employment in coal mining and production processes with a low energy-efficiency will be accelerated. At the same time, however, the innovation process continuously generates new products, services and the corresponding jobs.



Renewable energy is usually defined as solar, wind or other energies that are generated from eternal natural flows, as opposed to energy from scarce and polluting nuclear and fossil fuels

large renewable source is the "negawatt" – saved energy is the cleanest energy and there is enormous potential for such cost-effective savings! This means that a well-insulated and sun-oriented house, efficient kitchen and office appliances like fridges, lighting and computers, a teleworking office and trips by rail instead of airplane can reduce the demand for energy in such a volume that a balanced supply from solar sources can be achieved much sooner, easier and cheaper.

What kinds of employment?

It is obvious that new research, development and production capacities create additional employment. The main political uncertainty and discussion has long been whether the balance of these new jobs and the shrinkage

Several studies of economic institutes on this balance of growth and shrinkage exist, usually based on specific packages of policy measures to achieve quantitative environmental or economic goals. Most studies show a small positive employment effect. This outcome was recently confirmed by the self-proclaimed "conservative" consultant Prognos in a study that also compared a number of such previous studies. They predict strong growth in the sectors construction, manufacturing of machinery, including renewable energy systems, trains and buses, and transport services.

The jobs themselves cannot be identified sharply, especially not in the manufacturing of more energy-efficient products and in the services. A construction worker who only puts the insulation mate-

rial in the walls, floors and roofs of buildings and a solar water-heater on the roof is an exemption, as he usually also performs other tasks integrated in his job. A specialist in a production or service unit of photovoltaic systems can be counted fully renewable, if someone wishes to do so. But a bus driver would only count if all his passengers used private cars before? And an employee in a tropical holiday park in northern Europe or in an urban entertainment centre would be a green worker if all guests would otherwise have spent their holidays in a tropical country after a transatlantic flight?

Which mechanisms are useful?

These questions make clear that the net employment effect of climate protection policies can only be roughly estimated and that the indirect effects can be much more important than the visible, direct effects. Integration of environmental policy goals in all economic sectorial policies will without any doubt generate much more new employment than will develop in the so-called eco-business. And rightly so: only this integration will

achieve the so much desired real pollution prevention, while the eco-business can only clean what could not be prevented.

Some policy mechanisms create the desired incentives for this integration in all sectors, avoid sectorial protection and escape the so-called "rebound-effect". They do not prescribe technologies and consumption patterns, but help develop market-prices for "external factors" that were still unpriced, stimulating their consumption. It is becoming better realised that for the present market liberalisation programmes the market-based – or better, market improving – instruments are much more effective and efficient than the traditional command-and-control regulatory approaches.

Political inaction to achieve this correct pricing would be a disaster for the management of our social and environmental externalities: too low prices for the use of the collective property environment will stimulate its over-consumption even more than before. And the social benefits of the new



employment would not be realised. Political courage and action, based on trust in innovation, is highly needed to realise sustainable jobs for all.

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A well-insulated and sun-oriented house, equipped in a rational manner, can considerably reduce the demand for energy

P. Carbiener

Employment in the water industry

The water and waste management industries are the two main components of environment-related activities (each accounting for 40% of the total number of jobs). Within the European Union the water industry employs around 500 000 people, that is 0.4% of the population of working age.

A wide variety of employers

Water-related activities involve producers of goods and providers of services (SMEs, large businesses, public bodies), as well as planning and regulatory authorities (ministries, water authorities, local and regional authorities, etc).

Administrative activities aside, there is not only manufacturing (the production of hydraulic equipment) and technological work (the development of pollution treatments), but also work on the design, construction and use of systems and infrastructure, sometimes on a very large scale (dams, water pipes and networks, satellite observation systems, etc).

Various developments in the coming years will have repercussions on employment. For example, the role of certain categories of employers will increase, job profiles will change, etc. Some of these aspects are outlined below.

The increasing role of private operators

Although on a global scale it is predominantly local public services which are responsible for water supply and sew-

Job distribution ⁽¹⁾		
• Equipment manufacturing		20 - 25%
• Service providers (public and private)		30 - 40%
• R&D laboratories		2 - 3%
• Engineering, research and consultancy		4 - 8%
• Construction and installation of equipment		15 - 20%
• Administration (public bodies)		15 - 20%

Role of private organisations operating in the urban water sector (showing the percentage of total population served) ⁽²⁾		
	1988	1998
• Western Europe	10%	22%
• Central and eastern Europe	0%	1%
• North America	12%	15%
• Latin America	0%	12%
• Africa and the Middle East	< 1%	1%
• Asia, Australia	0%	1%

erage in towns (serving 92% of the urban population), in a period of ten years the role of private operators has doubled.

Private suppliers are concentrated in a dozen groups which are expanding on the world market today. The largest employ tens of thousands of employees, whose conditions of service (status, career prospects, etc) differ greatly from those which apply within local public services.

Changes in job profiles

The distribution of employment according to occupational category can currently be estimated as follows⁽³⁾:

- senior managerial staff: 8-10% ;
- supervisors and technicians: 15-20% ;
- clerical staff: 30-35% ;
- skilled manual workers: 30-35% ;
- unskilled manual workers: 5-10% .

Major changes are expected in the specialised technical fields. In the field of metrology, for example, new techniques and procedures have to be used to meet the need to measure increasing numbers of pollution parameters in a wide variety of aquatic environments. Moreover, the importance of data processing (the setting up of geographical data bases, etc) is also growing.

In addition, concerns regarding the preservation of resources (maintaining the rate of flow of certain rivers, making more rational use of ground water, etc.) will alter water management conditions in towns and in the industrial and agricultural sectors. New skills will be needed, and accordingly, some industrialists are already making use of external services to reorganise and manage their water systems (water for industrial use, effluents, etc.).

At the same time, those occupations connected with organisational, as well as with economic, legal and financial, aspects are also seeing their role develop (for example, there is a need for financial packages combining private and public capital), with the result that the water industry illustrates many of the changes under way in the more general field of environmental activities.

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(1) Source: RDI estimates, according to surveys carried out in OECD countries.

(2) Source: RDI.

(3) Source: RDI estimates, according to surveys carried out in OECD countries.



Within the European Union the water industry employs around 500 000 people, that is 0.4% of the population of working age

Environmental management in the Netherlands

Nature and employment do not necessarily have anything to do with each other, on the contrary. In real nature reserves all sorts of processes are happening spontaneously. Humans do not intervene at all. For instance, in the high Swiss mountains or in the Russian tundra, the natural value is very high, but employment there is zero. Things are quite different in that small country the Netherlands, full of people, cities, cars and cattle.

In the Netherlands nature has for the major part been determined by man. You can tell by the small-scale landscapes usually formed in earlier centuries when labour was not yet expensive. This means that for the conservation of many landscapes more labour is now necessary, apart from, logically, some virtually natural landscapes – peat moors, mud flats outside the dikes, woods no longer exploited – which can be left as they are.

More labour

However, country estates, with gardens looking like parks, need care all the year round and this also applies to all sorts of herb-rich meadows and grasslands where birds feel at home. They, too, need attention, care and conservation every year, otherwise they will ultimately develop into woodland, losing their typical characteristics in favour of plants and/or animals. So, there is a rising spiral: the more the areas are moving into the direction of cultural landscape, the more labour is required in order to preserve their specific values. Over and over again, year in, year out.

In addition to the type of land, labour in nature conservation is also bound by the scale of the units. In the Netherlands, nature is largely split up into numerous smaller areas. The Society Natuurmonumenten (Dutch Society for the Preservation of Nature) distinguishes in its 82 000 hectares, for instance, as many as 350 separate areas, some large (in Dutch terms up to some 5 000 ha) and many



River and flooded meadows

smaller areas, of just some dozens of hectares or even less.

This small-scale situation means that the non-natural environment has a considerable influence. Close consultation with people living in the surroundings is therefore needed in order to preserve the specific natural values of an area. What about environmental planning, water management, environmental problems from the surrounding agriculture? Dealing with such matters requires a great deal of manpower, both as far as the nature conservationists are concerned, and also, for instance, for the various relevant authorities. A comparison with an army is emerging: one frontline soldier (the practical nature manager in the field) calls for a very great deal of logistic planning behind him.

In managing nature reserves in the Netherlands, there are usually additional purposes, wood production for instance. Such is the case at the Staatsbosbeheer (National Forest Service) with some 240 000 hectares, the largest nature conservation organism in the Netherlands. It is clear that forestry also generates extra jobs, as does recreation. In a densely populated country such as this, recreation and natural conservation are ever more linked. However, this does mean proper guid-

ance of the public at large, otherwise the goose that lays the golden eggs will be killed.

Jobs in the nature sector

By European standards, the two largest nature conservation organisations are achieving remarkable results in the Netherlands. The Staatsbosbeheer employs some 1 050 people, with Society Natuurmonumenten – an association with 950 000 members – employing about 550. In fact, many jobs in the green sector are a sign how nature can survive in a small country.

Of course, nature-related employment outside the nature reserves should also be mentioned in this connection. In particular, work in the recreational and tourist sectors scores high, primarily in the hotel, camping site and catering fields, for instance, but also indirectly in the building industry, traffic and transport and in information. This is of course a major aspect in the European context of Natura 2000!

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Managing the heritage wisely and creating

The experience of Regional Nature Parks in

Regional Nature Parks were first established in 1967 as a means of contributing to both the preservation and the economic development of France's most vulnerable regions. The parks do not therefore set protection against development, but build local development strategies based on making the most of the heritage.

Three key concepts

Three key concepts apply here: regions, plans and contracts.

Regions

The boundaries of Regional Nature Parks are determined by heritage criteria relating to nature, culture, history and landscapes.

Plans

The plans for the individual parks, on which the entire system is based, are laid down in ten-year charters. These are drawn up following reviews of all of the assets and constraints of the region concerned, in both heritage and socio-economic terms.

Contracts

Once they have been drawn up, the charters have the legal force of contracts. They are approved by all the local authorities concerned and then officially validated by decree for ten-year periods on a proposal from the Minister for the Environment.

There are now 38 such Regional Nature Parks in France. They are to be found in almost every part of the country, cover over 10% of its national territory and have approximately 3 million inhabitants.

Five objectives

The Regional Nature Parks have five statutory objectives:

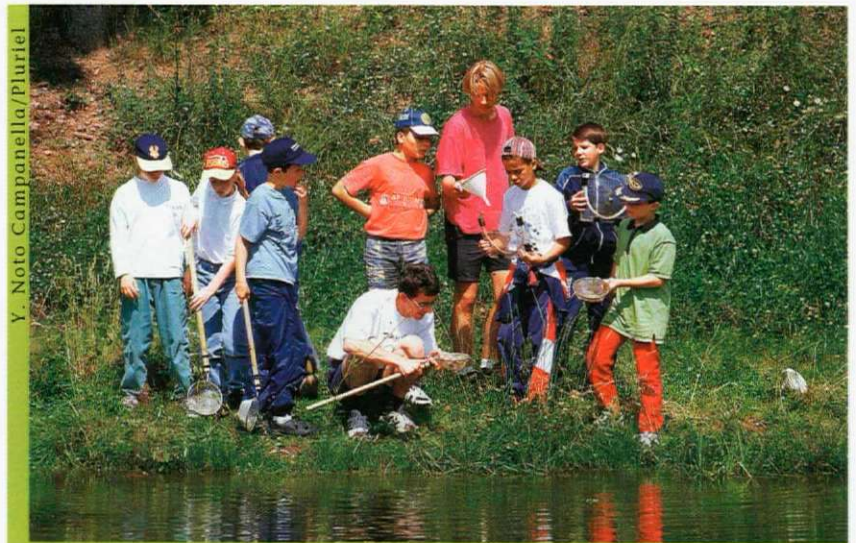
- to protect the heritage, in particular through appropriate management of nature and landscapes;
- to promote economic, social and cultural development and improve the quality of life;

- to contribute to regional/spatial planning;
- to attract visitors and educate and inform the public;
- to perform activities of an experimental or exemplary nature in these areas.

Responsibility for implementing these objectives lies with autonomous public bodies headed by local elected representatives and assisted

scale as large as that of the Regional Nature Parks, as it would be impossible to get local people to accept schemes imposed by central government. On the other hand, the fact that parks are designated by central government decree gives the procedure legal force.

Secondly, the credibility in conservation terms immediately becomes



Y. Noto Campanella/Pluritel

One of the Parks' objectives is to attract visitors and educate and inform the public

by multidisciplinary technical teams that cover the fields provided for in each park's charter. The technical teams include biologists, architects, agronomists, tourism experts, educationalists, economists and foresters, etc, with the skill mix being adapted to the needs of the individual parks.

An asset for local development

Designating a region as a nature park immediately gives it a positive public image, which, in turn, is an asset for local development. There are several reasons for this:

Firstly, the system is operated by twin "keys". In other words, local initiative is combined with official designation at national level. Without strong commitment at local level, it would not be possible to protect the heritage credibly on a

tourist asset. Following a well-established pattern – which itself poses problems for the managers concerned – the action of protecting a particular region's heritage makes it more attractive to visitors.

At the same time, the impact of designation as a Regional Nature Park is not confined to tourism. "Regional Nature Park" is a registered trademark owned by the French Ministry for the Environment. When a park is established by decree, the body responsible for managing it takes over the trademark and acquires the right to grant the use of the corresponding logo to businesses within the park, in accordance with specifications based on precise criteria. Regardless of whether they are in the productive or service sectors, the businesses are thus able to use the logo in their marketing and profit from the park's positive image.

jobs France

Lastly, designation as a Regional Nature Park also helps make the region concerned stand out as a recognised and unique heritage asset, rather than just a marginalised rural area. This is a source of pride and dynamism for the local community.

A role in job preservation

In view of all of the above factors, a study conducted in 1996 on employment and Regional Nature Parks showed that the parks play a major role in stabilising and preserving employment in rural areas. They are not only employers (direct employment) and investors and buyers of goods and services (indirect employment), but also the initiators of projects (induced employment).

Since the jobs created are long-term in nature, even though their number does tend to decline over time, the study concluded that Regional Nature Parks created between 18 000 and 30 000 jobs lasting a year during the year under review. When the number of jobs created or preserved is compared with the total budget of the Regional Nature Parks, the great efficiency of the parks therefore becomes clear.

Living laboratories for sustainable development

Aware of the importance of these findings, the Federation of Regional Nature Parks is now conducting an inter-park round of discussions and trial schemes in eight pilot parks as part of an ADAPT European programme, the aims being to:

- strengthen ties with the firms that are the parks' natural partners. This involves working on the recognition, enhancement and improvement of their image, the quality of their products and services and their compatibility with the park charters. In other words, the efforts are essentially geared towards optimising a strategy adopted by the firms to make them stand out in their markets;
- develop working relations with new businesses (small and medium-sized firms from all sectors), in particular those involved in production activities, and launch wide-ranging initiatives on issues that have so far received little attention.

While maintaining their heritage-based approach, the parks have



everything to gain from strengthening their business culture and their specific economic development know-how. By putting into practice on a daily basis the idea that nature conservation will, in future, depend on the commitment of both business and society at large – a position that has been universally accepted since the Rio Summit – France's Regional Nature Parks are acting as 38 living laboratories for sustainable development.

Their experience shows that preserving landscapes and nature can be a good means of contributing to the economic and social development of a country's most vulnerable regions.

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P. Bertrand/Bios

Designating an area as a regional nature park will attract the public

Europe at an environmental crossroads



Over the last few years our knowledge of what the European environment looks like and where it is heading has improved a lot. Though there are still gaps in our knowledge, and despite the fact that we see new issues emerging where we lack proper analysis, we can no longer plead innocence to future generations for not doing the right thing since "we did not know". Because we do know,

There are admittedly still areas where our knowledge is patchy; toxicity analysis is incomplete for 75% of the large volume of chemicals presently on the market. However, through the efforts of the EEA and its national partners, we are now in a position to monitor and present overviews for most key areas with relevant data covering the whole European continent. And from the data amassed and assessments made, we can now detect a number of trends.

Few but significant successes

Successes over the last years have been few – but nevertheless significant: emissions of all major gases that contribute to transboundary air pollution are being reduced, leading in turn to ecosystems being less endangered by acidification and eutrophication. By 2010, the number of people in cities exposed to poor air quality will be halved.

Water pollution will be less of a threat by 2010, with fully 89% of the EU population being served by secondary treatment. Waste has increased by 10%

between 1990 and 1995 and this trend looks set to continue. Despite recycling improvements, overall waste efficiency is low, with at least ten tons of materials used and wasted to one ton of end-products consumed. Control measures have reduced chemical risk and some emissions, and concentrations of persistent organic pollutants and heavy metals are declining.

Alarming reality

On the other hand, time delays between action and results – together with a failure to tackle the scale of the problems – have meant that we still have high nutrient concentrations in rivers, lakes and seas. Despite significant reductions in the emission of ozone-depleting substances, recovery of the ozone layer will not be apparent until after 2033, with full recovery not anticipated before 2050.

Soils continue to deteriorate, we have numerous and regular episodes of summer smog, and nature and biodiversity is still endangered. The coastal territories and the mountain areas are now threatened by changes of land use, related socio-economic shifts, increasing traffic impacts and unsuitable tourism.

Transport is turning out to be a major driving force affecting environmental trends, and massive growth here diminishes our ability to achieve environmental targets in the years ahead. Passenger transport by road and air are set to increase almost 30% between now and 2010 and freight

transport will be up by 50% by the same year.

Based on a business-as-usual scenario and policies already in place, we may draw a picture of a future that in some areas looks decidedly bleak. For instance, extrapolating present trends, we might see atmospheric concentrations of CO₂ increase by as much as 45%, N₂O (nitrous oxide) by 20% and CH₄ (methane) by a massive 80% in the coming half century. Given these emissions, the rate of sea level is set to rise at an alarming pace during the 21st century; up 15-20cm by 2050 and 40-50cm by 2100.

Urgent action!

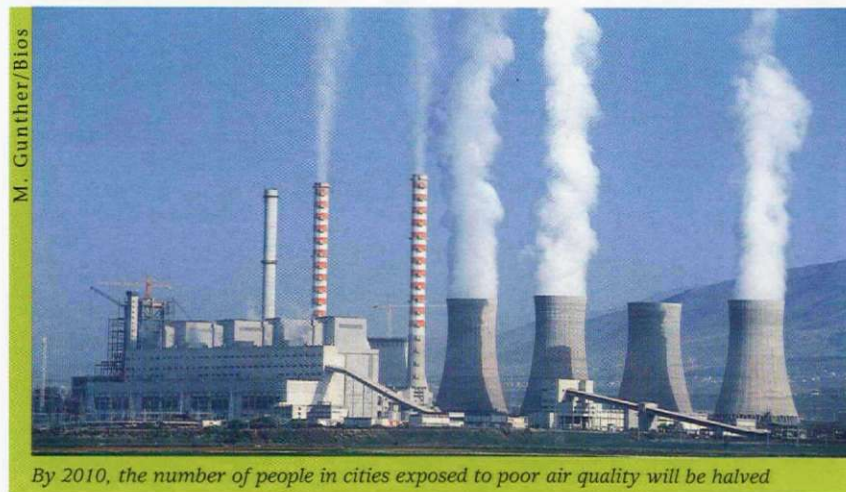
A mixed picture, and monumental challenges to be met if we really want to ensure a sustainable Europe in the 21st century. One of the things we should focus on is de-linking economic growth from increased environmental pressures. This can only be achieved if we manage to incorporate environmental considerations into all economically significant policy areas, such as industry, agriculture, energy and transport.

For the EU, the enlargement process poses special problems, not only with regard to ensuring adherence to the body of common environmental law. As the central and eastern European countries are integrated into the EU economy, it would be desirable if this could happen without fragmentation of land and loss of biodiversity and with a maintenance of the more sustainable transport systems that one today finds in many of these countries.

It is appropriate action, not aimless hope, which will decide what the future will look like. In environmental matters we should not busy ourselves with denouncing or perpetuating past sins, all while the future is created somewhere else. We should instead be there, at the forefront of development, always keeping in mind that the future is ours to imagine and shape.

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By 2010, the number of people in cities exposed to poor air quality will be halved

Innovative training and job creation

Eco-counsellors

At its 21st session, the Council of Europe's Standing Conference of Local and Regional Authorities of Europe (CLRAE) adopted Resolution 171 (1986) in which it requested municipalities to:

- set up a department with overall responsibility for environmental matters;
- make co-operation between its various partners possible;
- see to it that their administration possesses sufficient qualified staff;
- investigate ways and means of implementing "environment and employment" schemes;
- arrange for local authority officials and elected representatives to undergo training.

One year later, during European Environment Year, France, Spain and the United Kingdom set up the first training schemes for eco-counsellors based on the model pioneered in Hamburg in 1985, which brought together the private and public sectors and associations to enable highly qualified unemployed people to find jobs. The *Institut pour le Conseil en Environnement* (Institute for Environmental Counselling) was set up in Alsace with the support of the European Social Fund⁽¹⁾. The new profession gradually spread all over Europe, attempting to reconcile environmental management, economic development and quality of life.

1989: an institute set up in Belgium

The Walloon and Brussels Regions helped to set up the *Institut Eco-Conseil* (Eco-Counselling Institute) in Belgium in 1989⁽²⁾. In 1991, the Walloon Government gave this new, cross-disciplinary profession a helping hand by introducing a premium for municipalities which hired eco-counsellors. Training is funded by the Ministry of the Environment and the FOREM (Vocational Training and Employment Office). The Walloon Government's 1995 Environmental Plan for Sustainable Development promotes the activities of eco-counsellors.

From its very beginnings, it has been one of *Eco-Conseil's* special characteristics to forge numerous partnerships with the various democratic parties, employers' organisations, trade unions, federations of associations, universities and so on. The institute offers training in new forms of management: the systems approach, transversality, interdisciplinarity, networks, computing and communications resources.

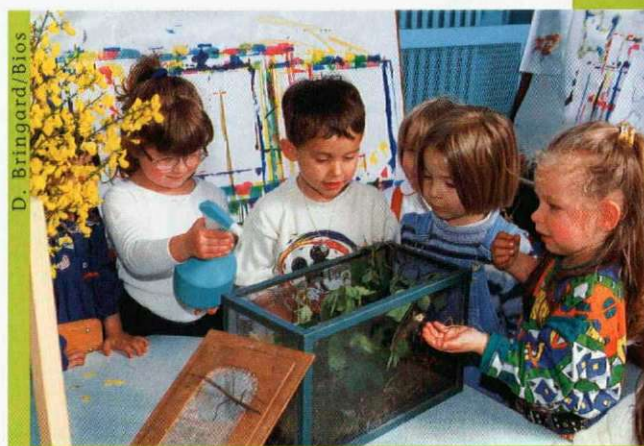
The *Institut Eco-Conseil* is an agent for change. It has developed an innovative training programme which includes an extensive communications course (multi-criterion analysis, conflict management, consultation, etc), an integrated approach to environmental, economic and social aspects (sustainable development), instructors from all relevant bodies (government departments, companies, universities, associations, etc), a six to twelve month placement period to help trainees find employment, and job creation. Most eco-counsellors have qualifications in biology, agronomy, chemistry, geology, civil engineering, economics, law, communications, or sociology. And half the eco-counsellors are women.

More than a training programme, an innovative profession

Eco-counsellors must make use of analytical skills and be capable of taking action and assessing complex, unclear and developing situations. Their role is to help in decision-making. They bring the principles of humanism, tolerance and solidarity to the reality of local community life. Much of the work of eco-counsellors concerns management in the following areas: waste, water, noise, planning permission and operating licences, local agenda 21, preventive action, awareness-raising and information. The challenges to be faced at present are the links between health, mobility, spatial planning and the environment.



Eco-counsellors attend trade fairs during their training in order to present this new profession, such as here in Mulhouse, France, in 1994



Eco-counsellors work in many sectors, including environmental education

Eco-Conseil Belgium has trained 270 eco-counsellors, 90% of whom have created their own jobs, mainly in government departments, the private sector (EMAS – environmental management and auditing system and ISO 14.000 – environmental certification standards) and in associations (contracts for river management, environmental education). Once they are in post, they in turn become agents for development and job creation⁽³⁾.

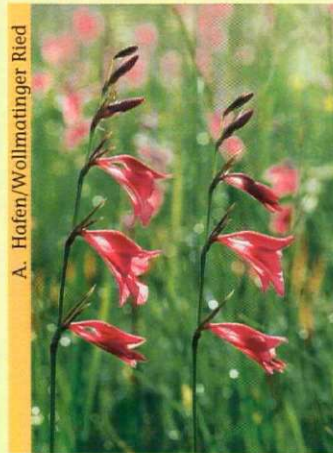
To conclude, here is a premonitory remark made by the European Commission in 1989: "The Commission remains convinced that all players at all levels, especially local communities, industry and the public, should be made aware of the environment by launching training, employment and environmental schemes. Eco-counselling is a unique and practical tool for doing this and is well worth developing in Europe and throughout the world."

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- (1) On the initiative of Ms E. Peter-Davis, founder Chairman of Eco-Conseil, Strasbourg, at the origin of the creation of eco-counsellors and the implementation of the Eco-Conseil training programme in France.
- (2) At the end of 2001, the Walloon Minister for Spatial Planning and the Environment will hold a colloquy on the training of eco-counsellors. All European ministers and organisations are invited to attend this conference.
- (3) Read also: *La demande de formation de généraliste en environnement et les débouchés en Belgique francophone*, Deutsch, Goffin and Castadot; *Protection de l'environnement: emploi et formation* in *Cahiers de sociologie et d'économie régionales*, Institut de Sociologie de l'Université libre de Bruxelles; and *Comité pour l'Etude des Problèmes de l'Emploi et du Chômage* – a regional appraisal, 20 February 1994.

The European Diploma and employment



A. Hafen/Wollmatinger Ried

The European Diploma of Protected Areas is a prestigious international award granted since 1965 by the Committee of Ministers of the Council of Europe to protected, natural and semi-natural areas and landscapes of special European importance for the preservation of biological, geological and landscape diversity. The Diploma is awarded to protected areas because of their outstanding scientific, cultural or aesthetic qualities, but they must also be the subject of a suitable conservation scheme which may also be combined with a sustainable development programme. The following texts present four of the Diploma sites from the point of view of employment opportunities.

The Bialowieza National Park, 5 317 ha, is situated in the centre of a huge forest, the Forest of Bialowieza. The park covers 126 000 ha, the western part of which (59 000 ha) is in Poland and the eastern part of which (67 000 ha) is in Belorussia (the Belovezhskaya Pushcha National Park). The Park currently has 112 employees, nearly half of which work in the field. These jobs include managing the forest, guarding the area and taking care of the only remaining European bison. There is also a nature education centre employing scientists, maintenance and office staff.

In the nearby Bialowieza village, there are four research institutes connected to the Park that employ 64 people full-time. Besides that, there are around 110 full-time jobs in the tourist industry (guides, people renting horse carriages, bed and breakfast services etc.). New and modernised hotels are currently being built in the area. The work will be finished in the near future and consequently the number of people employed in the tourist industry will be doubled.

The Polish government plans to enlarge the Park to cover the entire 59 000 ha of the Polish side of the Bialowieza Forest. If this plan is realised the number of jobs in the area will increase dramatically both in the Park and in the surrounding area.



G. Okołów/Białowieża National Park

The Bavarian Forest National Park was set up in 1970, extended in 1997, and covers around 24 000 ha in Bavaria, Germany. The park is an important employer offering numerous highly qualified positions in varying fields. Currently it has about 200 employees, which is about twice as many employees as a conventional forestry enterprise of the same size could be expected to employ. Besides directly employing people, the Park is particularly important as an advertising medium for the tourist trade.

Approximately 4 500 jobs in the region currently result directly from tourism. Since 1970 the number of visits has increased from approximately 200 000 to more than 2 million per year. At present 80% of the annual budget (20 million DM) is allocated to maintenance. According to survey estimates, a turnover amounting to more than 227 million DM is realised in the eight municipalities and in the three cities located within the boundaries of the National Park. Indirectly, a still larger portion of the population is dependent upon tourism or at least profits from it. The overall economic effect of tourism in the region is estimated at 10-15% of the region's income. The significance of the National Park as an employment generator in this region is thus considerable.



H. Kiener/Bayerischer Wald National Park

Berezinsky Biosphere Reserve is a state natural reserve set up in 1925 and consists of 115 000 ha including a core area (22 000 ha), a buffer zone (60 000 ha) and a transitional area (33 000 ha). The reserve currently employs around 450 people from wardens and guides to scientists and technical personnel. In 1998, 160 new jobs were created.

The tourism industry is not yet well developed in the area, but with the European Diploma and the Council of Europe technical assistance, efforts have been made to make the area more attractive to tourists. It can thus be expected that there will be many more employment opportunities in the area in the future.

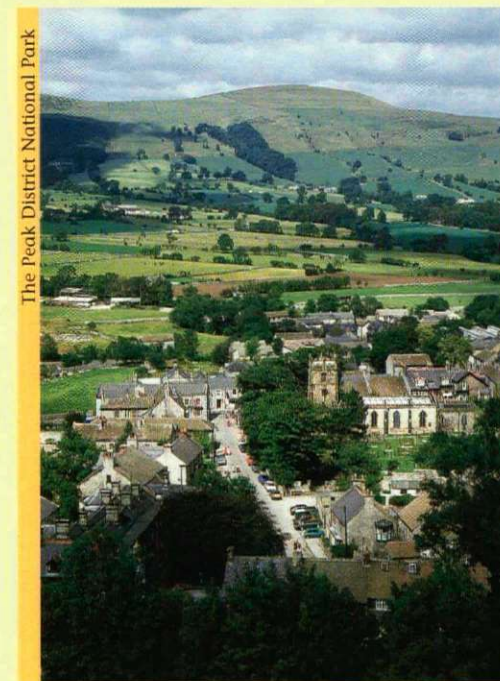


O. Grunewald/Berezinsky National Park

In 1951 the Peak District became Britain's first National Park. The 1949 National Park and Access to the Countryside Act gave protection for this area of natural beauty and recognised the towns' and cities' dependence on the countryside for recreation. But it did not just benefit visitors. It brought new opportunities for people living and working in the Peak District. Tourism has since become a major part of the rural economy and without visitors it would be a poorer place.

The National Park covers 1 428 km² of mostly privately owned land in the centre of England. 38 000 residents live on 3 000 farms and in more than 100 villages. 22 million day-visitors every year have a real impact on local communities. Overall the benefits outweigh the difficulties. The 1998 visitor survey found the average amount spent by people on day trips was £7.30 per person.

The National Park Authority encourages rural businesses to develop in ways that help look after the environment. Used with care, visitors can enjoy what the area has to offer and boost the rural economy. Traditional crafts are also encouraged, such as drystone walling and charcoal burning. In 1991 an estimate was made of at least 12 600 jobs in the Park (52% in the service sector, 24.5% jobs in primary industry and 22.9% jobs in the manufacturing sector). The Authority's vision statement "Caring for living landscape" reflects its responsibility to manage the area in a sustainable manner for residents, businesses, visitors and nature.

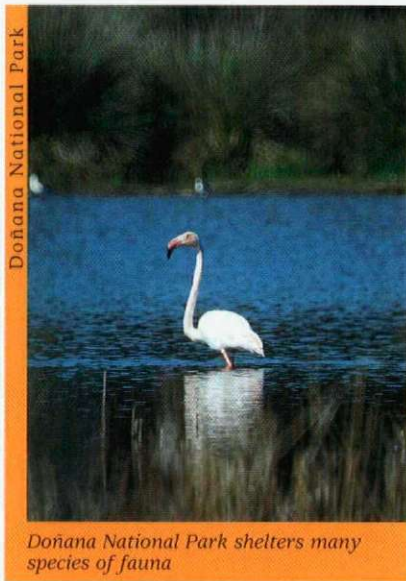


The Peak District National Park

We would like to thank Ms A. Foster and Messrs J.-C. Genot, C. Harrison, H. Kiener and C. Okołów for their kind co-operation.

Evaluation of the Aznalcóllar catastrophe, *The Guadiamar green corridor*

The accident which occurred on 25 April 1998 at the Aznalcóllar mines, which are the property of the Swedish-Canadian company Boliden, caused the spillage of almost 6 hm³ of pyrite-bearing sludge and acid waters loaded with heavy metals into the Guadiamar river. As a result, a 62-km stretch of the river was affected, between the tailings dam and the perimeter of the Doñana National Park, covering an area of 4 634 ha of the channel, riparian zone and agricultural land on the alluvial plains of nine municipalities of the province of Seville.



Doñana National Park shelters many species of fauna

The accident caused unprecedented environmental and economic damage in the area. The direct effect on agriculture in terms of lost crops was calculated at around 10 000 000 Euros and of the 4 634 ha which were flooded, 3 338 were agricultural land. Furthermore, as a preventive measure, it was decided that this land would no longer be cultivated, and hunting, fishing and grazing in the affected areas was prohibited.

In relative terms, though the area of the Guadiamar valley affected by the mine spill was an area of fertile soils and high agricultural production, the abandoning of farming there has not supposed a significant reduction of the local productive structure, given that it makes up only 4.6% of the total agricultural land of the nine municipalities affected.

Reaction of the regional administration

In the face of the damage caused and the widespread social concern caused by the accident, the regional administration immediately drew up an emergency measures plan aimed at minimising the effects and also set up an integrated watershed management project called the Guadiamar Green Corridor Project, whose objective is not only to remedy the effects of the contamination, but also to re-establish the connection between the Doñana littoral area and the Sierra Morena mountain range through the Guadiamar watershed. The project is designed, firstly, to restore the river Guadiamar's lost function as an ecological corridor and, secondly, to take advantage of the opportunity to establish wider solutions which improve the environmental, social and economic conditions of the municipalities affected.

Although at first it was seen by local farmers as a prejudicial measure, it is now clear that the decision taken by the Andalusian Regional Government to expropriate and end all cultivation of the farms affected was the right decision, and it was also an efficient decision in safeguarding agriculture in the district and reassuring the markets. In this way, it has been possible to avoid the risk that the residual contamination in the soil might have entered the food webs and, ultimately, affected human health.

Job maintenance

The loss of agricultural employment caused by not using this farmland, estimated at 229 jobs/year, has been compensated by the huge clean-up and operations of remediation of contamination which have been carried out. Thus, during the first year, the employment generated by the sludge removal and other contamination control measures duplicated that figure, with a special rural employment programme involving an investment of 2 701 000 Euros, and which ended in March 1999, being devoted to these tasks. Over the next three years, it is planned to maintain job numbers at levels similar to the level of agricultural employment before the accident, thanks to the large volume of ecological restoration work and the development of a public use programme which began in October of last year

under the framework of the Guadiamar Green Corridor Project.

Towards sustainable development

In the longer term, and considering the imminence of the exhaustion of reserves at the mine, the Regional Administration is working on a sustainable development programme for the watershed which will compensate the economic effects of the spill by generating and maintaining stable employment. In this way, within the four lines of work included in the action plan which puts the Project into practice, known as the Guadiamar Green Corridor Strategy, it is the fourth line which stands out with regard to the social and economic development of the area. This line of work aims at the integration of the natural and human systems in the watershed by means of the implementation of this sustainable development programme which improves the quality of life of the towns located in the basin, and a public use programme which promotes a space which is available for the enjoyment of all.

The sustainable development contemplated under the Green Corridor Project is based on the endogenous potential of the district and on a new strategy for development which is an alternative to the predominant growth model, which gives priority to economic, rather than ecological, considerations. This new model is based on the ecological, social, economic and cultural peculiarities of the area as the basis for the search for management strategies which will allow the sustainable maintenance of the health of the ecosystems and the exploitation of the many goods and services they generate.

For the start-up of this development model, reference will be made to a similar experience applied in the municipalities of the lower Guadiamar basin through the Doñana 21 Foundation, a body promoted by the Andalusian Regional Government in 1997 to implement the Doñana Area Sustainable Development Plan. All of the administrations, from local councils to the European Union are represented in the Foundation, as are the different social and economic stakeholders of the district. The aim is to

Spain or project

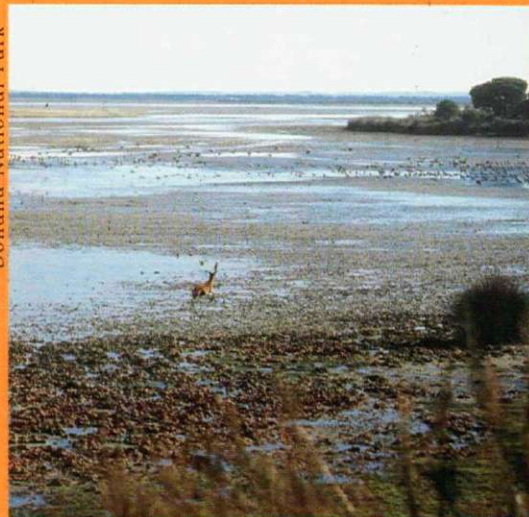
make the local inhabitants the true motor of development, by means of a participative model which brings together the efforts of public and private initiative, and which promotes training activities.

José Luís Blanco Romero

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Doñana National Park



The Park was awarded the European Diploma of the Council of Europe in 1985, constantly renewed since then

Employment-environment synchronisation *The case of Hungary*

Today, employment and environment policy still does not function in a completely synchronised manner in Hungary. This fact is no surprise. On the one hand, a requirement of synchronisation of employment and environment is relatively new. On the other, having just changed their political systems, eastern and central European countries have given priority to integrating environment and economy policy in the last few years, in order to establish a modern way of environment protection.

An integrated approach

During the past ten years, Hungary – like several other central and eastern European countries – has worked on preventive economic and sectoral integration tools in addition to traditional environment policies. This approach also characterises the new environment protection Act passed in 1995 and the National Environmental Programme presently in force adopted by the Parliament in 1997. The government did not only choose this approach because of the radical economic transformation going on in the country but also because of the requirements of the targeted Euro-Atlantic integration (to join OECD, NATO, EU). When Hungary joined OECD, environmental performance of the country was examined – surprising novelty for many at that time – in addition to economic topics but a common examination of environment protection and employment was not thought of.

Reduction of regional inequalities

There is still an indirect relationship between employment and environment policies in Hungary. This relationship can be found in Chapter 3 “Key fields of implementation” of the National Environmental Programme. The Programme gives a priority to the synchronisation of environment protection and regional development over the programmes concerning highlighted sectors.

In the future it seems reasonable to integrate aspects of employment in the National Environmental Programme more directly and more efficiently and similarly, the points of view of environment protection should also be integrated in the Employment Strategy.

High unemployment

Unfortunately, complicated environment and nature protection issues do not occur in the present approach of employment policy, except for issues of public health and within this, environmental health. Such essential relationships could include, for instance, employment issues related to forms of traditional family and small community management of the environment, or the favoured management and support of the capability of provincial settlements and small regions to keep their inhabitants, and complex ways of landscape management. These topics should be examined as the number of people employed has fallen during the past ten years from 5.3 million

to 3.8 million, i.e. from 50 % of the population to 38 % thereof, so the informal sector probably continues to have an important role.

The environmental industry, according to the definition by OECD, has between 20 000 and 30 000 employees in Hungary.

Future investment

Realisation of harmonisation tasks of environment policy required by the European Union will supposedly have a direct positive impact on employment in Hungary. This supposition is based on the fact that, given the particular situation of the country, an additional enhancement of the number of people employed is required in the field of environment protection, both for solving the problems (management of sewage-water and waste, air pollution in cities, lack of capacity of organisations applying and executing the law) and for profiting from existing benefits (small environmental load per person, good indicators in the field of nature conservation and biodiversity). The future of employment in the field of environment protection will primarily be determined by the available capital and the quantity of financial resources.

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City initiatives to create green jobs

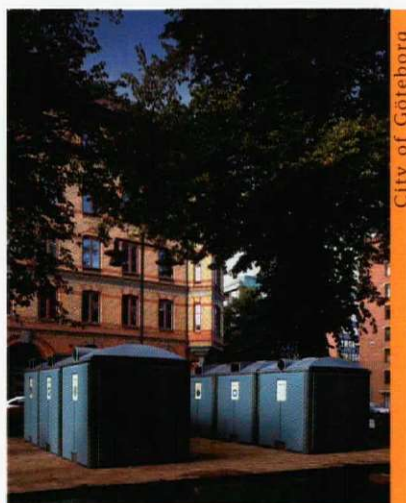
The case of Göteborg, Sweden

Environmental issues have been most important in our city over the last decades. Göteborg used to have a reputation for being one of the most polluted cities in the country, but that has changed considerably today. In this article, I will concentrate on three factors, proven crucial for urban environmental improvement and creating green jobs in our city: energy consumption, transportation and recycling of material.

Energy consumption

Heating is of course very important in a Nordic climate, like ours. In the early 1970s, Göteborg was still highly dependent on oil for heating of buildings. The oil crisis, combined with the growing concern on environmental matters, made the city authorities decide to radically reduce the use of oil and to enlarge the system for district heating. This took some years, but was consequently achieved. Now we can see the results. Consumption of oil for heating has been reduced by more than 95%. The district heating has expanded and is now also used for areas with only single-family houses.

What do we use instead of oil? Mostly wasted energy from the processes in the oil refineries which are located in the city. We have long-term agreements with the companies who run the refineries to



Household waste is separated into five categories: paper, glass, metal, plastic and compostable goods

use their hot water, which has been used for cooling in the processes.

We use electric heating-pumps at the wastewater cleaning station, where we absorb some energy from the wastewater, before it gets pumped back into the river after cleaning.

By burning household waste that cannot be recycled, we recuperate energy for the district heating. Wind energy is also used to generate electricity.

Transportation

This is of course vital for an urban region. We try to reduce the use of private cars in the city, mainly by improving public transport. This is now co-ordinated within the region of western Sweden. Decisions for big investments have been made to extend the tramway system and new tunnels and tramlines will be built in the years to come.

Improving the efficiency of existing infrastructure is crucial. We use information technology for this. At the tram stops our telematic information system displays details on when the next tram is expected. This information is also available over the internet. The number of unoccupied parking spaces in the main car parks is digitally monitored and displayed by

the side of entrance routes to the city centre.

In general, we have a smoothly functioning system for public transport. I myself have got rid of my car and now travel mainly by bus or tram. It works sufficiently for me, even if it might seem somewhat disloyal for a mayor in the "City of Volvo" not to drive a car.

Recycling

This is a most significant sector, especially when it comes to creating "green jobs". Nowadays household waste is being separated into paper, glass, metal, plastic and compostable goods. This is supported by the municipal fees; it is more expensive to dispose of waste if it is not sorted.

In car industries such as Volvo, recycling is of considerable importance. Most parts in a new car can be recycled and recycling is common in the construction of houses.

To summarise, I think that the Göteborg experience shows that it is possible – and necessary – to take steps to create green jobs increase recycling and reduce pollution. It takes time, but it works.

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At the tram stops a telematic information system displays when the next tram is expected

An overseas example: Australia

Green Jobs Unit initiatives

The Green Jobs Unit (GJU) was established in 1992 through the initiative of the Federal Government, the peak trade union body and environment organisation in Australia. The GJU is an independent non-profit-making company committed to creating, fostering and promoting ecologically sustainable employment and training opportunities. The development and progress of this national company illustrates some of the particular opportunities available in Australia during the 1980s and 1990s and creates a vision for the 21st century. Through the networks and experience of the Board of Directors, the GJU has successfully established national and international partnerships with universities, industry peak bodies, governments and community groups.

Creation of green jobs in industry

The first challenge faced by the company was to produce *The Green Jobs in Industry Research Report, 1994*. This report was the result of a national survey of over 2000 companies which identified green jobs to be a strong potential growth sector.

This report has been recognised by federal and state governments both in Australia and overseas and has strongly influenced government policy which emphasises partnerships between industry and jobs growth.

The GJU successfully works in partnership with the federal and state governments to develop environment and employment policies and programmes.

Specific initiatives include:

The Environment Training Company (ETC)

The ETC was formed in 1994 and managed by the GJU with the objective of assisting employers across a wide range of industry sectors to improve their environmental performance through the provision of environmental training and the placement of environmental trainees.

Following extensive consultation and collaboration across industry sectors and with three levels of government, the ETC produced Australia's first entry level environmental management training packages in land conservation and

restoration, waste management and water industry operations.

Between June 1995 and May 1998, through extensive marketing and awareness-raising, the ETC placed over 1 500 environmental trainees across many industry sectors. The ETC demonstrated a commitment to the indigenous employment through the placement of trainees particularly in remote regions.

ACEEO

ACEEO (Advisory Council on Environmental Employment Opportunities) was established in 1994 to provide a government approach to the environmental employment opportunities identified as a result of the GJU Green Jobs in Industry research report. Through its consultations with industry, and reporting to five federal government ministers, ACEEO was instrumental in the encouragement and development of environmental employment policy.

Graduate placement programme

The Greenhouse Graduate Placement Programme was developed to assist companies in the private sector, participating in the Greenhouse Challenge (a greenhouse gas reduction programme) to move towards a reduction in their emissions through the employment of a graduate.

The main task of the environmental science and engineering graduates was to assist participating companies with the technical and management aspects of producing a voluntary co-operative agreement. 95% of graduates placed with participating companies gained sustainable employment.

The GJU is working in partnership with the Australian Greenhouse Office and the International Council for Local Environment Initiatives and 26 universities across Australia to ensure successful delivery of the programme to local councils.

The GJU is placing environmental science and engineering undergraduates and graduates with local councils completing the Cities for climate protection programme. Through the provision of recruitment assistance and comprehensive training for undergraduates/

graduates, the GJU is assisting local councils to reduce their greenhouse gas emissions and is providing a potential career path for environmental science and engineering graduates.

Cut waste and energy initiative

The cut waste and energy initiative is a training and employment programme designed to improve the environmental performance of industry and create sustainable jobs.

The GJU research showed that firms which had carried out environmental audits often failed to implement the measures recommended due to a perceived lack of experienced, knowledgeable and affordable staff.



A 1994 GJU report identified the number of green jobs in industry in Australia

Furthermore, audits or environment assessments had, in the past, failed to integrate the knowledge and experience which existing staff had to offer in both identifying savings and implementing change. Therefore, opportunities to optimise cost savings were often missed.

Outcomes of this programme included the accreditation and delivery of the Certificate III in Environmental Change Management and the creation of sustainable employment for 80% of trainees.

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The employment-environment strategy of

The Amsterdam Treaty on the European Union specifies sustainable development and a high level of employment as objectives of the Union. Furthermore, it requires that environmental protection be integrated in other Community policies and that a high level of employment is to be taken as an objective in the formulation of other policies.

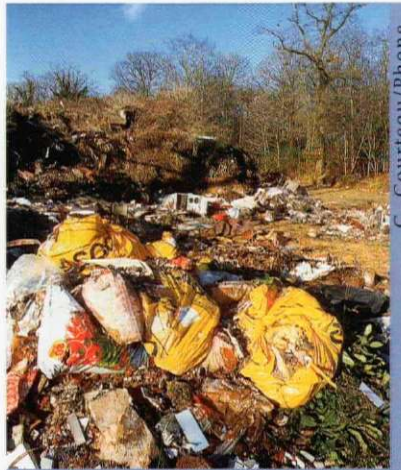
In view of the prominence that the Treaty gives to these two policies and the obligation to integrate both of them in other policies, the question arises whether they are compatible with each other.

Impact of environmental policy on employment

Both the environment and the labour market concern the way we use resources and organise our societies. The problem in Europe, as the Commission argued in its 1997 *Communication on environment and employment – building a sustainable Europe*, can be characterised as one of under-use of labour with the resultant high levels of unemployment, and an over-use of the environment with negative impacts on the quality of water, the soil and the air.

While environmental regulation may have short-term economic costs as it uses up resources, and thus tends to reduce productivity and real wages with a possible reduction of labour supply and employment, environmental expenditure may also increase labour demand and encourage the growth of the environment industries sector, which is already a significant source of employment. Existing data indicate that direct and indirect environmental employment varies between 1 to 3% of total employment, which would amount to between 1.5 and 4.5 million jobs.

Macroeconomic studies of the link between employment and environment suggest that environmental policies to date have had a slight net beneficial impact on the demand for labour, probably as a result of the relative labour intensities of the regulated and environmental sectors⁽¹⁾. The redistribution of employment does,



The European Commission will present a strategy for sustainable development in 2001 at Göteborg

C. Courteau/Phone

however, affect sectors and regions unevenly. For polluting sectors, it is clear that environmental protection has the potential to raise costs and reduce employment. On the other hand, EU industry leads in the development of many cleaner technologies, processes and products or environmental management tools which will benefit from environmental policy measures. Environmental regulation may thus give rise to first-mover advantages in some sectors, which can be a source of competitive advantage.

For this reason, it is important to promote technology assessment and development and to shift investment patterns towards such cleaner technologies in order to reconcile economic growth and the environment in the long run. It is in these areas that high-quality jobs will be created.

The Commission does not have specific environmental policy instruments designed to promote employment. Therefore our main aim is to ensure that environmental regulation is designed in such a way that we achieve our environmental objectives in the most cost-effective way without adverse effects on employment and that we exploit any synergies that exist. On the other hand, it has to be ensured that other Community policies with an employment objective or impact do not harm the environment.

Fiscal measures and the "double dividend"⁽²⁾

In order to tackle the above-mentioned problem of the underuse of labour and the overuse of national resources, priority should be given to correcting such distortions by adjusting relative prices of these two factors accordingly. Tax systems should be gradually restructured to reduce non-wage labour costs while at the same time increased use could be made of eco-taxes broadly defined, in order to incorporate environmental and resource costs into the prices of goods and services. Such market-based instruments reduce the costs of pollution prevention and abatement. Furthermore, they can improve employment – notably when there are existing distortions in the tax system, or where the tax shift moves the burden of taxation away from low-wage labour.

In 1997, the Commission made a proposal for a directive on the taxation of energy products as a first step towards the integration of the treaty objectives into fiscal policy. It attempts to achieve this adjustment of relative prices while at the same time also eliminating tax distortions between different types of fuels. Unfortunately, this proposal has not yet found the necessary support of all member States in the Council. Nevertheless, several member States have meanwhile taken national measures going in this direction, while also giving tax reductions for certain environmental investments.

Education and training

In order to fulfil the job-creating potential of the move towards a sustainable Europe, the workforce will have to possess adequate skills. As these are currently not sufficiently available, there is a clear need for relevant labour market and training measures, in particular in environmental technology and management. In several member States, initiatives in this area and measures to support environmental services have been undertaken. These measures, which often operate at local or regional level, concern primarily the protection of cultural heritage, environmental protection measures and sanitation.

the European Union

They have to be seen in the context of the Employment Guidelines. These Guidelines, which are a product of the so-called "Luxembourg process", are drawn up annually by the Commission and indicate what is expected of member States' employment policies. Member States are required to produce National Action Plans (NAPs) to show how they are implementing the Guidelines. The Commission then assesses the NAPs and produces an annual report known as the Joint Employment Report.

The main aim of the Luxembourg process is to put pressure on member States to improve their performance on employment issues. But the process is interesting from an environment/employment point of view as the Guidelines in 2000 make explicit reference to exploiting the potential for environment related employment (as well as environmental tax reform), and to support for environmental jobs.

Although the Employment Guidelines are not binding, the incorporation of environmental aspects into the Guidelines is already an important step, and will hopefully lead to pressure for initiatives at the member States level.

Financial instruments

As concerns the financial instruments, it is important to ensure that Community funds, e.g. the Structural Funds and the CAP, increasingly support

employment and sustainable development in an integrated way.

With the implementation of the new Structural Funds regulations, environmental issues play a more prominent role in the ex-ante evaluation of programmes and for the approval of regional development plans and operational programmes. Furthermore, the guidelines for the new programmes single out the environmental sector as a field which improves the competitiveness of EU industry and offers additional opportunities for employment in disadvantaged areas. Support for environmental training is also seen as essential.

Although the focus of the LIFE programme is on environmental demonstration projects, the Commission is now also going to take into account the employment aspects of the projects when making its evaluations.

The current 5th Environmental Action Programme (running from 1995 to 2000) placed environmental education and training within the range of instruments to be used for the achievement of sustainable development. A number of actions have been carried out within this framework, mainly by co-financing pilot projects and other specific activities

The next steps

In the course of the year 2000, the Commission will present its main environ-



The Structural Funds and the CAP will increasingly support employment and sustainable development in an integrated way

mental priorities for the 6th Environmental Action Programme. Furthermore, responding to a request by the Helsinki European Council, it will also present a strategy for sustainable development in June 2001 at Göteborg. In both documents, the question of how environment and employment can be promoted jointly, will figure prominently. The challenge is to identify and foster win-win situations.

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- (1) See OECD, *Environmental policies and employment*, 1997
- (2) See article by J.-P. Barde, page 24



Wine-growing and tourism on the farm

Job creation in rural areas The example of Alto Casertano

In southern Italy, the EU LEADER programme for rural development is helping to make this isolated and deprived mountain area attractive again by financing the creation of new jobs that promote the area's agricultural, environmental, cultural and tourism resources, as well as the development and diversification of existing businesses.

For example, the programme has enabled two farms specialising in organic methods to diversify into other sectors and create new jobs, one of them by successfully converting to farm tourism, the other by marketing its own spelt bread and biscuits. Promotion of the environment is also a valuable source of employment, as can be seen from the Environment Education Centre close to Lake Matese, which has recently been set up to encourage local socio-economic players to show greater respect for the environment.

So far, the LEADER programme has already 80 created jobs and it looks set to create over 40 more.

Environment, economy and employment

Is integration possible?

Although the economic impact is low, the real or potential effects of environmental policies on employment levels have always been debated with varying degrees of passion, concern and certainty. Some people see environmental protection as a threat to employment because of the constraints it imposes on the productive sector, while others see it as an opportunity and a source of employment in new activities.

In the early 1970s, when environmental policies were only in their infancy and our economies were enjoying sustained growth and full employment, there was no real problem. With the oil crises in 1974 and 1979, however, the issue became more controversial. It was said, in particular, that money was being spent on environmental protection at the expense of the productive sector, which generated added value and employment, and company closures caused by the crises were sometimes blamed on environmental constraints. From 1990 to 1994, the number of unemployed people in OECD countries rose from 25 to 35 million

(i.e. 8.5% of the working population). Although the total is now falling (6.6% in 1999), unemployment remains a serious problem, especially in the European Union (8.8% in 1999). During the 1990s, environmental policies advanced significantly, as efforts were made to bring about greater integration of economic, environmental and social factors (the sustainable development model). An important question here is determining whether and, if so, how environmental and employment policies can be co-ordinated or, indeed, integrated. Several approaches have been adopted, for instance the use of expenditure on environmental protection as an anti-recessionary public spending programme, the integration of specific environmental protection programmes and job creation programmes and active environmental employment policies based on training schemes for specialists in various environmental disciplines and techniques.

Green tax reforms

In this connection, "green tax reforms" have been a particularly

striking development in environmental policies, especially in certain European countries. Following an initial wave of green tax reforms in Denmark, Finland, Sweden and the Netherlands, other countries such as Germany, France, Italy and the United Kingdom have recently followed suit. These tax reforms do not usually increase the overall tax burden: while new environmental taxes are introduced (for instance on CO₂, transport or waste), other taxes are reduced. Against the current background of underemployment, the idea is to reduce taxes that have a direct impact on employment (in particular, employers' social insurance contributions) with a view to fostering job creation. This so-called "double-dividend" approach, which has been strongly advocated by the European Commission, has been the subject of many studies and much lively debate.

The first question is whether shifting the tax burden in this way from work to pollution (in essence, from something desirable to something undesirable) really can reduce unemployment while also reducing emissions of pollutants. A number of macroeconomic models have been used to simulate the possible effects of different levels of carbon taxes. These models show that the best way of achieving an employment-environment "double dividend" is to use carbon tax revenues to reduce employers' social insurance contributions, in particular the contributions paid on low wages (low-skill work). It should be noted, however, that achieving the double dividend depends on many different factors relating to the labour market (lack of wage pressure that would increase the cost of labour), the mobility of capital, competition and the possibility of concerted international action (given the risk of the activities concerned being "relocated" to countries with lower taxes) and also, of course, on the level of the taxes in question. Nevertheless, the models available do indicate that there is a small but genuine potential for a positive impact on employment.



In Belgium the revenue from the special energy tax, introduced in 1993, is paid into a special fund for financing social security expenditure

Fotostock/Sunset

Jubineau/Sipa Image



In Finland, since 1997, reductions in income and employment taxes have been partially offset by new taxes, in particular a tax on landfill sites

How do things actually stand?

It is interesting to note that almost all of the countries that have introduced green tax reforms are aiming to achieve the double dividend by shifting the tax burden from work to pollution, despite the uncertainty that surrounds the effects in employment terms. Three com-

ments can be made in this connection:

- national and international constraints mean that the new environmental taxes (in particular on energy) remain low and therefore only allow a modest reduction in the taxes on labour;

- the political acceptability of green tax reforms depends to a large extent on the overall tax burden not being increased: with concomitant and popular reductions in taxes on labour, governments are "betting on" producing a positive impact, however small, on employment;

- lastly, the "first dividend", namely the reduction of CO₂ emissions, seems to be being reaped in several cases; for instance, a recent study has shown that the new taxes have brought about a 2% reduction in CO₂ emissions in Denmark.

In conclusion, it is clear that green fiscal reforms are going to play a key role in efforts to integrate environmental and employment policies. Even though doubts remain about the scale of the "double dividend", several countries have gone down this road and others are about to follow. It will be necessary to evaluate the results of these policies carefully. Nevertheless, concerted action at international level remains a precondition for more efficient environmental protection combined with job creation.

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The views expressed in this article are those of the author and do not necessarily reflect the position of the OECD.

**Employment-environment double dividend:
current practices**

Belgium	The revenue from the "special energy tax" (introduced in 1993) is paid into a special fund for financing social security expenditure.
Denmark	Since the green tax reform was launched in 1994, new taxes have gradually been introduced on CO ₂ and SO ₂ and energy taxation has been reformed. The various taxes generate annual revenue of approximately DKK 1.6 billion. This sum is paid back to industry in the form of subsidies for energy savings and reductions in employers' social security and pension contributions.
Finland	Since 1997, reductions in income and employment taxes (FIM 5 600 million in 1997) have been partially offset by new environmental taxes, in particular a tax on landfill sites (FIM 300 million a year) and energy taxes. These shifts in taxation were taken further in 1999.
Germany	The green tax reform introduced in April 1999 included increased taxes on oil and a tax on electricity (DEM 8.4 billion in the 1999 budget). The revenue generated will finance a 0.8 percentage-point reduction in pension contributions, thus reducing the tax burden on labour by 0.4 percentage points. Taxes on oil and electricity will be increased every year from 2000 to 2003, with corresponding reductions in pension contributions.
Italy	A green tax reform was launched in 1999, involving a new tax on CO ₂ (to be increased gradually from 1999 to 2005), offset by a reduction in social security contributions (60% of receipts), compensatory measures (31%) and aid for energy efficiency.
Netherlands	A large proportion of the revenue from the "regulatory tax on energy" is used to reduce employers' social security contributions. The ongoing tax reform should confirm this trend.
Switzerland	The revenue from the new environmental taxes on volatile organic compounds (VOCs) and extra-light heating oils will be redistributed to households in the form of a reduction in contributions to compulsory medical insurance (1999).
United Kingdom	The revenue from the tax on landfill sites introduced in October 1996 (£450 million a year) is used to reduce employers' social security contributions by 0.2 percentage points. A climate change tax will be introduced in 2001 and the revenue used to fund a 0.5 percentage-point reduction in employers' social security contributions.

Role and functions of voluntary work

Are Hanneke van Veen and Rob van Eeden, the Dutch authors of several best-sellers on the virtues of miserliness, guilty of a dual dereliction of the duty to support job creation? Their books urge us to reduce our levels of consumption and so spare both our wallets and the environment, with damaging effects on employment in the manufacturing and commercial sectors. Moreover, these "new Scrooges"

rules of the labour market, the economy and government social policy. This trend can be seen at several levels: the work of self-help groups and voluntary associations is increasingly being guided by the criteria of efficiency and service to the customer; government grants are conditional on quality assurance and the integration of the long-term unemployed; and the champions of the third sector themselves, who have the wind in their sails, emphasise the sector's potential in employment terms. Yet researchers at Johns Hopkins University have shown in an international study on the third sector that only a very small proportion (1.1 %) of jobs in the environmental sector involve non-profitmaking activities, from which they conclude that the third sector is neither a threat to employment nor a potential source of job opportunities.

to the democratic quality of voluntary work.

Changing functions

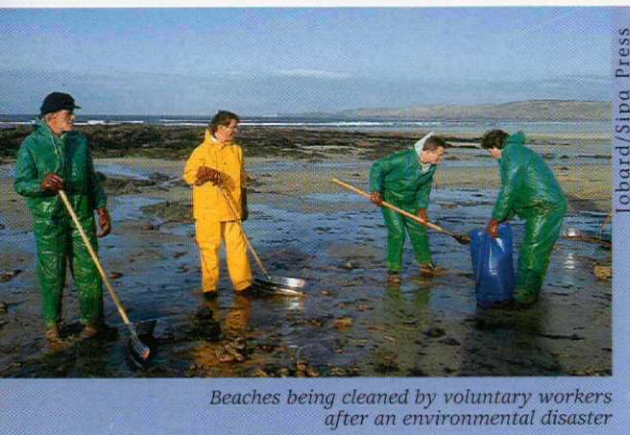
In performing a task they themselves have chosen, individuals act for the good of the community without waiting for legislation, an employment contract or pay to justify their work. Although the intrinsic value of what they do is in no way threatened by the creation of jobs in associations and self-help groups, it is threatened by the "colonisation" of the third sector, which can involve the following, for instance:

- the third sector has to carry out all the tasks which government and the market are unwilling or unable to perform. The tasks are assigned from outside and not chosen by the sector itself;
- the third sector has to absorb all those who cannot find employment in the conventional labour market. The image of work for the public good becomes blurred with that of compulsory work;
- small-scale individual initiatives are lumped together with the big traditional charitable organisations, which then play a dominant role in the political evolution of the "third sector" defined in this way.

In future, full employment will depend less on the creation of new jobs and more on the fair distribution of existing work. Taking on a task that meets one's own needs and those of the community is one way of making good use of free time and filling the vocational vacuum left by the decline in paid employment. Moreover, if the post-materialist approach is accompanied by a commitment to work for the environment, it offers a possible means of solving environmental and employment problems at the same time.

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Beaches being cleaned by voluntary workers after an environmental disaster

Jobard/Sipa Press

have written various guides on how best to make your money work for you, trespassing on the preserve of investment advisors, debt consultants and various other professional categories in the financial services sector. Like other voluntary workers, they add their personal touch to the colourful panorama of employment categories on the fringes of the private and public sectors. Their example shows that employment policy objectives do not always mix well with environmental policy objectives. Likewise, schemes to promote autonomy, exchange and sharing, which are also sustainable forms of consumption, find themselves charged with the crime of destroying jobs by reducing consumption.

Threat or opportunity?

Hugely exaggerated accusations of this kind lead to many tentative initiatives being abandoned before they really get off the ground. The most serious aspect in political terms, however, is probably the fact that a sector of society which so far has developed according to its own rules – voluntary workers perform tasks they have chosen themselves – is being subjected to the

Positive impetus

The great democratic value of voluntary work must be properly recognised. Unconventional, autonomous voluntary work is part of a society's wealth and therefore deserves to be protected and supported. It shapes the activity, flexibility and cohesion of the community, thus contributing to its viability. Voluntary work is a barometer of unsatisfied needs. Citizens become involved in areas where services are inadequate, areas ignored by government and the market, serving causes that do not enjoy the favour of the prevailing ideology. Alongside these efforts, political initiatives sometimes also emerge and fight hard to win financial support for their objectives or to have stricter regulations imposed. The voluntary sector thus becomes a source of new, positive impetus for the employment market, and this influence is very noticeable, for instance, in the environmental sector. Job creation in non-profitmaking organisations in the environmental technology and monitoring sectors is among the political successes achieved. Voluntary work acts as a force for innovation here, including in the official sector. The fact that the two objectives, environment and employment, can be reconciled in this way will of course be welcomed, but no greater value will be attached to it at political level than

The trade union point of view

Experience shows that there is a positive relationship between active environmental policies and job creation, for example in areas such as public transport, spatial planning and environmental protection, biological agriculture, rural development, energy efficiency and conservation and urban renewal. Public policies and social partner initiatives can create substantial double dividends for both the environment and employment.

This is, in brief, the message of the 9th Congress of the European Trade Union Confederation, held in July 1999 in Helsinki. The ETUC wants a Europe that fully integrates environmental and social concerns into its economic and industrial policies.

Registered unemployment in the European Union now stands at close to 16 million women and men – with many millions who would work if the jobs were available. Environment protection policies represent a great potential to respond to the unemployment problem in Europe, as well as in providing new skills and new opportunities for entrepreneurship.

ETUC concern

The ETUC is alarmed by the fact that in most of the priority areas identified by the 5th Environmental Action Programme of the EU, environmental pressure continues to increase.

There has been remarkable progress on limited aspects of environmental protection, but the general degradation continues.

There are structural reasons for the over-use of environmental and natural resources and the under-use of human capacities. This needs to be reversed. There is at the very same time a profound lack of vision within huge parts of industry, that do not live up to the challenge of innovation by taking up environmental demands.

With the Treaty of Amsterdam a coordinated strategy for employment became the task of the EU. The ETUC calls upon the EU and its member States to recognise that employment policies are an integral part of sustainable development and vice versa and therefore to ensure that the Employment Guidelines fully integrate environmental considerations. Environmental and employment policies should promote sustainable and lasting development which provides for wellbeing, and which respects the environment and social cohesion.

“Greening” the EU Employment Guidelines is clearly an ETUC priority, as well as promoting ecological friendly tax reforms. More generally, there is the need of an ecological “mainstreaming” of all public policies

and initiatives both at national and at European level.

Energy and industry: two priority sectors

Concerning energy and industry, the ETUC suggests the promotion of combined heat and power generation schemes, stimulation of renewable energy production, advice on guidance towards eco-efficient production schemes, provision of information on energy efficiency in households and promotion new and cleaner technology. Obstacles for entrepreneurs developing environmental technology should be reduced, and targeted training for eco-entrepreneurs and the self-employed as for employees, concerning environment-friendly production, should be provided for. The participation of workers in the introduction of new, cleaner technologies should be increased and work should be adapted to more environment-friendly production methods.

All these policies are reflected in a joint platform signed by the ETUC and the European Environment Bureau in June 1998 in Cardiff, which represents a significant development in the relations between the trade unions and the environmental movement.

Challenging goal

Making Europe environment-friendly in all aspects of its economic and social life is a challenging goal that requires not only deep changes in basic economic policy orientations but also a change in mentality and social patterns. In this respect, the role of trade unions taking a different view of economic growth and industrial development integrating ecological concerns is crucial. More and better jobs can indeed go hand in hand with environmental protection and sustainable growth.

Emilio Gabaglio

General Secretary

European Trade Union Confederation

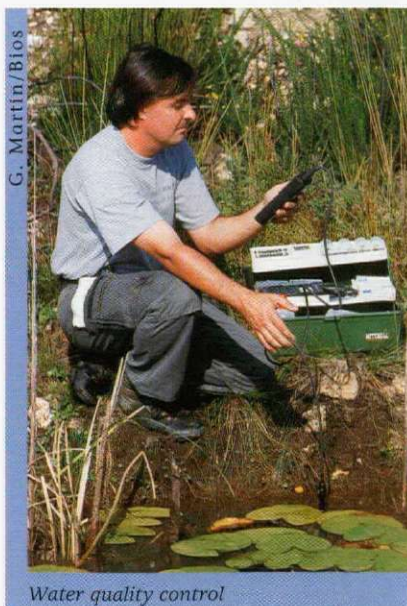
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(1) Europe tomorrow: more jobs for a better environment



G. Martin/Bios

Water quality control



ETUC poster⁽¹⁾



New publications

European Diploma of Protected Areas

In 1999 the Centre launched a campaign to promote the European Diploma. A leaflet and poster were produced to raise public awareness of this prestigious international award granted since 1965 by the Committee of Ministers of the Council of Europe to protected, natural and semi-natural areas and landscapes of special European importance for the preservation of biological, geological and landscape diversity.

By the beginning of 2000, the Diploma had been awarded to 57 areas in 21 European countries. Applications are submitted by member States' governments to a group of specialists for approval. Each area manager then has to send in annual reports to the Council of Europe confirming that the conditions laid down when the award was granted have been met. Every five years, the Diploma may be renewed following another on-the-spot visit and fresh expert report.

The Diploma, with its system of regular monitoring, offers valuable encouragement for efficient protection and management of Europe's landscapes, reserves, monuments and natural areas.

Forests and biodiversity

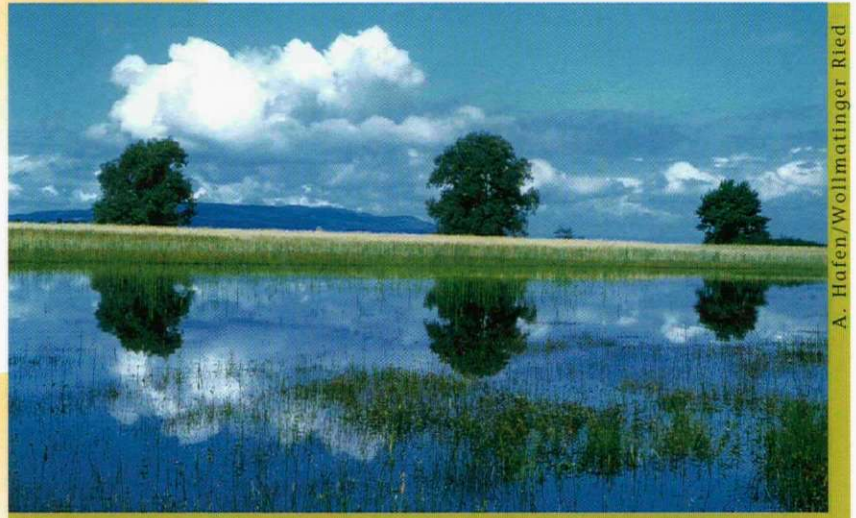
In 1999 the Centre Naturopa published a brochure on forests in the *Questions and Answers* series. Lavishly illustrated and presented in accessible language, it describes how forest activities fit in with biodiversity

conservation goals, highlights the threats hanging over European forests and the principles of sustainable forest management, and identifies action that should be implemented by the different players at all levels – international, national, regional, local and individual – to improve the situation in the future.

Launched in 1996, and published in English and French in A5 format, this series is aimed mainly at local and regional elected representatives, NGO officials, research and training institutes, journalists and other players in the sector concerned. Five issues are currently

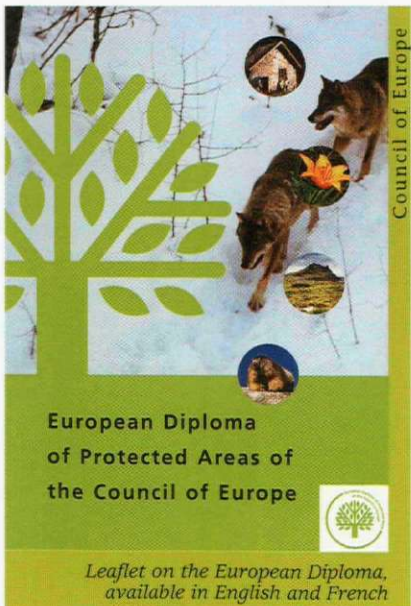
tatives of the ministries concerned with environment protection, cultural affairs, tourism development and employment, as well as interested NGOs, parliamentarians, and local government representatives.

The conference should provide an opportunity for identifying effective job-creation methods and instruments for incorporation in policies promoting sustainable tourism development. It could also give its support to the drawing up of specific guidelines in the context of the Convention on Biological Diversity and to the formulation of proposals for specific activities



A. Hafen/Wollmatinger Ried

Wetland in Germany



European Diploma
of Protected Areas of
the Council of Europe

Leaflet on the European Diploma,
available in English and French

available on the themes of biodiversity, agriculture and biodiversity, tourism and environment, the Pan-European Ecological Network and forests and biodiversity.

International conference on "Sustainable tourism and employment"

An international conference on sustainable tourism development and employment will take place from 11 to 13 October 2000 in Berlin, at the invitation of the German authorities.

The theme of the conference will be "Sustainable tourism development as a factor of job-creation: how can this potential be optimised and developed, and with what instruments?" It will bring together representatives of international organisations working in the field of sustainable tourism, economic development and employment, senior represen-

relating to sustainable tourism development to be included in the programmes implemented under Action Theme 2 of the Pan-European Biological and Landscape Diversity Strategy.

Draft European Landscape Convention

In 1997 the Congress of Local and Regional Authorities of Europe prepared a draft European Landscape Convention intended to promote landscape protection, management and planning in Europe.

After receiving favourable opinions from the two Council of Europe committees whose work is more connected with landscapes (the Cultural Heritage Committee (CC-PAT) and the Committee for the Activities of the Council of Europe in the Field of Biological and Landscape Diversity (CO-DBP)), the Committee of Ministers of the Council of Europe decided to

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set up a Select Committee of Experts to finalise a text of the draft Convention on the basis of the CLRAE work. The Select Committee has completed its work, drafting a revised text which keeps the essential contents of the original draft Convention of the CLRAE. The draft Convention stresses the need to establish and implement landscape policies as an essential component of people's surroundings and provides for the integration of landscape considerations into planning policies and other policies affecting landscape values.

The draft Convention is to be forwarded to the Committee of Ministers for decision and possible opening for signature in 2000, within the framework of the "Europe, a common heritage" Campaign.

"Europe, a common heritage" campaign

The awareness campaign to promote the European natural and cultural heritage ("Europe, a common heritage") is still under way. Decided at the second summit of heads of state and government in October 1997 and officially launched in Romania in September 1999, it will run until autumn 2000. It focuses on three main areas of activity:

- high profile events,
- transnational projects,
- regional and local projects.

The Centre Naturopa, for its part, is responsible for three projects being conducted as part of the campaign: the Council of Europe Landscape Prize, the Pan-European network of natural heritage interpretation

centres and a European photography competition.

The full campaign programme is available on the following website: <http://culture.coe.fr/patrimonium>

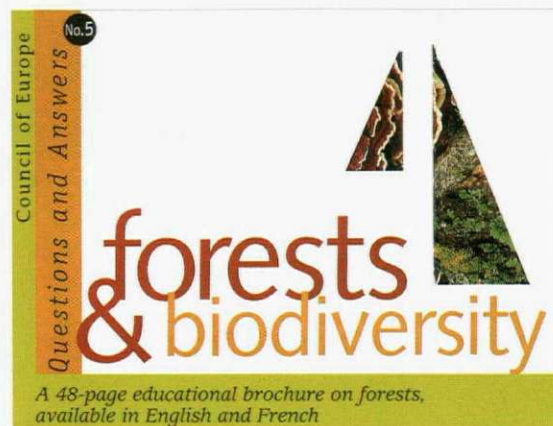
Parliamentary Assembly Resolution

The Parliamentary Assembly of the Council of Europe adopted a Resolution (R1190) on 26 May 1999 on environment protection as a provider of employment.

At a time when many European countries are plagued by high unemployment, greater efforts to protect the environment can create new job opportunities. Far from weakening the economy, policies encouraging greater environmental protection may, on the contrary, help it to adapt to meet new challenges and thus contribute towards mankind's survival.

The job-creation potential of environment protection has greatly increased in recent years as a result of technological breakthroughs. Council of Europe member States should tap this potential through high environment standards, environmentally-oriented tax and pricing policies, the phasing out of subsidies to polluting industries and enhanced international co-operation on environment matters.

Environmental protection takes on a new significance as European economies move in the direction of an ever greater role for services, including the particularly labour-intensive tourism sector. Council of Europe member States should therefore consider envi-



ronment protection and conservation as an integral part of efforts to combat unemployment, as also emphasised in Parliamentary Assembly Resolution 1148 (1998) on the need to accelerate the development of tourism in central and eastern Europe.

A number of central and eastern European transition countries face particular problems owing to the legacy of the communist era. Polluting industries, often still in State hands, are kept open for fear of worsening the unemployment situation and increasing social tension. The result is a real threat to health. The Assembly therefore calls on Council of Europe member States to increase - through the European Union, the European Investment Bank, the European Bank for Reconstruction and Development and the World Bank - the assistance offered to transition countries so that they can modernise these industries.

Lastly, Europe also has a duty to help developing countries protect their environment against such threats as soil erosion and deforestation and thereby help to preserve local jobs.

The Assembly therefore called on Council of Europe member States to give environmental protection the importance it deserves at the World Trade Organisation (WTO) ministerial summit in late 1999 and during the forthcoming WTO "Millennium Round".

The full report (8374) drawn up by Mr González Laxe, a Spanish Socialist Group parliamentarian, and the Resolution itself may be obtained from the Committee on Economic Affairs and Development or consulted on the following website: <http://stars.coe>.



Fair Isle landscape, Scotland



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Created in 1949, just after the war, this intergovernmental organisation works towards a united Europe, based on liberty, democracy, human rights and the rule of law.

With its 41 member States, the Council of Europe is a privileged platform for international co-operation in many fields – education, culture, sport, youth, social and economic affairs, health – including environment and regional planning.

The aim of the Centre Naturopa, information and documentation centre on nature conservation in Europe, is to raise awareness among Europeans. At the origin of important information campaigns, it also produces several publications, including the magazine Naturopa.

Naturopa is published three times a year in five languages: English, French, German, Italian and Russian.

In order to receive Naturopa regularly, please contact the National Agency in your country (see addresses on pages 30-31).

*Next issue's theme
The representation of nature in art*