

EUROPEAN PARLIAMENT



Directorate-General for Research

WORKING PAPER

EU - Latin American Energy Cooperation

Energy and Research Series

ENER 113 EN

This publication is only available in English. However, a Spanish version of the Executive Summary is also contained within this document.

A list of the most recent Energy Series publications can be found at the end of this document.

Publisher: **EUROPEAN PARLIAMENT**
L-2929 Luxembourg

Authors: IALE Tecnología S.L.
Barcelona

Responsible: **Gordon Lake**
Directorate-General for Research
Division for Industry, Research, Energy, Environment and STOA

E-mail: DG4-industrie@europarl.eu.int

The opinions expressed in this working paper are those of the authors and do not necessarily reflect the position of the European Parliament.

Reproduction and translation for non-commercial purposes are authorised, provided the source is acknowledged and the publisher is given prior notice and sent a copy.

Manuscript completed in February 2001

EUROPEAN PARLIAMENT



Directorate-General for Research

WORKING PAPER

EU - Latin American Energy Cooperation

Energy and Research Series

ENER 113 EN

10-2001

PREFACE

This report was written by IALE Tecnologia S.L. of Barcelona, Spain. It is the final output of the research project commissioned by the European Parliament entitled "External Study on European Union – Latin American Energy Cooperation". IALE carried out the research for this project between November 2000 and January 2001.

The overall objective of the study as described in the study specification "is to obtain background material for a European Parliament (EP) initiative based on an action plan".

To achieve this objective the study, firstly, reviews the relevance and impact of existing European Union – Latin American (EU-LA) energy cooperation policies and programmes and, secondly, proposes some "ways forward" for future EP action in this area.

The research methods used to carry out this project were as follows:

- (i) In-depth interviews with: Commission programme managers; the independent programme evaluators; other Commission officials in relevant Directorate Generals (DGs); senior managers from the private sector; other energy experts;
- (ii) A questionnaire survey sent to all EU-LA cooperation programme managers and key energy policy makers in both the public and private sectors;
- (iii) Desk research – a study of a wide range of relevant documentation.

The findings of this study are based on facts, figures or statements by the persons interviewed and questionnaire responses. This constituency represents a reasonable sample of the players involved in EU-LA energy cooperations. However, the report can neither be considered as exhaustive nor as representative of the opinions of all European or Latin American stakeholders.

The report is structured as follows. The first sections are "historical", explaining the rationale for EU involvement in Latin American energy markets, introducing the most important EU programmes and reviewing their performance and impact.

The following sections bring the reader up to date with recent developments in programmes and policies and then look into the future. The report explains that there are a number of serious obstacles to further EU-LA energy cooperations. These obstacles demand innovative responses from the Parliament if an action plan is to be implemented.

The final section is based on the data from the interviews and questionnaire and makes concrete proposals for next steps.

CONTENTS

EXECUTIVE SUMMARY in English	vii
EXECUTIVE SUMMARY in Spanish (RESUMEN)	xv
EUROPEAN UNION – LATIN AMERICAN ENERGY COOPERATION	1
1. Introduction.....	1
2. Rationale for European Union activities in energy markets in LA.....	2
3. The EU-LA energy cooperation programmes	4
4. The relevance and impact of the major cooperation programmes.....	5
5. ‘Best practice’ programme management lessons.....	7
6. The current ‘state of play’ in Synergy and Alure	8
7. The future of Synergy and Alure	9
8. The context for initiatives in EU - LA energy cooperations.....	10
9. Options for ways forward in EU - LA energy collaborations.....	16
ANNEX	31
1. The mid-term evaluation of Alure	31
2. The evaluation of Synergy	36
3. Official development assistance to Latin America.....	42
4. EU development cooperation to Latin America	43
5. World total carbon emissions by region, reference case, 1990-2015	44
6. Research questionnaire survey data.....	46
7. Bibliography	47
List of the most recent Energy Series Working Papers.....	49

EXECUTIVE SUMMARY

Introduction

Latin America is a vast, highly varied and increasingly economically dynamic region. The energy markets in the region reflect this diversity and complexity and are characterised by marked differences between countries and sub-regions. These differences are related to a range of factors including the natural energy resources available in each country, the volume of production and consumption, the nature of the economy determining how energy is used, and the level of import dependency or self-sufficiency.

However, despite the variety of national economies and energy markets it is possible to identify a dominant development trajectory among the largest energy producing and consuming nations in the region. The markets in four countries (Argentina, Brazil, Mexico and Venezuela) represent 80% of the energy produced and consumed in the region. In these countries modern networks supply energy to more than 90% of the population. In contrast, many other nations have low levels of production and consumption, and have followed different development paths to the large energy consuming economies. For example, access to modern energy networks is thought to be as low as 50% in Central America. The common elements of the development path followed to a greater or lesser extent by governments in the main energy using countries are:

- i. privatisation of production and distribution facilities,
- ii. privatisation of access to extraction of primary energy materials,
- iii. de-monopolisation of domestic energy markets and some degree of market integration between nations,
- iv. unbundling of electric and natural gas industries from previous monopolies and introduction of competition in electricity generation and supply,
- v. new regulatory frameworks facilitating competition but preventing market domination,
- vi. an increasing use of international capital to finance the expansion of extraction and supply infrastructure.

Rationale for European Union activities in energy markets in Latin America

Since 1980 the EU¹ has been running programmes² in the energy markets in Latin America³ in order to address three main issues that have become increasingly important during the period of market liberalisation:

European investments

In the 1990s European energy firms began to invest heavily in developing the LA energy infrastructure as markets were liberalised and opened to international investors. European investments grew steadily during the decade reaching the level of €3 thousand million per year between 1997 and 1999. The need for financing for production, transportation and distribution is projected to be about €10 thousand million per year over the next ten years. Most of this money will be from international sources, mostly private, with a considerable percentage coming from European companies. In recent years the EU has focused its energy

¹ Throughout this report we use the acronym "EU" to refer to the European Commission, the European Parliament, and the European Council working in conjunction to deliver policy, mainly via Commission managed programmes.

² First Synergy in 1980, and then later Alure in 1996.

³ Throughout this report we will use LA to refer to Latin America.

cooperation activities on promoting policies and strategies to make LA an attractive and "safe" location for further European investment.

Greater access, better services

To maintain national and regional economic development LA business needs reliable and competitive energy services. Citizens need greater access to affordable energy supplies to help them overcome the problems of disease, poverty, rural isolation and gender inequality. For example, there are still at least 35 million⁴ people in LA who lack access to regular gas or electricity services. It is not necessarily in the short term interests of the international private sector investors to address social equity questions. Therefore, there has been a role for the EU in trying to make sure that in the context of rapid privatisation, social equity issues are not overlooked.

Environmental concerns

The major challenge facing the region is to find solutions to the problems of urban development. Nearly three-quarters of the population are already urbanised, many in megacities where air quality threatens human health and water shortages are common. During the past decade, concern for environmental issues has greatly increased and many new institutions and policies have been put in place. However, policies often do not have significant impact due to lack of financing, technology and trained personnel. In some cases, progress is held back by a lack of political will, and complex legal frameworks. EU programmes are intended to help overcome these obstacles and to promote longer term sustainable development.

The EU-LA energy cooperation programmes

As markets were liberalised and competition introduced, LA governments and regulators recognised that they were in need of international "know how" and expertise. In particular, assistance was required with the implementation of regulatory regimes in privatised markets, the development of new management skills, accessing modern energy technologies and managing new international funding partnerships. Initially European expertise was transferred via Synergy as a form of aid assistance. However, as markets matured, EU programmes in the region shifted to become based on "mutual interest" and are intended to provide benefits to both LA governments and European businesses. Energy cooperation policy has been implemented mainly through two Commission funded programmes which have promoted a wide portfolio of projects in every sector of the energy industry. They are described very briefly below:

Synergy

Synergy is a programme which finances international cooperation projects with third countries (to a maximum of 100%) to help them define, formulate and implement their energy policy in fields of mutual interest.

Currently, there are 14 Synergy projects running in LA which range in character from a region-wide project to promote energy service companies, through a long established module in a university energy policy training course, to a focused project for municipal energy planning in the district of Beni-Pando in Amazonia.

⁴ Figures vary, 35 million is the lowest figure we came across during this research, the highest was 150 million.

Alure

Alure is a programme for energy cooperations which, unlike Synergy, concentrates solely on projects with LA. It is a programme, directly accessible to companies, in which the EC acts as a catalyst in bringing LA and European players together.

The three programme objectives are:

- i. to improve the services of Latin American utilities and to promote business relations with European firms linked to the sector,
- ii. to contribute, where necessary, to the adaptation of legal and institutional frameworks,
- iii. to promote sustainable economic and social development with relevant schemes.

The quality and relevance of Synergy and Alure

Both programmes have been independently evaluated recently. The evaluations found that: the programmes are commissioning relevant projects involving creditable partners; the projects are mostly meeting their objectives which are normally described in qualitative terms (restricting what can be said about project impacts); the management teams at the Commission were assessed as being competent and professional by project consortia.

The evaluations make various recommendations for improvements. In the case of Synergy, the relationship between EU policy and programme portfolios should be made clearer. Also, contractors should be obliged to implement effective monitoring and evaluation modules to demonstrate the impact of EU funding. In the case of Alure, the proposal procedure must be streamlined further and the time between project approval, issuing the contract, and payment must be greatly reduced. Alure projects should also have a credible monitoring and evaluation plan to produce quantitative information on progress and impact.

The evaluations were commissioned as part of the project "learning cycle" and contain many detailed recommendations intended to contribute to developing the programmes further. However, events have recently overtaken both programmes and put the future of cooperation actions in the LA energy field in serious doubt.

The current "state of play" and future of Synergy and Alure

At the time of writing, Synergy has been suspended and faces a very uncertain future. Alure is also suspended but will definitely not be renewed beyond the end of the current programme period which ends in 2001. Below we describe the problems that the programmes have encountered:

Synergy

As a result of a decision by the new Director General of DG TREN (Directorate General for energy and transport) the programme has been suspended. The decision to suspend the programme resulted from a difference of opinion between the Director and the senior programme managers. The disagreement was over programme policy, specifically the issue of whether the programme should promote more, but smaller projects (as proposed by the Commission managers) or fewer, larger ones (the vision of the Director General). The European Council rejected the proposal from the managers to restart the programme and, therefore, the matter entered the negotiation procedure called into play when the Commission and the Council do not reach agreement. The programme managers hope to be able to restart the programme this year (2001). However, at the time of writing the future of the programme is unclear. In fact, the future of the Latin American module within the programme is even

more precarious. Members of the Synergy Committee⁵ have told us that, mostly as a result of the relative maturity of its energy markets, Latin America is considered to be the lowest priority of all the regions the programme covers.

Alure

The current Alure contract will end late this year (2001) and it will not be renewed. All new activity in the programme has been stopped, no further call for proposals will be announced and no more projects commissioned. The fundamental reason for the suspension of the programme is the recently announced change in EU - LA relations policy which does not provide a framework for the continuation of the programme. The management teams who worked on Alure within the Commission are already preparing for the next big challenge for EU-LA cooperations which will be the "information society".

The context for future initiatives in EU-LA energy cooperations

The Parliament is preparing an action plan for a new initiative in EU-LA energy cooperations at the very moment when activity in this area has ceased for fundamental policy reasons. Our research indicates that there are three major elements in the policy context which have changed fundamentally since Synergy and Alure were established and now present major obstacles to any further activity in this field.

The evolution of Latin American energy markets

In the opinions of some of our interviewees the maturity of the markets in many LA countries makes any further public expenditure on energy issues difficult to support. For some companies, non-Spanish companies in particular, EU programmes did serve a useful function in the 1980s and 1990s. Under the *aegis* of the EU as a "neutral broker" promoting "mutual interest" projects, they were helped to establish themselves in the rapidly developing LA markets. However, our research reveals that the large private sector investors who have driven the development of the energy markets were mostly not aware of the EU programmes. They have developed the market as a result of their own investments, without EU support and now view LA as any other mature market. Our research indicates that they see a very limited role for publicly financed cooperation programmes in the style of Synergy or Alure. The LA energy "scene" has moved on since the programmes were established, and what might once have been a firm policy foundation is, in the opinion of our stakeholder interviewees, not any longer.

New policy for relations between EU and LA

During the last six months Chris Patten, Commissioner for External Relations, has made a number of speeches about EU-LA relations which set out the policy direction for the coming years. The policy priorities can be grouped under three headings: addressing the causes of social inequality and poverty; developing democracy and stability throughout LA especially promoting human rights; developing the new digital economy and the "information society". Energy is not included as a priority in these statements. While energy clearly has a bearing on the question of poverty, (and also to some extent on democracy and the information society) programmes related directly to energy along the lines of Synergy or Alure are unlikely to be part of the next round of planning.

⁵ The Synergy Committee is the Commitology Committee established as part of the legal foundation of the programme in 1997.

The existing EU energy policy

The three "foundations" of the EU's high-level energy policy platform are as follows:

- manage external dependency to secure future energy supplies,
- assure the compatibility of energy and environmental objectives,
- integrate European energy markets to increase competitiveness and foster employment.

The first two of these priorities, at first glance, concern EU-LA relations. However, EU energy policy does not provide a strong foundation for future cooperations. The EU does not depend on LA for a significant percentage of its energy supplies and nor will it be in competition with Europe for energy from existing suppliers. Therefore, it is difficult to justify further involvement on the basis of security of supply. It is equally difficult to do so from the perspective of the environment. Environmental questions are recognised as important by LA countries. However, they are often not a priority and are commonly overlooked in favour of rapid economic development which creates barriers to effective environmental cooperations. Added to this is the fact that, in world terms, LA is much less of a threat to the environment than other priority regions, especially Asia. This means that justifying the use of scarce EU environmental funding for activities in LA will be difficult.

Conclusion: consequences of current policy context for future energy cooperations

There is no shortage of ideas for what the EU could do in the LA energy field. The challenge for this report has been to match the ideas to the reality of the policy context. Our research indicates that the Commission does not intend to support another round of energy cooperation programmes in the mould of Synergy and Alure. Therefore, it is difficult to see how the Parliament will find the support among the EU policy community to implement their new "action plan". To help overcome these problems we have taken a "sideways" view of possibilities for future action which has been necessary given that the way ahead is blocked.

We recommend that the Parliament works in two modes ("bottom up" and "top down") at the same time. Firstly, we propose that many objectives will be met more effectively by "leveraging" energy-relevant programmes (e.g. climate technologies, poverty alleviation, research) and "mainstreaming" energy issues than by promoting another dedicated energy programme. Secondly, we recommend that the Parliament develops an action plan dedicated to regulations and market integration issues as our research shows these are the top priority issues for the region. We outline our recommendations below.

"Ways forward" for the Parliament

Support improved regulations and promote market integration

The most urgent issues for the EP to address, according to our research, are energy market regulations and regional market integration. The arguments for supporting actions in these areas are clear. Well defined and transparent regulatory frameworks help ensure European companies obtain a return on their investment that is competitive with other regional markets. Secure investment frameworks will draw more investments and stimulate rapid development of the energy sector laying the foundation for competitive markets that will benefit the consumer. At the same time, market integration will distribute the benefits of competition across the region. Protocols and treaties are needed to facilitate international trade within the region, which will further stimulate development and competition providing further consumer benefits. Finally, convergence of technical norms and standards with those of the EU would ensure that the EU maintains its pre-eminent trade position over the USA. However, while the issue is very important to both the EU and LA stakeholders, it is unlikely that resources will

be found to promote a new programme dedicated to regulations and integration in the current policy climate. Yet, this is an issue that cannot be dealt with by the companies without the European institutions acting as neutral intermediaries. Therefore, the EP has an opportunity to add value but, in the current policy context, we think an innovative mechanism is called for.

Therefore, we recommend:

- i. If Synergy restarts in the near future, Parliament should argue that the whole of the LA component must be focused on regulatory and integration issues in the form of a strategic and networked portfolio of directly negotiated studies and workshops.
- ii. However, if Synergy does not restart, Parliament should commission a short report to explore the legal and institutional possibility of establishing a "foundation" or "think tank" funded by the private sector but managed and directed objectively and independently by an EU institution.
- iii. The objectives of the "foundation" would be to develop strategic and focused cooperation projects with LA governments on regulations issues employing the very best in European expertise and involving a full range of relevant stakeholders. We believe such a project, if it is legally feasible, could be extended to include other regions, for example, Asia.

Environment and climate change

There was significant support in our research for an environmental and climate change technology programme. There is a major market opportunity for European technology firms and consultants as well as clear, unmet needs in the region, especially regarding LA governments' international obligations under the Kyoto Treaty. However, in the current policy climate we recommend that:

- i. The Parliament should not attempt to promote a new programme dedicated to the environment and climate change as we consider that such a proposal would not have strong support in current policy.
- ii. Any EU activities in this area should be coordinated with the International Energy Agency's new Climate Technology Initiative (CTI) for LA. This programme has a strong policy foundation, clear objectives and access to more resources than any EU-promoted programme in this area would have at this moment. The Parliament must, therefore, explore ways of working in synergy with CTI.

Review the European Official Development Assistance (ODA) spend and programmes of international lending agencies in the region and devise an action plan to raise awareness and increase the profile of climate change in project portfolios.

"Champion" the role of energy in the EU-LA priorities areas

While energy is not positively excluded from the recently reaffirmed priority areas, the new policy platform is not conducive to energy cooperations. This is demonstrated by the fact that policy change has led to the termination of Alure, the most significant programme. Our research suggests that in the current policy context there is no foundation for another dedicated energy programme to replace it. Therefore, our conclusions are:

- i. The key challenge for the Parliament is integrating energy as the catalyst for reaching objectives in all programmes developed to implement the EU-LA relations policy.

- ii. The Parliament should develop clear and authoritative energy priorities for nations and sub-regions in LA, in particular from an "integrated energy development" perspective in preparation for when it has the opportunity to review and shape Commission proposals for new programmes related to LA.
- iii. One of the most effective actions Parliament could undertake would be to "champion" the role of integrated energy development within the existing Official Development Assistance⁶ budgets of both the EU and member states. This would focus effort on the less-developed economies while providing smaller, catalytic effects in more developed nations.

Promote longer-term energy research and capacity building actions

A recent evaluation of the 4th Framework Energy Programme found that one of its most significant shortcomings was the almost complete absence of collaborations with scientists from developing and emerging economies. The report recommends that non-EU scientists must be given the opportunity to lead projects and not only participate as members of European-led consortia. Improving research capacity and networks in the region is a fundamentally beneficial longer-term action for the Parliament to promote and is supported by the terms of reference of the Framework Programme (FP). Therefore, we recommend that:

- i. The research and development networks between EU and LA in the field of energy and energy related technology areas (e.g. transport and construction) as well as social science should be improved for the mutual benefit of EU and LA researchers.
- ii. A framework for academic collaboration in energy already exists outside the main collaboration programmes, the EULAFER (European and Latin American Forum for Energy Research) network funded through ALFA (América Latina Formación Académica/ Academic Education Latin America), and the Parliament should explore using it to form the basis for a new, long-term collaborative activity supported by energy programmes under the 6th Framework.
- iii. The Parliament should commission a plan for an awareness raising campaign in LA to promote the opportunities for energy and energy-related research collaboration in Europe both in EU and in national research programmes.
- iv. The Parliament should open a dialogue with the officials who are currently planning the 6th Framework Programme to make sure the opportunities for energy related collaborations with emerging regions' scientists are highlighted, actively promoted and supported.

Recommendations

In the recommendations outlined above, we have tried to present the "positive" options that we see for Parliament in the current overwhelmingly negative policy and programme context. Our recommendations are aimed at maximising impact of the very limited resources we estimate will be available for energy activities in LA. Parliament must "champion" the importance of energy as a catalyst for reaching a wide range of policy objectives, creating links, identifying synergies, thinking long-term and extracting maximum value from existing activities. This is not a very "heroic" role for Parliament to take but drawing together existing actions and forcing energy onto their agendas will, we believe, create greater impact than a new programme which would be very vulnerable in the current policy context.

⁶ The EU and member states are the biggest ODA contributors to the region. For details of the commitment please see Sections 3 and 4 of the Annex.

Our approach has been on the one hand to propose longer-term, "bottom up" underpinning actions linked to established and well-founded sources. On the other, we propose a "top down" supply-side focus on regulations and integration to be funded either from Synergy or from an innovative private sector funded, EU managed "foundation" intended, again, to provide maximum impact with the limited resources available. We recommend that the Parliament should attempt to work in both these complementary ways to achieve a longer-term contribution to energy development in LA at a moment when both the region, and the field are no longer at the forefront of policy debate.

Summary Table of Recommendations

Field	Recommended Action
Regulations and market integration	<ol style="list-style-type: none"> 1. Adapt Synergy (if re-launched) to a dedicated regulations and integration programme. 2. Commission further research about the possibility of establishing a regulations "foundation" with private sector support.
Environment and climate change	<ol style="list-style-type: none"> 1. Coordinate all activity in this area with the CTI. 2. "Champion" energy in existing funding streams, for example, ODA.
Poverty alleviation	<ol style="list-style-type: none"> 1. Prepare new Parliament position on energy as key catalyst in Commission programmes related to LA. 2. "Champion" energy themes when evaluating commission proposals. 3. Raise awareness and "mainstream" energy issues in ODA.
Research and development	<ol style="list-style-type: none"> 1. Commission awareness raising plan for campaign to increase level of research collaborations in energy and energy related areas. 2. Implement awareness raising campaign aimed at 6thFramework and member state research programmes.

RESUMEN

Introducción

América Latina es una región vasta, muy variada y con una economía cada vez más dinámica. Los mercados de la energía de la región reflejan esta diversidad y complejidad. El sector de la energía está caracterizado por diferencias notables entre los países y las sub-regiones. Estas diferencias se deben a varios factores que incluyen los recursos energéticos naturales disponibles en cada país, el volumen de producción y de consumo, la naturaleza de los aspectos económicos que determinan cómo se utiliza la energía, y el nivel de dependencia respecto a las importaciones o de autosuficiencia.

Sin embargo, a pesar de la variedad de las economías nacionales y de los mercados de la energía, es posible identificar una trayectoria dominante de desarrollo en las principales naciones productoras y consumidoras de energía de la región. Los mercados de cuatro países (Argentina, Brasil, México y Venezuela) representan el 80% de la energía producida y consumida en la región y su red suministra energía a más del 90% de la población. Por otra parte, otras naciones presentan bajos niveles de producción y de consumo y quedan al margen de las trayectorias de desarrollo de estos líderes regionales; por ejemplo, en América Central se estima que el acceso a las redes modernas de energía sólo alcanza al 50%. Los principales elementos comunes del modelo de desarrollo seguido, en mayor o menor grado, por los gobiernos latinoamericanos son:

- i. fomento de la privatización de la producción y la distribución,
- ii. privatización del acceso a la extracción de materias primas energéticas,
- iii. fin de los monopolios en los mercados de energía domésticos y algún grado de integración entre mercados de naciones distintas,
- iv. desgajamiento de las industrias eléctricas y de gas natural de sus antiguos monopolios e introducción de la competencia en la generación y suministro de electricidad ,
- v. establecimiento de nuevos marcos reguladores que faciliten la competencia y que eviten el dominio del mercado,
- vi. creciente uso de capital internacional para financiar la expansión de la infraestructura de extracción y suministro.

Lógica de las actividades de la Unión Europea en los mercados de la energía de América Latina

Desde 1980 la UE⁷ ha estado desarrollando programas⁸ en los mercados de energía de América Latina⁹ referentes a tres temas principales de creciente importancia durante el periodo de liberalización de los mercados.

⁷ En el presente informe utilizamos el acrónimo UE para referirnos indistintamente a la Comisión Europea, al Parlamento Europeo y al Consejo de Europa, que trabajan conjuntamente en el diseño de políticas, a través de programas gestionados principalmente por la Comisión.

⁸ Primero Synergy en 1980, y luego Alure en 1996

⁹ En este informe utilizaremos AL para referirnos a América Latina

Inversiones europeas

En los 90 las empresas de energía europeas comenzaron a invertir fuertemente en el desarrollo de infraestructuras en el sector de la energía a partir de la liberalización de los mercados y la apertura a la inversión internacional. Las inversiones europeas crecieron ininterrumpidamente durante la década alcanzando el nivel de tres billones de euros por año entre 1997 y 1999. Las necesidades de financiación para la producción, el transporte y la distribución se estiman alrededor de los 10 billones de euros anuales durante los próximos diez años. La mayoría de este dinero procederá de fuentes internacionales, preferentemente privadas, con un porcentaje considerable procedente de compañías europeas. Desde el final de los años ochenta, la Comisión Europea ha desarrollado programas destinados a facilitar a las empresas europeas la explotación de las oportunidades de mercado en el sector de energía. Más recientemente, la UE ha promovido el desarrollo de políticas y estrategias para que AL se convierta en una localización atractiva y “segura” para las inversiones, contribuyendo a consolidar la posición de los principales inversores europeos.

Mayor accesibilidad, Equidad social

Para mantener el desarrollo económico nacional y regional AL necesita servicios de energía fiables y competitivos. Sus habitantes necesitan un mayor acceso a suministros de energía más asequibles, que ayuden a superar los problemas de enfermedad, pobreza, aislamiento rural y desigualdad; como mínimo 35 millones¹⁰ de personas en AL carecen todavía de acceso regular a los servicios de gas o electricidad. Como presumiblemente los intereses a corto plazo de los inversores privados internacionales no tendrán en cuenta estos temas sociales, la UE deberá velar para que estas cuestiones no sean pasadas por alto en un contexto de rápida privatización.

Temas medioambientales

El mayor desafío consiste en encontrar soluciones a los problemas del medio ambiente urbano; casi tres cuartas partes de la población es ya urbana y gran parte de ella vive en megaciudades, en las que la calidad del aire constituye una amenaza para la salud y la escasez de agua es un problema frecuente.

Durante la última década, ha aumentado considerablemente la preocupación por los temas medioambientales y se han puesto en marcha nuevas instituciones y políticas. Sin embargo, estas políticas no han producido impactos significativos debido a la falta de financiación, tecnología, personal y capacitación, y en algunos casos, falta de voluntad política combinada con complejos marcos legales. Los programas de la UE intentan ayudar a superar estas deficiencias y promover un desarrollo sostenible a largo plazo.

Los programas de cooperación UE-AL en materia de energía

Cuando se liberalizaron los mercados y se introdujo la competencia, los gobiernos y los reguladores de AL necesitaban *know how* sobre la implantación de regímenes reguladores en mercados privatizados, nuevas habilidades directivas, nuevas tecnologías energéticas y también nuevas fuentes de financiación. Inicialmente la experiencia europea se transfirió a través de Synergy como una forma de asistencia. Sin embargo, cuando los mercados

¹⁰ Las cifras encontradas durante la investigación varían ampliamente desde 35 hasta 150 millones.

maduraron, los programas de la UE en la región pasaron a basarse en el 'interés mutuo', proporcionando beneficios tanto a los gobiernos de AL como a los negocios europeos. La política de cooperación en materia de energía se ha llevado a cabo principalmente a través de dos programas financiados por la Comisión que han promovido una amplia cartera de proyectos en cada sector de la industria de la energía. A continuación se describen brevemente estos programas:

Synergy

Synergy es un programa que financia proyectos de cooperación internacional con terceros países (hasta un máximo del 100%) para ayudarles a definir, formular y llevar a cabo su política de energía en campos de mutuo interés.

Actualmente se están desarrollando 14 proyectos Synergy en AL que varían desde un proyecto para promover compañías de servicios energéticos en una extensa región, a través de un módulo en un prestigioso curso universitario de capacitación en política energética, hasta un proyecto puntual para planificar la energía en los municipios del distrito de Beni-Pando en el Amazonia.

Alure

Alure es un programa para cooperaciones de energía que, a diferencia de Synergy, se concentra únicamente en proyectos con AL. Es un programa directamente accesible a las empresas, en el que la UE actúa como catalizador, poniendo en contacto a participantes europeos y latinoamericanos.

Los tres objetivos del programa son:

- i. mejorar las empresas de servicios públicos de energía en AL y promover relaciones de negocios con empresas europeas relacionadas con el sector,
- ii. contribuir, donde sea necesario, a la adaptación de marcos legales e institucionales,
- iii. promover un desarrollo económico y social sostenible mediante esquemas pertinentes.

La calidad y la importancia de los programas Synergy y Alure

Recientemente se han evaluado de forma independiente ambos programas. Las evaluaciones indican que los programas están impulsando proyectos importantes que involucran a reputados participantes; que los proyectos están, en su mayoría, alcanzando sus objetivos, los cuales son descritos normalmente en términos cualitativos (con pocas referencias al impacto de los proyectos); y que los equipos gestores de la Comisión han sido calificados como competentes y profesionales por los consorcios que desarrollan los proyectos.

Las evaluaciones hacen varias recomendaciones sobre posibles mejoras. En el caso de Synergy, debe clarificarse la relación entre la política de la UE y la cartera de proyectos del programa y debe obligarse a los contratistas a que lleven a cabo acciones de seguimiento y evaluación que muestren el progreso y el impacto de los proyectos, a medida que se van realizando los gastos. En el caso de Alure, es preciso agilizar los trámites referentes a las propuestas y debe reducirse el tiempo que transcurre entre la aprobación del proyecto, la formalización del contrato y el pago. Los proyectos de Alure deben también someterse a un

plan de seguimiento y evaluación adecuado, con objeto de que se pueda obtener información cuantitativa sobre su progreso y su impacto.

Las evaluaciones fueron encargadas como parte del 'ciclo de aprendizaje' del proyecto y contienen muchas recomendaciones detalladas que podrían aplicarse en futuros programas. Sin embargo, ambos programas se han visto sobrepasados por los acontecimientos y el futuro de las acciones de cooperación con AL en materia de energía ofrece serias dudas.

Situación actual y futuro de Synergy y Alure

En el momento de escribir este informe, el programa Synergy ha sido suspendido y se enfrenta a un futuro muy incierto. Alure también ha sido suspendido y no será renovado más allá del final del período actual, que termina en 2001. A continuación describimos los problemas que han afectado a estos programas:

Synergy

El programa fue suspendido como resultado de una decisión del nuevo Director General de la DG TREN, ocasionada por una diferencia de opinión con los gerentes *senior* del programa. La discrepancia se produjo respecto a la política fundamental del programa, específicamente sobre si el programa debía promover más proyectos, aunque menores (como proponía la Comisión) o menos pero de dimensión mayor (según criterio del Director General). El Consejo Europeo rechazó una propuesta de los gerentes del programa para reanudarlo y el problema entró en una fase de negociación entre la Comisión y el Consejo sin que se alcanzara un acuerdo. Los gerentes del programa esperan poder reanudar el programa este año (2001). Sin embargo, en el momento de redactar el informe, el futuro del programa es muy incierto. De hecho, el futuro del módulo latinoamericano dentro del programa es todavía más precario. Los miembros del Comité de Synergy¹¹ nos han dicho que AL tiene la prioridad más baja entre las regiones cubiertas por el programa, debido principalmente a la relativa madurez de sus mercados de energía.

Alure

El actual contrato de Alure terminará al final de este año (2001) y no se renovará. No habrá nuevas actividades, no se anunciarán nuevas peticiones de propuestas ni se encargarán nuevos proyectos. La razón fundamental para la suspensión del programa es el cambio recientemente anunciado en la política de relaciones UE - AL que no proporciona un marco apropiado para la continuación del programa. Los equipos que trabajaban en Alure, dentro de la Comisión, se están ya preparando para el próximo gran desafío en la cooperación UE - AL: la sociedad de la información.

Contexto para futuras iniciativas de cooperación UE - AL en materia de energía

El Parlamento está preparando un plan de acción para una nueva iniciativa sobre la cooperación UE-AL en materia de energía en el momento mismo en que ha cesado la

¹¹ El Comité Synergy es el Commitology Committee, establecido en 1997 como parte del fundamento legal del programa.

actividad en este área, fundamentalmente por razones políticas. Nuestra investigación señala que hay tres elementos principales en el contexto político que han cambiado fundamentalmente desde la creación de Synergy y Alure y que ahora constituyen obstáculos importantes para cualquier actividad futura en este campo.

Evolución de los mercados de energía latinoamericanos

En opinión de algunos de nuestro entrevistados, la madurez de los mercados en algunos países de AL hace difícil sostener cualquier gasto público futuro en temas de energía. Para algunas empresas –especialmente empresas no españolas– los programas de la UE fueron útiles en los años 80s y 90s. Bajo la tutela de la UE como intermediaria neutral, promotora de proyectos de interés mutuo, se ayudó a estas empresas a establecerse en los mercados latinoamericanos en rápido desarrollo. No obstante, los grandes inversores del sector privado que han liderado el desarrollo de los mercados de energía apenas conocían los programas de la UE. Desarrollaron el mercado como resultado de sus propias inversiones, sin el soporte de la UE y ahora, en general, se considera a AL como cualquier otro mercado maduro. Nuestra investigación indica que estas empresas consideran que los programas de cooperación financiados públicamente, tipo Synergy o Alure, desempeñan un papel muy limitado. El escenario de la energía en AL ha cambiado desde que se crearon los programas y lo que pudo haber sido en el pasado una política útil, en opinión de nuestros entrevistados ya no sirve.

Nueva política para las relaciones entre la UE y AL

Durante los últimos seis meses Chris Patten, Comisario para las Relaciones Exteriores, ha hecho varias declaraciones sobre las relaciones UE - AL que establecen las directrices políticas para los próximos años. Las prioridades políticas pueden agruparse en tres apartados: las acciones sobre las causas de la desigualdad social y la pobreza; el desarrollo de la democracia y la estabilidad en el conjunto de AL, especialmente mediante la promoción de los derechos humanos; el desarrollo de la nueva economía digital y de la “sociedad de la información”. En estas declaraciones la energía no se considera prioritaria. A pesar de que la energía tiene una clara relación con la pobreza, y también, en alguna medida, con la democracia y la sociedad de la información, es improbable que programas como Synergy o Alure puedan formar parte de los futuros planes.

La política energética actual de la UE

Los tres objetivos principales de la política de alto nivel de la UE en materia de energía son los siguientes:

- Gestionar la dependencia externa para asegurarse el suministro de energía en el futuro,
- Compatibilizar la energía y los objetivos medioambientales,
- Integrar los mercados de energía europeos para incrementar la competencia y fomentar el empleo

Las dos primeras prioridades conciernen, en teoría, a las relaciones UE-AL. Sin embargo, la política energética proporciona argumentos débiles para futuras cooperaciones. La UE no depende de AL en un porcentaje significativo de sus suministros de energía y no querrá competir con Europa con proveedores distintos de los actuales. Por consiguiente, es difícil justificar futuras acciones en base a la seguridad del suministro. También es difícil hacerlo desde la perspectiva medioambiental. Aunque los países latinoamericanos reconocen la

importancia de las cuestiones medioambientales, a menudo no las consideran prioritarias y quedan relegadas respecto a medidas en favor de un rápido desarrollo económico, lo que dificulta las cooperaciones eficaces. Además, en términos mundiales, AL constituye una amenaza menor para el medio ambiente respecto a otras regiones prioritarias, sobre todo Asia, por lo que será difícil justificar el uso de fondos escasos para cuestiones medioambientales.

Conclusión: consecuencias del contexto político actual sobre futuras cooperaciones en materia de energía.

No faltan ideas sobre lo que la UE podría hacer en AL en el campo de la energía : en este informe el desafío ha consistido en combinar las ideas con la realidad del contexto político. Nuestra investigación indica que la Comisión no piensa apoyar otra etapa de cooperación en materia de energía según el modelo de los programas Synergy y Alure. Por consiguiente, es difícil imaginar cómo el Parlamento podrá encontrar apoyo en la política comunitaria de la UE para implantar su nuevo ' plan de acción'. Para tratar de superar estos problemas hemos tomado un “camino lateral” para examinar las posibilidades de acciones futuras, ya que la ruta principal ha quedado bloqueada.

Nuestro enfoque para encontrar una solución al problema de cómo impulsar programas sobre la energía dada la situación actual ha consistido en desagregar los distintos objetivos de los programas Synergy y Alure. Ambos programas estaban intentando, sin éxito según las evaluaciones, abordar distintos temas de una amplia gama de áreas relacionadas con la energía tales como, por ejemplo, el medio ambiente y los mercados financieros pero también las regulaciones y la integración de los mercados. Recomendamos que el Parlamento trabaje simultáneamente de dos maneras, desde abajo (*bottom up*) y desde arriba (*top down*). En primer lugar sugerimos que podrían conseguirse muchos objetivos con mayor eficacia incluyendo temas energéticos en los grandes programas ya existentes (cambio climático, lucha contra la pobreza, investigación) en vez de impulsar programas específicos sobre energía. En segundo lugar, recomendamos que el Parlamento desarrolle una acción sobre las regulaciones y la integración de los mercados, temas que en nuestra investigación fueron considerados prioritarios para la región. Seguidamente esbozamos nuestras recomendaciones:

Propuestas de acción al Parlamento

Ayuda para la mejora de las regulaciones y la promoción de la integración de los mercados

Los problemas más urgentes que surgieron en nuestra investigación fueron las regulaciones de los mercados de la energía y la integración del mercado regional. Los argumentos para apoyar acciones en estas áreas están claros: unos marcos reguladores bien definidos y transparentes harán posible que las empresas europeas obtengan un beneficio sobre sus inversiones que sea competitivo con el de otros mercados regionales, estimulando el rápido desarrollo del sector energético y sentando las bases para mercados competitivos que beneficiarán al consumidor. La integración del mercado difunde los beneficios de la competencia por toda la región. Se necesitan protocolos y tratados para facilitar el comercio internacional en la región, el cual estimulará el desarrollo y la competencia proporcionando beneficios futuros al consumidor. Finalmente, la convergencia de las normas técnicas y los estándares con los de la UE aseguraría a ésta mantener su posición preeminente en el

comercio respecto a los Estados Unidos. A pesar de que las recomendaciones del sector privado son claras y unánimes, el clima de la política actual hace improbable que se encuentren nuevas fuentes de recursos para impulsar un nuevo programa dedicado a las regulaciones y la integración. Los temas referentes a la regulación y la integración son demasiado importante para ser descuidados y no pueden llevarse a cabo por las empresas sin el sector público que actúa como intermediario neutral.

Por consiguiente, recomendamos:

- i. Si Synergy reanuda su actividad en un próximo futuro, el Parlamento debe sostener que se destine la totalidad de la parte correspondiente a AL a temas referentes a la regulación y la integración, mediante una cartera de estudios y talleres estratégicos y en red.
- ii. Sin embargo, si no se reanudase Synergy, el Parlamento debería encargar un informe breve para explorar las posibilidades legales e institucionales de establecer una “fundación” o un “grupo de reflexión” (*think tank*) financiado por el sector privado, pero gestionado y dirigido de una forma objetiva e independiente por una institución de la UE.
- iii. Los objetivos de la “fundación” consistirían en desarrollar proyectos estratégicos y específicos de cooperación con los gobiernos de AL en temas de regulación, empleando los mejores expertos europeos e involucrando a un amplio espectro de agentes relevantes. Creemos que si este proyecto fuese factible legalmente, podría aplicarse en otras regiones, por ejemplo, Asia.

Medio ambiente y cambio climático

En nuestra investigación encontramos un apoyo significativo para un programa tecnológico sobre el medio ambiente y el cambio climático. Existe una gran oportunidad para las empresas tecnológicas y de consultoría europeas ya que la región presenta claras necesidades insatisfechas, en especial las referentes a las obligaciones internacionales de los gobiernos de AL derivadas del Tratado de Kioto. Sin embargo, en el actual clima político recomendamos que:

- i. El Parlamento no debería intentar impulsar un nuevo programa dedicado al medio ambiente y al cambio climático ya que consideramos que semejante propuesta no encontraría apoyo en la política actual
- ii. Cualquier actividad de la UE en esta área debería coordinarse con la nueva Iniciativa referente a Tecnologías sobre el Clima (*Climate Technology Initiative, CTI*) de la Agencia Internacional de la de Energía para LA que cuenta con una fuerte base política, unos objetivos claros y un acceso a más recursos que los que podría reunir en este momento cualquier programa impulsado por la UE en esta área. Por consiguiente, el Parlamento debería explorar vías para trabajar con sinergia con la CTI.
- iii. Deberían revisarse los gastos de ayuda al desarrollo (*Official Development Assistance, ODA*) y los programas de las agencias de préstamos internacionales en la región y diseñarse un plan de acción para aumentar el conocimiento e incrementar el tratamiento del cambio climático en las carteras de proyectos.

Realce del papel de la energía en las áreas prioritarias de las relaciones UE-AL

Aunque la energía no está absolutamente excluida de las recientes áreas prioritarias, es evidente que la nueva plataforma política no propende a nuevas cooperaciones en materia de energía. Como ha puesto de manifiesto la cancelación de Alure, el programa de cooperación más significativo. Nuestra investigación sugiere que en el contexto de la política actual no existe ninguna base para un nuevo programa sobre energía que pueda reemplazarlo. Por consiguiente, nuestras conclusiones son:

- i. El desafío clave para el Parlamento consiste en integrar la energía como catalizador para alcanzar objetivos en todos los programas desarrollados para llevar a cabo la política de relaciones UE-AL.
- ii. El Parlamento debe desarrollar prioridades de energía claras y autorizadas para las naciones y sub-regiones de AL, en particular desde una perspectiva de “desarrollo integrado de la energía”, preparándose para cuando tenga la oportunidad de revisar y configurar propuestas a la Comisión para nuevos programas relativos a AL.
- iii. Una de las acciones más eficaces que podría emprender el Parlamento consistiría en acentuar el papel de desarrollo integrado de la energía en los presupuestos de los planes de Ayuda Oficial al Desarrollo (ODA)¹² tanto de la UE como de sus estados miembros. Estos planes deberían concentrar el esfuerzo en las economías menos desarrolladas y actuar como catalizadores en los países más desarrollados.

Impulso a las acciones a largo plazo sobre investigación y capacitación en energía

Una reciente evaluación del 4º del Programa Marco sobre la Energía puso de manifiesto que una de sus limitaciones más significativas era la ausencia casi completa de colaboraciones con científicos de las economías en desarrollo y emergentes. El informe recomienda que los científicos no europeos deben tener la oportunidad de dirigir proyectos y no sólo de participar como miembros en consorcios dirigidos por europeos. La mejora de la capacidad de investigación y de formación de redes en la región son acciones beneficiosas a largo plazo que el Parlamento debe impulsar, dentro de los términos del Programa Marco. Por consiguiente, recomendamos que:

- i. Las redes de investigación y desarrollo entre la UE y AL en el campo de energía y las áreas tecnológicas relacionadas con ella (por ejemplo, transporte y construcción) así como en las ciencias sociales deben mejorarse para beneficio mutuo de los investigadores de la UE y AL.
- ii. Existe ya un marco para la colaboración académica en energía fuera de los programas de cooperación principales (la red EULAFER se fundó a través del programa ALFA). El Parlamento debería explorarla, tomándola como base para nuevas actividades de cooperación a largo plazo dentro de los programas sobre energía del 6º Programa Marco.
- iii. El Parlamento debería encargar un plan para emprender una campaña para dar a conocer en AL las oportunidades de cooperación en investigaciones sobre energía y áreas relacionadas en Europa, tanto en los programas de la UE como en los nacionales.

¹² La UE y sus estados miembros son los mayores contribuyentes de la Ayuda al Desarrollo (ODA) a la región. Pueden verse más detalles de esta contribución en las Secciones 3 y 4 del Anexo.

- iv. El Parlamento debería dialogar con los funcionarios que están planeando actualmente el 6º Programa Marco para asegurarse de que se potenciarán e impulsarán las oportunidades de cooperación sobre la energía con científicos de las regiones emergentes.

Conclusiones

En las recomendaciones esbozadas anteriormente hemos intentado presentar opciones “positivas” al Parlamento en el actual contexto de políticas y programas abrumadoramente “negativos”. Nuestras recomendaciones intentan maximizar el impacto de los recursos muy limitados que estimamos estarán disponibles para actividades sobre la energía en AL. El Parlamento debe realzar la importancia de la energía como catalizador para alcanzar una amplia gama de objetivos políticos, creando encadenamientos, identificando sinergias, pensando a largo plazo y valorizando al máximo las actividades existentes. No es un papel muy “heroico” para el Parlamento pero creemos que rediseñar conjuntamente las acciones actuales acciones y forzar la presencia de la energía en sus agendas tendrá mayor impacto que un nuevo programa, que sería muy vulnerable en el contexto de la política actual.

Nuestro método ha consistido en proponer, por un lado, acciones a largo plazo “de abajo arriba”, aprovechando acciones ya consolidadas y bien financiadas. Por otra parte, proponemos un enfoque “de arriba abajo” en materia de regulación e integración, que sería financiado por Synergy o por una “fundación” innovadora financiada por el sector privado y gestionada por la UE, intentando de nuevo conseguir el máximo impacto a partir de los limitados recursos disponibles. Recomendamos que el Parlamento debería tratar de trabajar en ambas vías complementarias para conseguir una contribución a largo plazo al desarrollo de la energía en AL en un momento en que ambos, la región y el tema, no están ya en la vanguardia del debate político.

Tabla resumen de Recomendaciones

Campo	Acción Recomendada
Regulaciones e integración del mercado	<ol style="list-style-type: none"> 1. Convertir Synergy (si se relanza) en un programa sobre regulación e integración de los mercados. 2. La Comisión debería explorar la posibilidad de crear una “fundación” con apoyo del sector privado para tratar estos temas.
Medio ambiente y cambio climático	<ol style="list-style-type: none"> 1. Coordinar todas las actividades en esta área con la CTI. 2. Potenciar la inclusión de la energía en los principales programas de financiación existentes, por ejemplo, en los de Ayuda al Desarrollo (ODA).
Lucha contra la pobreza	<ol style="list-style-type: none"> 1. Explorar nuevos criterios del Parlamento sobre la energía en que ésta actúe como catalizador en los Programas de la Comisión relativos a AL. 2. Potenciar los temas energéticos cuando se evalúen las propuestas de la Comisión. 3. Aumentar el conocimiento de los temas energéticos y aumentar su presencia en los programas de Ayuda al Desarrollo (ODA).
Investigación y desarrollo	<ol style="list-style-type: none"> 1. La Comisión debería realizar una campaña para incrementar el nivel de cooperación en las investigación sobre la energía y las áreas relacionadas con ella. 2. Realizar una campaña para dar a conocer estos temas en los programas de investigación del 6º Programa Marco y de los estados miembros.

1. Introduction

Latin America is a vast, increasingly economically dynamic and highly varied region. The energy markets in the region reflect this diversity and complexity, and are characterised by marked differences between countries and sub-regions. These differences are related to a range of factors including the natural energy resources available in each country, the volume of production and consumption, patterns of energy use, and the level of import dependency or self-sufficiency.

In general terms, energy demand in LA is growing about 4 times faster than in Europe. This is related to high economic growth in most LA countries and the fact that energy intensity is still growing (2.73 toe (tonnes of oil equivalent) per 1 000 US\$ of GDP in 1980 and 2.95 toe per 1 000 US\$ of GDP in 1995). In practical terms, compared to Europe where demand grows only by 1 to 2 % per year, energy demand in LA is growing at 6 % per year when its annual GDP growth is 4 %. This is due to the fact that there is still a positive 1.5 % energy elasticity versus GDP, while in Europe this elasticity has become negative with the change of the structure of the economy. It is estimated that between 1996 and 2000 electricity consumption in LA increased by 186 % compared to 200 % in Asia and only 55 % in Europe and 36 % in the USA.¹³

However, when thinking about the region it is important not to lose sight of the fact that there is a huge variety of different socio-economic contexts and, therefore, of energy markets. A group of countries produce and export oil, others are net importers while a third group produces oil but does not have a surplus for export. The main energy sources vary from country to country. In some cases of predominantly rural countries such as Haiti, Honduras, Guatemala, Guyana and El Salvador more than 50 % of energy is produced by firewood and charcoal. In contrast, three of the region's nations (Argentina, Brazil and Mexico) have the technological capacity to produce electricity successfully from nuclear power. In some countries electrification provides access to modern sources of power to 90 % of the population (for example, in Uruguay, Argentina, Brazil, Chile, and Venezuela) while in Central America access is restricted to less than 50 % of the population¹⁴.

Despite these contrasts it is possible to identify a dominant development trajectory among the largest energy producing and consuming nations in the region. The markets in four countries (Argentina, Brazil, Mexico and Venezuela) represent 80% of the energy produced and consumed in the region while the majority of other nations have low levels of production and consumption and are marginal to the development trajectories of these main regional drivers. The main common elements of the development path followed to greater or lesser extent by Latin American governments are:

- (i) privatisation of production and distribution facilities;
- (ii) privatisation of access to extraction of primary energy materials;
- (iii) de-monopolization of domestic energy markets and some degree of market integration between nations;
- (iv) the unbundling of electric and natural gas industries from previous monopolies and the introduction of competition in electricity generation and supply;
- (v) new regulatory frameworks facilitating competition but preventing market domination;

¹³ Source, Philippe Bouix, *The Evaluation of Alure*, European Commission, 2000.

¹⁴ Source, "The Multilateral Development Banks Energy Project", *Latin America Report*, 1997.

- (vi) an increasing use of international capital to finance the expansion of extraction and supply infrastructure.

LA has also undergone a wave of energy deregulation and privatisation and has become a major competitive arena for some of the world's largest multi-scope multinational energy companies. At the time of writing, there are "unbundled" energy systems with independent regulators in Argentina, Chile, Peru, Bolivia, Columbia and Paraguay. In most of these countries generation, transmission and distribution are more than 50 % owned by private companies. Most other nations are in transition to similarly liberalised markets.

Chile was the first nation in the region to embark upon energy privatisation and deregulation. However, it was Argentina's move toward energy reform and privatisation ten years later that precipitated a continent-wide "sea change" in energy policies and a massive inflow of foreign investment. The corporate response to privatisation and deregulation of South American energy has been nothing short of historic. In the mid- to late 1990s, the continent saw a virtual swallowing-up of newly privatised Latin American energy companies, many by newly privatised and/or deregulated energy companies from abroad—in particular, from the United Kingdom, Spain and United States. One major effect of electricity deregulation (in the United States) and electricity privatisation (in the United Kingdom) was the removal of restrictions on foreign investments by electricity companies. Between 1990 and 1997, foreign investors channelled more than \$45 billion into Latin American electricity investments. The privatisation of Brazil's electricity industry alone has attracted an estimated \$60 billion, one of the biggest privatisation efforts on record.

The underlying reasons for the widespread tendency towards privatisations can be traced back to the problems faced by LA in the 1980's, the so called "lost decade".¹⁵ At that time, International banks found themselves with an excess of investment capital at a time when advanced economies were in deep recession and very low interest rates were yielding negative returns in real terms. Private banks saw an opportunity to lend to LA governments, particularly to those who were oil-rich and therefore, potentially solvent and many governments took up the offer of loans. However, often the loans were not put to constructive use, with the result that repayments could not be met. The situation came to a head in 1982 when Mexico renounced the payment of its debt. The international response, led by the International Monetary Fund (IMF) and other lending institutions was a programme for the profound restructuring of LA economies which the indebted governments had little power to resist. Two measures were at the heart of the restructuring programmes: firstly, control of inflation by reducing government expenditure, fiscal austerity, tightening credit and money supply and lowering real wages; secondly, and most importantly for the energy sector, the privatisation of as much as possible of the public sector, particularly the most profitable companies, offering them up to international capital bidding. The fundamental goal was to align the macroeconomic features of LA with the open, global economy and in the process facilitate repayment of debts by increasingly competitive economies.

2. Rationale for European Union activities in energy markets in LA

Since 1980 the EU has been running energy programmes in LA in order to address key issues; issues that have become increasingly important during the period of market liberalisation. Below we describe the three key fields and set-out the rationale for EU involvement.

¹⁵ Manuel Castells, *The Rise of the Network Society*, Blackwell, Oxford, 1996, pp. 115 – 133.

2.1. European investments

European companies are major investors in LA energy markets. It is estimated that European companies have already invested more than €3 billion per year in LA between 1997 and 1999. The need for huge investments in production transportation and distribution is estimated at about €10 billion per year over the next ten years. Most of this investment will come from international sources, mainly private, with a considerable percentage coming from Europe.

During the 1990s there was a clear case to be made for public sector assistance to help European firms expand into new markets to benefit the European energy industry in terms of exports of technology and expertise, growth, and employment. Energy investment was also a way of strengthening the European presence in these modernising and emerging economies with subsequent benefits to Europe as a whole. During the 90's, the EU added value by acting as a well-respected "neutral broker" with the LA governments who were in the process of relinquishing control of the energy sector. In fact, during our research, the opinion was expressed that for many businesses, especially non-Spanish companies, working under the *aegis* of an EU programme was the most effective way to learn about the markets in the region in the early-to-mid 1990's. From the LA perspective, governments were in need of European "know how" regarding regulatory regimes in privatised markets, new management skills, new energy technologies as well as new sources of finance. Therefore, EU activities in the region were based very firmly on "mutual interest" and cooperation activities were an appropriate vehicle for public sector support.

2.2. Greater access, better services

To maintain national and regional economic development, LA business needs reliable and competitive energy services. Citizens need greater access to affordable energy supplies to help them overcome the problems of disease, poverty, rural isolation and gender inequality. For example, it is estimated that there are currently at least 35 million people in LA who lack access to regular gas or electricity services. It is not in the short term interests of the private sector to address social equity questions. Therefore, there has been a role for the EU to play in trying to make sure that, in the context of rapid privatisation, development and social equity issues were not overlooked.

2.3. Environmental concerns

Two major environmental issues stand out in the region. The first is to find solutions to the problems of the urban environment as nearly three-quarters of the population are already urbanised, many in mega-cities where air quality threatens human health and water shortages are common. The second issue is the depletion and destruction of forest resources, especially in the Amazon basin, and the related threat to biodiversity. As we have already mentioned, energy demands are growing rapidly and most governments are set, quite reasonably, on a course of rapid economic development. During the past decade concern for environmental issues has increased and many new institutions and policies have been put in place. However, these changes have not yet greatly improved environmental management which continues to concentrate on sectional issues without effective integration with economic and social strategies. The lack of financing, technology, personnel and training and, in some cases, large and complex legal frameworks are the most common problems. The EU, therefore, was justified in promoting environmental cooperations to help LA governments respond to international climate change agreements (Kyoto) and promote sustainable development for the long-term benefit of citizens.

3. The EU-LA energy cooperation programmes

In order to address the policy areas described above, the EU has been working through two main European Commission programmes: Synergy and Alure which are described briefly below:

3.1. Synergy

Synergy is a programme of the European Union, which finances international co-operation projects with third countries (to a maximum of 100 %) to help them define, formulate and implement their energy policy in fields of mutual interest. It also finances projects promoting industrial co-operation between the European Union and third countries in the energy sector. To be eligible projects must contribute to accomplishing the objectives of the EU's energy policy: overall competitiveness, security of supply, and protection of the environment.

Synergy was established originally in 1980 as the International Energy Cooperation Programme. The programme covers Asia and Africa as well as LA. In 1999 the programme received approximately €3 million of support with approximately €800 000 dedicated to cooperations in LA.

Before 1997 Synergy was a "budget line" only which means that it had no legal basis and that it was not subject to the Council and Commitology structures. In the early days, the programme was mostly concerned with training and energy strategy development. The programme in its first years could be described more accurately as aid assistance in the wake of the 1980s "oil shock" than the cooperation programme it became later.

In 1998 Synergy was established as a programme with a legal foundation¹⁶ including a Commitology Committee, known as the Synergy Committee, through which member states play a role in steering the programme. In its new incarnation, Synergy is the international mechanism of the ENERGIE sub-programme of Framework Five. As there is a maximum of less than €1 million available per year for work in LA, Synergy focuses mainly on the general framework for cooperation in the region, for example recently opening new high-level dialogues with Venezuela. The key difference between Synergy and Alure (which often seem to be indistinguishable) is that Synergy projects are less directly related to market issues.

Currently, there are 14 Synergy projects running in LA. They range in character from a region-wide project to promote energy service companies, through a long-established module in a university energy policy training course, to a very focused project for municipal energy planning in the district of Beni-Pando in Amazonia.

An important recent project output was the Third Parliamentary Dialogue which brought together a wide range of energy stakeholders from Europe and LA to reach an agreement about the principles for future energy developments in the region.

3.2. Alure

Alure is a programme for energy cooperations which, unlike Synergy, focuses exclusively on projects with LA. It is a decentralised programme which is directly accessible to companies in which the EC acts as a catalyst in bringing LA and European players together. The programme was approved by the Member States on 2 October 1995 and reflects the priorities established by the Council Regulation 443/92 on economic cooperation of mutual interest.

¹⁶ Council Regulation 701/97/EC, April 14, 1997, OJ L 104, 22.4.1997, pp. 1-7.

The high-level objective of the programme is to strengthen the EU's economic presence in the vibrant growing markets while at the same time supporting LA institutions and utilities to provide more competitive and widespread services.

The three focused programme objectives are:

- (i) to improve the services of Latin American utilities, preferably in the growth sub-sectors of electricity and natural gas and to promote business relations with European firms linked to the sector such as utilities, financial operators and industrial firms, in particular small businesses;
- (ii) to contribute, where necessary, to the adaptation of legal and institutional frameworks;
- (iii) to promote sustainable economic and social development with relevant schemes.

The programme has been developed in two phases:

- (i) Alure I, the initial phase of the programme which lasted two years (1996 – 1997), has a portfolio of 13 projects, either completed or still in progress with an EU contribution totalling €7 million;
- (ii) Alure II, this second phase of the programme covers the period from 1998 – 2002. The EU contribution has been increased to €25 million during this five year period. Most awards will support projects at 50 % of the cost with the consortium contributing the rest. However, there are options to increase the funding level where appropriate.

The projects promoted by Alure have been very diverse; dealing with such areas as exchanges of information, high level events with policy makers and companies, training and information seminars and demonstration projects.

4. The relevance and impact of the major cooperation programmes

Both programmes have been evaluated by independent energy experts. These evaluations have been the main sources of our understanding of the relevance and impact of the programmes and below we present a summary of the main findings.

4.1. Synergy

The evaluation of Synergy was carried out by PricewaterhouseCoopers between October 1997 and December 1998. This evaluation was the second study of the programme to have been carried out by the same team of evaluators. It has a dual function: firstly, it analyses the degree to which the recommendations from the previous evaluation have been carried out; secondly, it makes further recommendations for improvement during the next programme period. The evaluations are a key learning feature of the programme management cycle.

4.1.1. *Relevance*

There is no assessment in the evaluation of the overall relevance of the programme. It was not within the remit of the study to analyse overall relevance, but rather to suggest practical ways in which it could be improved in future iterations.

4.1.2. *Efficiency*

Most aspects of the administrative procedures are well executed and the staffing levels about right for the size of the programme. However, the monitoring and evaluation of the projects is still not sufficient and the key challenge for the Synergy staff is to design a monitoring and evaluation system which is effective and efficient in terms of use of resources. The financial

management in particular was found to have improved since the previous evaluation in 1995 – 1996. However, three main shortcomings were identified:

- (i) coordination between Synergy and other EU departments;
- (ii) effectiveness of the partner(s) participation in project planning;
- (iii) stability and strength of support from national authorities in beneficiary countries.

4.1.3. Effectiveness

The member states are involved in the decision-making process through the Synergy Committee. Most Synergy projects have been achieved their objectives, usually defined in qualitative terms. Most contracts have been awarded to reputable and well-established contractors, both in the EU and in the beneficiary countries. The overall quality and dedication of the members of the unit managing the programme was very good and contractors gave high marks to the management of the programme.

4.1.4. Overall impact

The evaluation does not attempt to assess the overall impact of the programme. This is partly because the remit of the evaluation was to focus on key operational lessons for the future, and partly because the individual projects were not designed in order to collect data that could be used to assess overall programme impact. This is not a criticism of the evaluation, it merely reflects the type of study undertaken and its remit.

4.2. Alure¹⁷

The evaluation was undertaken by an external energy expert Mr. Philippe Bouix. The research was done between April and June 2000. This mid-term evaluation took place at the end of Phase II and was designed to "provide the European Commission with a complete overview for the period 1998-2000 and with practical suggestions for an increased performance of the Programme during the remaining period 2000-2002". The evaluation was performed to high standards of professionalism and was intended as a constructive mid-term review to improve the performance of the programme over the remaining two years of the current period of activity.

4.2.1. Relevance

The programme is very timely given the present state of evolution of the Latin American energy sector. The programme fulfils the expectations of the participants, does not duplicate or significantly overlap work at member state level or other EC programmes. The evaluation concludes that the programme occupies a genuine "market niche" and offers a unique and high value service to all participants.

4.2.2. Efficiency

The Alure process for letting projects is slow and the access cost to the programme is high enough to discourage potential participants. The preparation of projects occupies a disproportionate amount of the support team's resources, given their contractual tasks. The support team is understaffed, when compared with other similar programmes, which contributes significantly to the difficulties with reaching the target number of projects.

¹⁷ For a complete description of the evaluations of Synergy and Alure see Annex, Sections 1 and 2, below.

The lack of explanation for delays between project approval and contract on the one hand, and long payment delays on the other, creates frustration among contractors. The programme is developing a reputation for opacity and bureaucracy.

4.2.3. *Effectiveness*

Alure has produced good quality projects involving the relevant energy players in a large number of countries both in Europe and Latin America who have expressed their overall satisfaction with the programme. However, the inefficiencies described above are beginning to make the large and influential companies that have participated question both the capacity and commitment of the EC to support cooperation in this region.

4.2.4. *Overall impact*

Although it is too early to analyse the impact of the programme, the qualitative and quantitative results of the first completed projects tend to indicate that the overall objectives of Alure are achievable: increasing energy supply, improving the quality of energy services and ensuring sustainability of energy solutions in Latin America. However, the projects were not designed in a manner which makes them easily "evaluatable". For example, they were not required to include quantitative indicators against which project progress and achievement could be assessed. Nor were projects required to develop monitoring and evaluation modules to collect data that might feed into an evaluation and allow their impact to be assessed.

5. "Best practice" programme management lessons

The evaluations propose a number of clear recommendations for the future of each programme. Many of the recommendations are very similar and, therefore, we have presented a synthesis of both evaluation reports. These recommendations, in our opinion, represent good practice in programme and project management and should be the basis of any future cooperation initiative.

- (i) Develop clear, high-level strategic direction: it is essential that any programme in this area has clear strategy. It must be derived from the high-level policy context to ensure its sustainability.
- (ii) Develop consensus about clearly stated, focused programme objectives stemming directly from the high-level objectives: the detailed objectives should be linked to quantitative as well as qualitative indicators of progress.
- (iii) Ensure that projects are "evaluatable": all projects should provide a description of the quantitative objectives and of how project data will be collected. A "light" monitoring and evaluation module should be included as part of the proposal and contract.
- (iv) Managed project planning events: Alure project consortia are obliged to travel, at their own expense, to Brussels for a two-day project planning meeting. IALE approve the use of this planning step and propose that it is used in any future programme. We recommend that any future programme should use the planning technique known as GOPP (goal oriented project planning, a facilitated planning technique widely used in planning research projects within various DGs with well-proven, positive results). The evaluation of Synergy recommends the use of the "logical framework" which would achieve the same results.
- (v) A variety of programme funding mechanisms: both programmes have a combination of funding mechanisms available to them. The evaluations recommend that the flexible funding mechanisms be used more regularly in separate calls for tender to address focused strategic targets.

- (vi) Improve application and payment procedures: it is essential that any future programme radically improves its application and payment procedures if it is to retain the interest of the private sector. Management resources should be dedicated to supporting implementation and optimising outcomes rather than proposal preparation and monitoring inputs.
- (vii) High quality website: websites must be high quality and regularly updated to include e.g., project summaries, FAQs and hyperlinks. Other project promotion materials must be customised with particular target audiences in mind.
- (viii) Develop networks between the different project consortia: a managed network should be part of any future programme to promote inter-project learning and cross fertilisation, optimise outcomes as well as embedding the programme in LA more effectively.
- (ix) Regional Representatives: The EU should make a longer-term commitment to the region in the form of representatives. Both evaluations propose that the EC funds either full or part-time programme representatives in LA.

6. The current "state of play" in Synergy and Alure

At the time of writing, Synergy faces a very uncertain future, while Alure has been suspended and will not be renewed beyond the end of the current programme period which ends in 2001. Below we describe the problems the programmes have encountered..

6.1. Synergy

6.1.1. *Current status*

At the time of writing the Synergy programme (as a whole, not just for LA) has been suspended since the first half of 2000.

6.1.2. *The reasons for the suspension of Synergy*

The reasons why the programme has been suspended are have mainly to do with the internal policy and personnel changes in DG TREN (Directorate General for energy and transport). The new Director General, after reviewing the portfolio of projects currently active, decided that the lower limit for the 50 % project funding from the EC should be set at €400 000. The reason behind this decision was that it was felt that Synergy was not creating sufficient impact with the portfolio of smaller projects it traditionally promoted. At the same time, the programme managers in DG TREN decided, after a review of Synergy activities, to propose a limit of €200 000 for the EC contribution in order to stimulate a greater overall number of projects. Thus, the two key stakeholders at the EC were in fundamental disagreement over the future objectives of the programme.

As a consequence, the Director General, after taking legal advice from the Commission's legal service, decided to suspend the programme and cancel the call for proposals that was already underway. In response, after months of negotiation, the programme management team devised a plan to accept cancellation of the existing call for tenders and start the programme again in 2001. However, the COREPER (Committee of Permanent Representatives) group responsible for the decision refused to approve the idea. At the time of writing, the programme has entered the lengthy negotiation process required when the Commission and COREPER do not reach agreement.

6.2. Alure

6.2.1. Current status of Alure

At the time of writing, Alure will run until the end of the current programme in late 2001. However, new activity has been stopped meaning that no further call for proposals will be announced and no more projects will be commissioned. The reasons for the current suspension and certain termination of the programme are described below.

6.2.2. The reasons for the suspension of Alure

- (i) **Policy changes:** There is a belief among the stakeholders interviewed that the priority status of LA for economic cooperations has been repeatedly downgraded over recent years. More importantly, the recent policy announcements by Chris Patten present three very clear priorities in which it is difficult to identify a clear role of energy-specific activities. The three policy foci are: the information society, human rights, and poverty alleviation. These policy changes are the fundamental reason why Alure has been suspended.
- (ii) **Personnel changes:** In conjunction with new policies, there has also been a recent change of Director General and senior managers in the department responsible for Alure. During a strategic review of the programme the Director General decided that the programme had exceeded the terms of its legal foundation. The decisive issue was that, on his reading, the legal foundation does not provide for "near-market" project work to support the private sector in business activities. The issue arose during an internal discussion over the level of day-rate claimed in some private sector proposals. It was decided that participation in Alure should be on the basis of costs and not standard commercial day-rates.
- (iii) **Institutional changes:** A further reason for the suspension of Alure is the creation of EuropeAid¹⁸ the new agency responsible for all external relations programmes. One of the objectives of this new agency is to re-internalise the management for all international cooperation programmes. Alure has an "outsourced", private sector management team and so cannot continue under the EuropeAid regime.
- (iv) However, other stakeholders believe that these factors have been used to explain the decision to stop the programme as part of the general re-direction of policy away from LA in general, and energy in LA in particular. For example, there is a feeling that, had the policy direction still been favourable to energy cooperations, the Alure programme could have continued using a more flexible interpretation of its legal foundation.

7. The future of Synergy and Alure

7.1. The future of Synergy

At the time of writing, no final decision about the future of Synergy has been made because the complex negotiation process is still unfolding. The current call for tenders has been suspended and no further activity will take place until the future of the programme is clear.

¹⁸ From January 1st 2001 EuropeAid is a new agency for the management of most of the EU's external assistance. The objective of the creation of this new agency is to speed up delivery and improve the quality of programmes and projects. The new office will be responsible for the management of the whole project cycle. This means the managing of external assistance projects, under a single administrative structure, from identification of projects, through the monitoring of their implementation, to their evaluation. The new office will operate under a management board chaired by Commissioner Chris Patten. An essential feature will be the devolution of significant responsibilities to the field i.e., the Commission Delegations around the world, so that by 2003 all Delegations should manage the assistance programmes in the countries they are responsible for. The new structure will make the EU assistance more effective, to reflect the Union's political priorities which have recently been clarified for LA.

The senior managers within the Commission are optimistic about the future of the programme and are hopeful that it will be restarted sometime in 2001. However, our research suggests that the work in LA is considered to be the least important of any region in the programme and the least worthy of public support. The most we can say at the moment is that the future of the programme in general looks uncertain and the LA part of the portfolio the most uncertain of all.

7.2. The future of Alure

Unlike Synergy, the future of Alure is clear: it will not be continued after the end of the current contract. Recent policy announcements have been taken to mean that the programme has no place in future planning. Whether or not the new policy directions positively exclude energy, their impact has been strong enough to bring an end to Alure. In fact, key staff previously working on Alure have already turned their attention to the themes identified in the Patten policy announcements, in particular, the information society. During December 2000 the programme managers were planning to make public the closure of the programme and inform all programme stakeholders of this fact. The Alure machinery has been dismantled and all the networks and learning built up over the last five years will be lost.

7.3. Conclusion regarding the future of Synergy and Alure

The time remaining on the Alure contract in 2001 will be used to manage and support projects that are currently underway. For example, some resources will be used to implement the recommendations of the evaluation such as linking the "live" projects and promoting dissemination of the outputs from completed and continuing work. As far as Synergy is concerned, if it restarts it is not certain that it will contain an LA module.

The Parliament has decided to consider a possible role for itself in EU-LA energy cooperations at a very significant moment in their evolution. The Parliament has some opportunities for action but also faces very grave difficulties. The opportunities stem from the fact that the existing policies and programmes will not continue, leaving a policy "window" during which the Parliament might be able to act decisively and initiate new activities. On the other hand, the reason why there is a gap at the moment is because the existing programmes have been defeated by the shifts in policy. Unfortunately, these shifts in policy will make *any* activity in this area extremely difficult to promote for the foreseeable future.

As the policy context will determine the possibility for future action in this area, a good understanding of the policy framework is vital when considering the possibilities for future action. We explain the key features of the policy framework in the next section.

8. The context for initiatives in EU - LA energy cooperations

There are three major policy issues that must be addressed by any future EU - LA energy cooperation activities. The first concerns the evolution of the energy markets in LA which, in the opinions of many of our interviewees, makes public expenditure in the region very difficult to support. The second concerns the policy priorities recently announced by Chris Patten which set the framework for future EU activity in LA and which gives no foundation to further rounds of energy cooperation programmes; the third concerns current EU energy policy and the difficulty of justifying cooperations with LA from within this framework.

8.1. The evolution of LA energy markets

In the opinion of many of those interviewed during our research, the LA energy markets are now too mature and fully privatised to justify any further EU public expenditure.

During the 1990s, the EU played a valuable market-opening and network-building role in the rapidly developing LA markets. The "intervention-logic" was made stronger by the fact that European investment would also be to the benefit of LA citizens. However, during the last decade privatisation has continued to spread across the region and many of the private markets are now long-established and stable. European businesses are very significant players in these privatised markets and are at the centre of the energy systems in all the largest economies in the region. Therefore, it is now extremely difficult to argue that public sector support is necessary to facilitate further European involvement. It is particularly difficult to justify continued support in the form it has taken over the last five years i.e., open, untargeted calls which have mostly attracted the interest of energy players with established reputations in the region.

Perhaps it is a measure of how mature the markets are now that the majority of the managers in big European energy companies responsible for LA had not heard of the EU programmes. The only company which had been involved told us that they participated more for reasons of public relations with the Commission than for any benefits that might be derived from the project. Most stakeholders were of the opinion that the business environment is now stable enough for all future development to be through mainstream, commercial, private sector investments.

8.2. EU policy towards LA

Chris Patten is the Commissioner for External Relations. During the last six months he has made a number of speeches¹⁹ concerning LA which set out the policy direction the EU will follow in the coming years. There are three policy priorities illustrated by the following extracts from the recent announcements:

8.2.1. Addressing the causes of social inequality and poverty

"Neither elections nor free markets nor regional integration are ends in themselves. They are just the means – the best means admittedly – to build free, just and developed societies. This is why it is essential that Latin Americans and Europeans decide together to make a fairer and more effective redistribution of wealth a priority objective. To do this, the Commission proposes starting a wide ranging dialogue that associates governments and civil society in the search for modern answers to the question of how to ensure that more people share in the benefits of development and economic growth. During the second summit, the Heads of State and Government must be able to analyse the results of this and adopt, if appropriate, suitable initiatives."

8.2.2. Develop democracy and stability throughout LA especially promoting human rights

"There are Parliaments and democratically elected governments in most Latin American countries. But formal 'democratic' free elections, and the constitutional right to vote – means little unless it is accompanied by political stability, an independent press, transparency, accountability, respect for ethnic minorities and an unyielding fight against corruption, where this is lacking, it must now become the main target of our political efforts.

"The European Union...is already playing its part in encouraging democracy and stability in the region. I want now to sharpen the focus of our efforts, and to bring this crucial work even higher up our agenda, especially through the promotion of human rights.

¹⁹ See, for example, 'EU Policy towards Latin America', Paris, 2 October 2000, at CLSA Emerging Market – Latin America Investors' Forum; "A Common Foreign Policy for Europe: relations with Latin America", Buenos Aires, 9 November 2000 at Consejo Argentino para las Relaciones Internacionales (CARI); 'The European Union and Latin America: a new partnership for a new century', Madrid, 2 November 2000 at Casa de America; 'Europe and Latin America: meeting new challenges together' press article Nov. 2000.

"The LA human rights record has greatly improved in recent years, but it remains fragile in some countries, and, unfortunately, over the last two years we have even seen a deterioration in certain cases.

"New measures are needed, not only through co-operation but as an integral part of our whole approach – whether in the context of our Association Agreements or as a theme for EU – Latin American Summits. This is why I have asked in a Commission Communication two days ago that human rights should become one of the three EU priorities in implementing the results of the 1999 EU – Latin American Rio Summit."

8.2.3. Developing the new digital economy and the "information society"

A "new area for cooperation is the information society. The 'new economy' presents an exciting challenge that Latin America and Europe neither cannot nor should not duck. But the challenge is a tough one. The speed at which the new order evolves is so fast that missing the boat is becoming more common than catching it. This is why the Commission has suggested an 'information society alliance' to improve communications infrastructure and create regulatory frameworks that favour the development of a fully electronic economy."

8.2.4. Consequences of new policy directions for EU - LA energy cooperations

It is IALE's opinion that the new policy directions should not be allowed to exclude energy issues and that Parliament needs to argue clearly for the crucial role that energy plays in reaching all the new policy objectives. Nevertheless, during our research we found that in the Commission this policy message *has* been interpreted as excluding further work on energy programmes. As we already mentioned, the Commission management unit for the Alure programme has effectively already disbanded and is now preparing for the information society programmes that will be developed in the near future.

Therefore, our conclusion is that these developments in policy will make it very difficult for the Parliament to promote a programme dedicated to energy cooperations in the style of Alure or Synergy. If any energy programmes are possible in the future they will have to be refocused and integrated with these new policy priorities rather than simply reflecting the concerns of the energy industry players using open call mechanisms. Our suggestions on how to do this will be set out in the section of the report dealing with recommendations for future action.

8.3. The Existing EU energy policy

The three "foundations" of DG Energy's high-level policy platform are as follows:

- (i) Manage external dependency to secure future energy supplies. Today the European Union obtains almost half of its energy supplies from third countries. As energy consumption grows this dependency is expected to increase spectacularly to 70 % in the year 2020 for gas or even 90 % for oil.
- (ii) Assure the compatibility of energy and environmental objectives. Energy policy is a key factor in addressing major environmental challenges such as climate change.
- (iii) Integrate European energy markets to increase competitiveness and foster employment

Policy areas one and two above are relevant to this study and are implemented using the following instruments:

8.3.1. Security of energy supply and international energy co-operation

These include actions on the diversification of energy supply like the development of relations with the supplier countries through bilateral and multilateral agreements (such as the Energy Charter) and the external interconnection of Trans-European Networks. They also aim at the more efficient use of existing resources, the diversification of energy resources through the promotion of new energy sources and the use of renewables (hydro-electric, solar, wind, geothermal and biofuels). Other actions in this area focus on energy demand. These include the promotion of energy saving and the development of a culture of energy-saving behaviour and rational energy consumption.

8.3.2. Promoting sustainable development and energy technology development

Ensuring the compatibility of energy and environmental objectives is one of the Commission's main tasks in this field. This is done chiefly by managing the energy dimension of climate change, reducing harmful emissions from energy production and use e.g. in transport, and by ensuring structural and operational safety of nuclear installations, as well as the promotion of the rational and efficient use of energy resources.

8.3.3. Can EU - LA cooperations be justified from the current EU energy policy platform?

The current EU energy policy essentially aims to promote secure, affordable and clean energy for Europe and its rational and sustainable use. Our research suggests that, based on these current policy priorities, it is not clear how future EU - LA cooperations could be justified.

- **Security of Supply:** from the security of supply perspective cooperation with LA is not a priority. It is difficult to get an accurate figure of the degree of dependency on LA imports but it is safe to say that the region is not a priority. For example, one expert suggested that the percentage of imports from LA is as low as 2 % of the European total and unlikely to increase in the future given the distances involved. The experts consulted think that the security of supply issue refers to relations with existing major suppliers in the Middle East, to emerging suppliers in Russia and other Eastern European states and to diversifying energy sources within Europe.

Ensuring the compatibility of energy and environmental issues appears to offer a more secure justification for EU involvement in LA. However, a number of difficulties face the EU in any future action in this area.

- (i) **Energy and Environment:** environmental issues are not often a priority area for the LA stakeholders who are more concerned with advancing development by the quickest and most cost effective route. This, they tend to believe, is incompatible with European environmental discourses and practices. We have been told repeatedly throughout our research that the environmental imperative as it is presented at the moment is in many respects "Eurocentric" and communicated to LA stakeholders in a moralistic way. This impression must be altered, as it creates major obstacles to developing any work in this area. However, the environment is often a low priority item on the agenda of LA governments. In practice, this creates barriers to getting beyond the high-level statements and agreements in principle to developing sustainable cooperation programmes. This problem was demonstrated by the fact that in the existing programmes very few projects were let on environmental issues or alternative sources of energy. Proponents showed little interest in these areas focusing instead on the mainstream issues of developing and regulating conventional energy markets.
- (ii) **Climate Change:** in terms of climate change and emissions on a world scale, LA is not a priority for European support. Projections for CO₂ emissions for the region, for example,

show a stable or slowly increasing output and a much lower overall total than for Europe. The priority region for achieving maximum benefit from scarce EU support in the future will be Asia, and in particular, China²⁰. Experts interviewed believed that the lower priority of LA in world terms will prevent the development of any dedicated climate change cooperation programme given that resources in this field are very limited and allocated on the basis of priority.

Many responses to our questionnaire ranked environmental issues as very important for the future in the region and also as a major business development opportunity for European companies. However, it is very difficult to cite the energy policy justification for promoting publicly supported actions in this area at the moment. Any programme would run the risk of suffering the same "policy isolation" that led to the termination of Alure.

An indication of the recent changes in regional focus is that the Commission will very soon start a programme for EU-ASIA energy cooperation designed using some of the best practice lessons from Alure and Synergy (it was partly designed by the independent energy expert who evaluated Alure). During our research we were shown some of the "user needs" data from a survey of European energy stakeholders. Participants are asking for the same "door-opening" and network building services that Alure and Synergy provided for EU players over the last decade. However, the situation on LA has moved on and it appears as if both programmes have run their course. We should not underestimate their role in developing the strong European positions in the LA energy markets and helping with the transition to privatisation. But it is difficult not to draw the conclusion that their time has now passed.

8.4. The private sector in the current policy context

Yet another key factor that must be taken into account when thinking of future activities is the attitude of the major private sector players in Europe to further EU involvement in the region. Our research indicates that many major players²¹ can see very little or no important role for the EU in the future development of the energy markets. Their opinions are listed below.

- (i) The markets are mature enough not to need public sector support from Europe. Private sector decision making there is determined purely by investment considerations as in any other market. Our overall impression is that it makes no difference to these players if the EU has programmes or not in the region, they had not been and did not intend to become involved.
- (ii) LA has been downgraded as a priority for public policy in recent years while the EU focuses its attention on Eastern Europe and development opportunities and challenges closer to home. The EU has developed a reputation in the region for focusing only on small problems and for not having the will or resources to tackle major issues.
- (iii) The technical standards and personnel in LA are very good quality, often as a result of close links with US companies, and that in mainstream energy technology no assistance is necessary.
- (iv) The majority thought that the only niche where the EU might be able to add value was in the field of regulations and market integration promotion. However, some even thought that no cooperation is necessary in this field as the region is very well supplied with services from international consultancies and banks.

²⁰ See the table at Annex, Section 5, below.

²¹ Interviews with senior international managers of Iberdrola, Repsol YPF, Endesa, AECI (Agencia Española de Cooperación Internacional) and Gas Natural and BP (telephone interview with EDF and British Gas), November - December 2000.

- (v) We even heard the opinion, more than once, that LA countries have many lessons to teach the EU nations that have not liberalised their energy markets, in particular France and Italy. Various stakeholders said that it was essential that Europe "gets its own house in order" before it is in a position to speak to others about market integration. This applied not only to the energy field. Other examples were given, for instance, the need to reform agricultural policy so that some countries in the region are not excluded from free trade with Europe. One particularly clear example was bananas which may not be a key policy issue for Europe but which to some countries in the region are an essential income source which they feel they are not able to trade freely as a result of agricultural protection.
- (vi) A major energy issue for the region is its relatively poor transportation network for electricity, gas and petrol and the need to improve many of its generating plants. However, these questions are macro issues which will be addressed either through private sector investment, through the intervention of the World Bank or from large scale international assistance. The small scale, time-limited projects of Synergy and Alure were thought to have no useful role in this field.
- (vii) Of the companies interviewed, two had participated in Alure and their opinion was that the projects were too general, too small and that the application and payment procedures were too complicated – "it is a 'Kafkaesque' process" was one comment.
- (viii) One of the two companies who had participated in the programmes said that they had done so more to develop better relations with the European Commission than for the benefit derived from the project work.
- (ix) The key message is that the programmes are not big enough to address the real needs of the large players, nor focused enough to address the needs of specialist and less powerful constituencies.
- (x) Companies outside of Spain found the programme a useful way of making contacts and marketing, helping them to establish themselves in what were for them new markets. Spanish companies, with less need of "bridge-building", did not benefit from this aspect. However, there is no longer any need for help to open doors as all the players are now well established in the region.
- (xi) The fundamental reason why energy grids are not developed more extensively is poverty. The companies would have no problem supplying energy to any community wealthy enough to pay for it. Poverty is the single greatest obstacle to the further development of energy systems.

When we asked these companies for recommendations for future EU action only two possible areas were mentioned:

- (i) coordination of regulatory regimes between countries to promote interconnection of the network;
- (ii) integration and interconnection of the energy markets in the various regions and across the continent.

We should keep in mind that these opinions are those of very large private sector investors who are enjoying a period of expansion and profitability and that their recommendations reflect their business interests as well as their confidence. As a measure of their success, we were shown statistics projecting that within five years some of the major Spanish players will be making more profit in LA than in the European market. However, if the Parliament wishes to promote an effective action plan it will have to include these players as they are dominant in many countries and in all sectors of the energy markets. From our research, the message to the Parliament from the private sector players is unequivocal: they have been thriving without

the assistance of European tax payers so far and are confident of doing so into the future. The only added value for them would come from high-level assistance with the macro questions of energy market integration and the harmonisation of regulatory and judicial regimes.

8.5. Conclusions on policy context and future actions

The policy environment in which the Parliament is considering the issue of EU-LA energy cooperations is mostly unfavourable to further action. Our research has highlighted a number of obstacles to programmes in this area. Firstly, the fact that there is no longer any strong justification for the use of public money to support mainstream energy industry stakeholders. It appears that the markets are working reasonably well for EU and LA companies and governments. There is no longer a "market failure" and no need for further public support. Secondly, recent policy announcements by the external affairs Commissioner regarding LA make no reference to energy as a priority area and, as a consequence, the Commission is currently withdrawing from the field. In fact, it appears that the team which has supported Alure is already planning its future managing information society programmes. Thirdly, existing high-level EU energy policy priorities do not provide a strong intervention logic for cooperation work in LA.

Considered separately, these three obstacles to future cooperation would probably not present a decisive barrier. A rationale could be developed to work around the policy bottleneck. However, taken together they form a very significant obstacle to further action in this field at this moment. The reason why this is decisive is that all programmes must have a strong and transparent intervention logic derived from high-level policy if they are to be defensible, sustainable and produce maximum added value from public resources. The validity of the programme intervention logic affects the success of the programme right down to the impact of individual projects. One of the most important findings of the evaluations of existing LA energy cooperation programmes was that they were not well founded in terms of high-level policy rationale and this contributed to their vulnerability and recent suspension.

There are still many things that need to be done in the region and there is no shortage of interesting suggestions for programmes to respond to these needs. However, the next phase of development needs to be based on something much stronger than a response to a range of unmet needs. Any future activities must be firmly based on the new policies for EU-LA cooperation that are being put in place at the moment. Future action in LA energy markets will have to be carried out through negotiation with policy makers and officials not working directly in the energy field and who do not consider energy to be a priority area. We consider that it might be possible to continue working in EU-LA energy cooperations in some form, but only if the programmes reflect the new realities. The next part of our report presents the recommendations for future programmes proposed by energy stakeholders during the research.

9. Options for ways forward in EU-LA energy collaborations

9.1. Introduction: interviews and questionnaire survey results

9.1.1. Constituency

The recommendations presented in this section of the report are based on our interviews and questionnaire survey results. We carried out a series of interviews with: senior international managers of the largest European private investors; the management teams for both Alure and Synergy and the EULAFER network (see below); the evaluators of both programmes; key staff in DGs Environment – a total of 17 in-depth interviews. We sent a questionnaire by fax and email to over 80 key players in LA including: members of Parliament responsible for

energy in every country of the region; key staff at regional representative bodies, Mercosur and CEPAL (Comisión Económica para América Latina y el Caribe)(Economic Commission for Latin America and the Caribbean), for example; all the project managers of completed and on-going Synergy and Alure projects; a wide range of other key European players from the public and private sector. We received a total of 18 completed responses.

9.1.2. Survey objectives

It became clear very early in our research that the major programmes in the field faced difficulties, were unlikely to continue and that a fresh approach was needed. We also discovered that there were recent, high quality evaluations of these programmes which meant that we did not need to investigate standard evaluation issues such as efficiency and effectiveness. Therefore, we designed our interviews and questionnaire to focus on the future. The questionnaire asked respondents to rank the importance of both key issues and delivery mechanisms, add their own priority issues and mechanisms, and comment in detail on any relevant issue. The interviews followed the same general structure.

9.1.3. Survey findings

A summary of key findings from the survey is included in the Annex. Issues rated "most important" were: integration and regulations; promoting demand-side efficiencies and sustainable development; promoting social equity and widening access to energy services in rural areas, for example; technology transfer and research and development. The findings of the interviews reflect these priorities very closely. Regarding mechanisms, the priorities are clear: future programmes must be based on business to business partnerships providing benefits to both; programmes must be clustered and focused in specific policy areas and niche markets; there was strong support for networks and strategic development, especially in regulations and sustainable economic planning. Once again, the interviews reflected these priorities.

The following recommendations are based on the outcome of the research and have been designed to address the priority areas identified. We have taken the "raw data" from the survey and analysed it in the light of the policy framework to produce recommendations that address priorities but are also "realistic" in the present policy situation.

9.2. Support for regulation and market integration

9.2.1. Background

Energy market regulation and integration issues emerged as the priority themes from our questionnaire survey and were particularly strongly recommended by private sector players. A strong regulatory framework is the foundation stone for successful privatisation of energy markets. At the same time it facilitates competition, prevents unfair market dominance while protecting the rights of consumers. A regulatory framework must deal efficiently with a number of basic issues including: which activities are to be regulated; defining control mechanisms for price and quality regulation; establishing a competitive market; creating regulatory institutions; putting a stable legal framework in place. Some experts in our survey believe that the regulatory capacity in the LA has not kept pace with the growth and developments of the market and that external sources of expertise are essential to improving this situation. Strong independent regulatory institutions create a positive environment for investment as well as serving the interests of consumers. Weak regulatory environments, in contrast, create a situation in which private investors are concerned about the security and profitability of their investments. Poor regulations also mean that citizens' interests are not sufficiently protected and that the benefits from developed energy infrastructures are not

passed on in the form of affordability and access. There are a number of key issues that need to be addressed for credible energy sector regulation reform:

- (i) Service providers must be separated from regulators and policy makers. Government should not be at once an owner, regulator and policy maker as this increases risk in the markets and discourages private investment.
- (ii) Establish an autonomous regulatory body as a safeguard for private investors against short-term political decisions.
- (iii) The roles of the regulator and the government must be clearly defined, the role of the government should be limited to policy making and strategic planning.
- (iv) Establish clearly the activities that will be regulated and the criteria to be used to regulate them.
- (v) Establish the basic rights and obligations for providing services related to including quality and reliability, coverage and penetration, access to networks.
- (vi) Introduce a market structure that enables competition as a key to improving efficiency and customer service.

Market integration is also a key aspect of creating wider competition and improving services and supply. The growing integration of energy markets between countries in the region is an important characteristic of the 1990s reforms. The most significant example, perhaps, is the development of an integrated gas market in the Southern Cone. Gas links are also increasing between the US and Mexico and with the development of a gas transportation infrastructure in Colombia we may see the development of a Northern Cone (Colombia, Venezuela and Ecuador). There also discussions about pipeline links between Columbia and Central America. Similar developments are taking place in the electricity markets. Regulators have a key role to play in ensuring the compatibility between regulatory regimes to facilitate market integration. The benefits of market integration include:

- (i) Reduced dependency on dominant suppliers or energy sources, increasing consumer choice and increasing competition.
- (ii) Opening new markets to new technologies and sources of finance.
- (iii) Increased security of supply thus allowing better longer-term planning and development.
- (iv) Environmental benefits with fewer generating plants and a probable increase of natural gas in the supply which is one of the more environmentally friendly energy sources.
- (v) More cooperative planning, learning and problem solving for faster more effective solutions.

Our research suggests that even the more advanced privatised and regulated markets would benefit from European best practice exchanges and networking on the subject of regulation and integration. For smaller countries effective regulation could be a stimulus for international investment and subsequent general economic development. Therefore, while on the one hand in the current climate it is difficult to see how a regulations programme could be justified, on the other, the issue is too important to ignore. Our recommendations are intended to overcome the policy barriers with an "innovative" funding proposal.

9.2.2. Recommended actions for the Parliament

From our research two key mechanisms emerged as priorities for addressing the issue of regulation and integration. Firstly, a programme of focused consultancy between European experts and consultancy companies and LA governments and, secondly, networks and training

for policy makers and regulators.²² Therefore, we recommend that Parliament action should comprise:

- (i) establishing a highly targeted programme of energy regulation services between European energy and consultancy companies and LA governments using the "neutral broker" reputation of the EU as facilitating mechanism;
- (ii) the most practical route would be to argue for the LA module of Synergy (if it restarts, and if it restarts with an LA component which has been the most vulnerable aspect of the programme) to be dedicated solely to promoting regulation projects;
- (iii) alternatively, the Parliament should work directly with private sector stakeholders to explore the possibility of establishing a regulations "think tank" or "foundation" from private sector resources:
 - a) in the past the Commission has contributed cash while the private sector has given its contribution in kind, we propose that this situation should be reversed;
 - b) the EU would manage this foundation independently as well as acting as the key link to LA governments. The programme would be steered impartially by international experts and studies would be commissioned with the same "mutual interest" philosophy as Synergy or Alure. The objectives would be to provide a full range of services, training and studies related to regulations and integration including the full spectrum stakeholders.
- (iv) the legal and institutional implications of such an innovative arrangement would clearly need to be explored. A short research project should be commissioned to explore user responses, the legal and institutional obstacles to developing this proposal and to draft a specification. We see no reason why this "think tank" should be limited to LA and believe it has the potential to grow to include other regions of the world as an international regulations forum.

9.3. Environment and climate change

9.3.1. Background

Our research indicates that the environment and climate change should be one of the key areas for EU action. The intervention logic appears clear. On the one hand, LA markets are an opportunity which is under-exploited by large numbers of European ESCOs (Energy Service Company), technology and consultancy companies working in alternative energy sources, energy saving in industry and other environmental services. On the other hand, the public and private sector in LA are striving to reach a range of international environmental and climate change commitments as well as fulfilling their own internal policy objectives.

Therefore, it is possible to argue that there is a market shortcoming or failure in the field of environmental services and that a "pump-priming" programme would provide high value to the European economy as well as benefiting the LA participants. At first glance, it appears that a programme might be developed using the model of Synergy and Alure with a portfolio

²² The UK regulator Ofgem (Office of Gas and Electricity Markets), for example, has no institutional contacts with LA and have never been approached by LA delegations although they often host visits from overseas. It is not in their remit to establish international networks or partnerships as they are audited against their key objective which is the protection of UK consumer interests. Therefore, while they were in principal interested in participating in links with LA justifying the resources would be difficult. Therefore, the best way to develop EU-LA networks would be through contact with 'regulators clubs' for example, the Commission sponsored Electricity Regulatory Forum of Florence and the Council of European Energy Regulators (CEER).

of projects to build a market for European businesses as well as disseminating European best practice to LA stakeholders.

However, the policy justification for such a programme is not clear, either from the perspective of external relations, with its focus on poverty and human rights, or from the energy perspective, where LA is a low priority region in terms of the threat to world climate. In conjunction with a fairly widespread LA scepticism about EU environmental discourse the policy rationale for a new environmental programme is not strong. One stakeholder with extensive experience of developing renewable energy services in the region, told us that a programme aimed "head first" at the issue was not appropriate. Environmental technologies and renewable energy sources only become a priority when there is a clear sustainable business case for them. Promoting these technologies *per se* in LA does not provide a longer term solution.

Therefore, we conclude that it would be an inefficient use of resources for the Parliament and Commission to "go it alone" on these issues. There are now very well organised and comprehensive initiatives in the region with whose work the EC and EP must integrate. The most efficient and effective use of resources will be to contribute to and amplify on-going work which also has the benefit of avoiding fragmentation of effort, duplication or overlap. In the field of energy and the environment the most important new initiative (with which the Parliament must form an alliance if it is thinking of promoting energy work in LA) is the CTI (Climate Technology Initiative). The CTI will run in different regions of the world and has a dedicated LA programme.

9.3.2. *The CTI*

The CTI promotes the objectives of the United Nations Framework Convention on Climate Change (UNFCCC)²³ by fostering international cooperation for accelerated development and diffusion of climate friendly technologies. The CTI is a multilateral initiative of the 23 countries of the International Energy Agency (IEA) and the Organisation for Economic Co-Operation and Development (OECD). It is an important mechanism to promote the transfer of climate friendly technology to developing countries and economies in transition. Promoting the transfer of clean technology and redirecting foreign direct investment flows in climate friendly areas is also important for the implementation of Agenda 21. CTI is founded on the belief that the technology that LA nations decide to use today (whether in energy production, efficiency, buildings, industry, or agriculture and forestry) will be in use for the remainder of the current and even the next generation and so to make the right choice now is vitally important. The CTI plays its most valuable role as facilitator, offering liaison between governments, donors, financiers, and other stakeholders. For example, a regional workshop was held in March 2000 in El Salvador to assess regional needs and identify required actions in countries and sectors where most value can be added. Activities will be initiated using donor support from CTI governments and participation from the private sector. CTI offers different things to its constituencies:

²³ The CTI is a Clean Development Mechanism (CDM) – The Kyoto Protocol establishes the CDM to enable Annex I Parties (listed in Annex B of the Kyoto Protocol) to finance emission-reduction projects in the countries of non-Annex I Parties. These Annex I Parties will receive the certified emission reductions (CER's) for doing so. The goals of the CDM are 1) to assist non-Annex I Parties in achieving sustainable development and in contributing to the ultimate objective of the Convention and 2) to assist Annex I Parties in meeting their targets. A part of the proceeds from the CDM will be used to create a new adaptation fund to assist developing countries adversely affected by climate change. Details on the functioning of the system will at the earliest be decided at COP6 in late 2000 or early 2001. CDM projects may be undertaken by private and/or public entities. Some aspects of this approach are being tested as Activities Implemented Jointly (AIJ).

(i) To CTI governments

- Help to fulfil obligations (both individually and collectively) of the UNFCCC.
- Leverage resources of existing programmes by using CTI forums for dissemination and marketing.
- Open doors for the private sector to invest and market technologies.

(ii) To the private sector

- Information on market opportunities and technology needs across region.
- Opportunity to address specific project development barriers with policy makers and regulatory officials in host countries.
- Providing high level contacts, offering neutral, credible support systems.

(iii) CTI hosts in developing and transition countries

- Insight into technology needs and priorities and ways to attract these technologies.
- Support in the practical steps needed for technology transfer.
- A "neutral party" facilitating the transfer of technology.

(iv) CTI toolbox

CTI offers a variety of mechanisms to carry out its work:

– capacity building

- Training courses on climate technologies and practices, and "training of trainers" to effect longer term knowledge transfer.
- Preparation and dissemination of studies on practical experiences and "best practice" in climate friendly technology adoption.
- Access to latest technology information through specialised internet web-site and search engine.

– technology assessment

The CTI can initiate a sectoral, national or regional Cooperative Technology Implementation Plan (CTIP) which has the following features:

- sector based needs assessments to determine the level of growth and expansion and decide technology strategy to meet the future needs of the sector;
- define actions for removing impediments to the application of climate friendly technologies;
- engage national and international businesses in the design and implementation of schemes to overcome investment barriers;
- coupling host country with private sector participants and donor support.

– industry workshops

CTI can organise regional, national, sector or technology specific workshops to:

- give private sector players opportunity to voice policy recommendations to key policy stakeholders;
- act as a platform for project development;
- coordinate financing opportunities for climate projects.

– finance forum

CTI can convene a forum of financial sector practitioners and experts to help local actors understand the fundamentals of financing and the essential "rules of the game" applying to cleaner energy project financing.

9.3.3. *Recommended actions for the Parliament*

The CTI is likely to be bigger, have more resources and be more sustainable than any programme in the same area from the EU institutions in the current policy context. It has the backing of twenty three of the most developed nations and is the mechanism for them to implement international policy commitments. Therefore, it is likely to persist regardless of individual national policy changes. It also provides exactly the platform for market development that the private sector players in our research are asking for. Therefore:

- i. we recommend that if the Parliament is considering acting in the climate or environment fields the first action must be to explore how it can contribute to the work of CTI to avoid duplication and fragmentation of European effort;
 - At the moment it is not clear where the EU institutions could add most value to the programme mainly because it is just about to start in earnest. Over time a role for the EU institutions might become clearer. A key link between the Commission and the CTI could be Francois Casana, a senior manager of Synergy at DG TREN who sits on the Advisory Board for the CTI.
- ii. our second recommendation is to "champion" the role of energy in an integrated climate programme in the emerging economies of the region. This role would build on a recent Commission document which argues in favour of leveraging existing funding sources (in particular Official Development Assistance and the Framework Programme) to support work in climate change²⁴;
 - This document sets out detailed arguments for working in partnership with existing, long-term funding providers to steer them towards climate change objectives.
 - The document is based on the findings of the October 1998 Environment Council which drew attention to the need to "indicate how EC Official Development Assistance (ODA) funds might better serve the objective of the United Nations Framework Convention on Climate Change (UNFCCC) noting that these funds should not be used to finance the acquisition of certified reduction units"²⁵
 - A catalytic role for the Commission and Parliament is particularly appropriate in the current context given that there is unlikely to be significant amounts of money available for new programmes.
- iii. the practical workshop is to gather detailed information about the current ODA objectives and work closely with the relevant management teams to "mainstream" climate change and environment issues.

9.4. **"Champion" and integrate energy in the new policy priorities**

9.4.1. *Description*

Our interviews with the key stakeholders in Synergy and Alure suggest that the policy changes leading to the suspension of the programmes, Alure in particular, will also present insurmountable obstacles to new dedicated energy initiatives. They were so convinced of the

²⁴ *ibid.*

²⁵ Environment Council conclusions, 6 October 1998.

conclusiveness of the policy changes that they were not able to make any constructive suggestions for what form future EU work might take. The conclusion that we take from these interviews is that any future programme will have to be extremely well integrated into the new programmes of the External Relations DG and EU energy policy.

It was part of the Alure remit to promote sustainable social and economic development. The evaluation found that these areas, which are marginal to the short term interests of the European private sector, were the areas where very little work was commissioned. The approach of trying to address social questions through a dedicated energy programme was not effective. Rather than attempt to promote energy programmes in the established way focusing on issues and stakeholders in the traditional energy sectors, a new approach must be developed

The paradigm needs to change and the Parliament should promote "bottom-up" actions to address the social and economic needs of users. The Parliament must raise awareness of the importance of energy among the teams focused on social and development issues and whose understanding of the role of energy in their work has to date been poor. This task has two aspects. On the one hand we recommend working with the new programmes in poverty alleviation and the information society that will be promoted under the new LA-EU relations policies. On the other hand, we recommend that the Parliament should endeavour to raise the profile of energy in ODA programmes which the EU supports in the region.

9.4.2. An integrated energy development approach

We recommend that the Parliament adopts and promotes an integrated energy approach for any future work in the areas of poverty and the information society. Integrated energy development approaches were developed mainly by US energy and development experts²⁶. Instead of focusing on a specific sector or a single technology it views energy as one component in economic and social development, albeit a key catalytic one. The approach focuses not on providing energy supplies or particular technologies but analyses how energy relates to the development process, searching for ways that energy can be included in the overall strategy to promote development. Supply-side approaches to energy are based on actual or forecast demand and bring significant benefits to users who have demands that were previously unmet. However, in areas where there is no expressed demand, energy services do not necessarily stimulate new economic activity. The integrated approach proposes that economic activity must be stimulated to increase energy demand, lower unit costs and lead to sustainable economic development and energy services. This approach is designed to break the cycle in which the suppliers will not invest in poor areas with low demand where the absence of service is one of the key factors perpetuating poverty and restricting demand. We think that an integrated energy approach is the key to promoting energy issues in each one of the recently announced priority areas for EU-LA relations.

9.4.3. Information society

In LA, as in Europe, the information society will rapidly become the dominant paradigm of social and economic life. Exclusion from access to information technology will seriously affect the ability of individuals to participate in the mainstream economy and will lead to a widening gap between the wealthy and powerful and poor and disenfranchised. Without affordable energy very little progress will be made with broadening access to communication and business networks. Therefore, energy is a key aspect of an information society policy for the developing world. The information society will have a catalytic effect on the other regional policy priorities, for example, poverty, social equity and human rights (which are

²⁶ See *Integrated Energy Development – experiences of the Organisation of American States*, General Secretariat, Organisation of American States, Washington D.C., 1998.

strengthened by access to information and to world wide electronic networks). It is would be justifiable, therefore, in the current policy climate, to propose working from the "bottom up", interpreting and negotiating appropriate energy needs from the perspective of information society policy. So, for example, at the moment the extension of rural electrification could be promoted more effectively under the new EU information society programmes than through a new energy programme.

9.4.4. *Poverty alleviation*

The relation between poverty and energy does not receive enough attention in development although it is clear that energy is essential to the satisfaction of basic needs, particularly health and nutrition. A 1997 United Nations Development Programme report found that "Energy services constitute a sizeable share of total household expenditure in developing countries. People living in poverty pay a higher price per unit of energy than do the rich. They also spend more time obtaining these energy services. The substitution of modern energy carriers and more efficient energy conversion devices would confer sizeable gains in purchasing power on poor urban households. Improvements in energy efficiency have considerable potential to reduce poverty in all of its key dimensions, and to facilitate development. Policies and programmes that directly address the creation of opportunities for people living in poverty to improve the level and quality of their energy services (by making more efficient use of commercial and non-commercial energy and by shifting to higher quality energy carriers) will allow the poor to enjoy both short-term and self-reinforcing long-term improvements in their standard of living. By contrast, the standard poverty-alleviation strategies – macro economic growth, human capital investment, and redistribution – do not focus on the energy poverty nexus in developing countries. If energy is left out of poverty elimination strategies...these strategies are doomed to fail"²⁷. The report goes on to analyse the links between energy and a range of other social issues including gender disparity, population control, health and nutrition. It proposes that energy policy needs to be at the heart of these vital development issues which are the core of future Commission policy in LA. Once again, we propose the Parliament should "champion" a bottom-up, integrated approach to understanding energy needs and developing strategies from the position of users.

9.4.5. *Recommendations*

At the moment it is not clear which kinds of programmes will be used to implement new policy priorities. It seems that while the overall policy objectives have been decided, the focused programme objectives and mechanisms are still to be finalised. Therefore, the Parliament has a window of opportunity to influence the development and implementation of policy which may not stay open for very long. The policy rationale for including energy in future work in LA is strong, if mostly unrecognised at the moment.

To approach energy from a "bottom-up" user-needs perspective would be a significant change of direction from previous energy cooperation programmes and would involve working with new partners. Our recommended approach would focus directly on the energy/poverty or energy/exclusion nexus. It is unlikely that such programmes could be based on cooperation and "mutual interest" as these projects would not provide significant benefit to European business partners. Therefore, they would need to be based on targeted 100 % funding. A key objective should be to "lever" the ODA budgets further towards integrated energy issues as this is the largest source of funding to the region²⁸. This will not be an easy case to make, but

²⁷ *Energy After Rio: Prospects and Challenges*, United Nations Development Programme, New York, 1997, Executive Summary, p.9

²⁸ For details on the size of the EU and member state ODA expenditure in LA please see Sections 3 and 4 of the Annex.

would contribute to sustainable development in the region in the longer term. Therefore, we recommend the following actions:

- i. the Parliament must prepare to argue for the vital importance of energy related work in any future Commission programmes when these programmes are submitted for Parliamentary review and discussion;
- ii. to reach this condition of preparedness, the Parliament should commission further research into the evolution of EU programmes in LA in the current policy framework to discover exactly what is being developed in the key policy areas - this work will involve monitoring all the relevant Commitology committees and the work of COREPER in this area to keep members informed of developments. In particular Parliament must develop a close working relationship with the new agency EuropeAid;
- iii. commission further research into the existing "state of play" regarding the role of energy in the ODA expenditure in LA at both EU and member state level;
- iv. commission further research into integrated energy approaches based on international best practice experiences;
- v. prepare an action plan to implement integrated energy objectives in new EU sponsored programmes and the ODA budgets at both EU and member state level.

9.5. Promote longer-term energy research and capacity building actions

9.5.1. Background

An important aspect of long-term development of efficient, accessible and climate friendly energy systems in LA is the development of indigenous science and technology capacity. Particularly important are the "pre-competitive" and "blue-sky" science and technology-capacity building activities which have not been part of the work of either Synergy or Alure. Energy R&D can yield technological improvements in extracting, processing, and using energy as well as technological breakthroughs in renewable or cleaner and lower pollution emitting energy sources. Energy R&D can also lead to reductions in adverse environmental impacts associated with energy production, delivery and use.

It is reasonably well established that industry does not invest sufficiently in basic research. Ken Arrow probably best captured the traditional argument for government intervention in his famous 1963 article²⁹. He identified three major sources of market failure which make it useful for government to fund research:

- i. Indivisibility, because of the existence of a minimum efficient scale,
- ii. Inappropriability of the profit stream from research, leading to a divergence between public and private returns on investment,
- iii. Uncertainty, namely divergences in the riskiness of research respectively for private and public actors.

The lack of incentive for energy research by the private sector is especially strong in the case of LA where most of the major players are foreign-owned multinationals. This type of firm traditionally tends to retain the bulk of its research capacity in the home nation. The

²⁹ Ken Arrow (1962), 'Economic Welfare and the Allocation of Resources for Invention', in Nathan Rosenberg (Ed.), *The Economics of Technological Change*, Penguin, Harmondsworth, 1971.

implications for LA are that the indigenous research capacity in the energy field will probably be neglected in the current climate of increasing privatisation and liberalisation³⁰.

Why should this concern LA governments when there are other more pressing development issues to be addressed? The answer is that it is important if LA governments wish to develop independent public sector energy expertise as a balance and complement to the predominantly private sector players which dominate many of the markets. Research is not just about developing new scientific knowledge, which in many cases might not be practically useful for either companies or policy makers. R&D is also about participating in international networks and developing an indigenous energy innovation system which will have implications for the economy in general in the longer term. "Contrary to the common belief, the main economic benefits of basic research are not knowledge directly applicable in a narrow range of sectors, but background knowledge, research skills, instruments and methods that yield economic benefits over a much broader range of sectors"³¹. Case studies and surveys provide an interesting list of economic benefits which result from basic research³².

- i. New useful information: Research leads to economically useful knowledge in the form of patents or the solutions to particular user defined industry problems which may feed into the innovation system and result in new products and processes. However, if this were the only benefit from research governments would be tempted to utilise the research of others ("free-riding") rather than invest themselves in costly and risky research. Other benefits though less "obvious" are at least equally good reasons to invest in research.
- ii. New instrumentation and methodologies: Science and technology live in rather different worlds – it is the use of common instruments and methods, the associated tacit knowledge and the training of people in the use of such technologies that helps create the economically useful links between science and its application in technologies.
- iii. Skills, especially skilled graduates: Graduates probably form the most important short term link between basic science and industry. An important aspect of the basic science training is to develop a culture of continuous learning which they take with them to industry.
- iv. Access to networks of experts and information: Research that can lead to economically useful new knowledge tends to be circulated among small groups of peers in the form of networks of "invisible colleges" which are closed to non-participants. Performing research and participating in international networks is a key way of gaining access to networks of expertise and new information.
- v. Solving complex technological problems: Basic science contributes to the economy by enabling the application of basic science to industrial needs.
- vi. "Spin-off" companies: Although the links are not completely clear, there appears to be a relation between the funding of basic research and the creation of new firms.

³⁰ "Many advanced industrialized nations are substantially reducing their national (public and private) investments in energy research and development (R&D), driven in part by changes occurring as a result of the deregulation of these nations' energy sectors. In particular, funding for strategic energy R&D aimed at developing future energy supply options (e.g., fusion, fission, 'clean' fossil energy, renewable energy) has been decreased substantially in both the public and private sectors in many of these nations." J.J. Dooley. *Unintended Consequences: Energy R&D in a Deregulated Market*, Pacific Northwest National Laboratory, Washington, D.C. PNNL-SA-28561. February 6, 1997.

³¹ Keith Pavit, *The national usefulness of the research base*, paper presented to the Advisory Board of Research Councils, UK, April 1991.

³² See Ben Martin, Ammon Salter et al, *The Relationship Between Publicly Funded Basic Research and Economic Performance*, Report to HM Treasury, Science Policy Research Unit, Brighton, 1996.

IALE recommend that for the longer term development of energy systems in the region, basic energy related research in LA should be promoted. As we can see from above, the benefits are numerous and pervasive even if these impacts take many years to develop and are difficult to evaluate quantitatively. By becoming involved in international research activities LA teams will: help fill in the gaps in social and technical research that it is not in the interests of the privatised companies to carry out; develop knowledge that will help them to become more "equal partners" to the privatised companies that are located in their countries; provide governments with independent scientific advice based on international "best practice"; help governments create better technical and regulatory frameworks and provide expert staff to act as regulators; provide graduates for the international energy firms, thus helping to embed the multinationals in the national culture; encourage further multinational investment with a pool of trained personnel; contribute to the national innovation potential by increasing the number of internationally experienced and "networked" graduates; help LA governments to meet their longer-term obligations under the international climate change treaties.

At the moment there are two main ways that the EU promotes closer research links between Europe and Latin America in the energy field. Firstly, through the Framework Programmes for research and development and, secondly, through the ALFA funded EULAFER network. Below is an introduction to EULAFER and a recent analysis of the energy related research actions under the Framework Programmes.

9.5.2. The EULAFER network

This network is the only example we identified of a cooperation project that is outside of the Synergy and Alure programmes. It is an example of the longer-term approach to cooperation that the Parliament might think about promoting. EULAFER is a network of researchers with a common interest in the model-based analysis of energy policy. EULAFER is co-sponsored by the ALFA programme of the European Commission to foster links between Europe and Latin America. It organises an annual forum, the dissemination of publications and research and the interchange of research students. It is co-ordinated from the London Business School, UK. The focus of the main research theme within EULAFER is to provide insight for energy utilities and policy makers on the major contemporary problems with which they are faced. As such, an important aspect of the EULAFER organisation is concerned with facilitating the inclusion, within the network, of energy policy makers, energy consultants and analysts from industry in order to create a practical, as well as international, academic-business interchange. Research programmes in energy policy, modelling, and analysis need to be global in scope and international in composition. Not only are energy issues complex in their global interactions, but national policies need to be developed in the light of experiences elsewhere. Whilst this has always been the case, the rapid wave of privatisation and re-structuring of the energy utilities, world-wide, is now posing a new need. In transforming public utilities into private, competitive corporations we now need to understand how these new companies without even national experience in the private sector can be managed, formulate strategies and be regulated. The distinctive work of EULAFER is to take a model-based approach to analysing these issues.

At the moment the network is focusing on the problems of regulation, especially regulation issues related to cross border trading, access rights and internet platforms and e-business questions. The network has held four conferences in the last six years and has held an annual seminar which is attended in equal measure by industry and academic stakeholders as well as the continuing programme of exchange students. The main quantifiable impact of the programme, according to its co-ordinator, is to have contributed to the development of the research base in LA, not the scientific research base, but capacity in model based analysis of energy policy which contributes to policy making both in the private and public sector. For example, in both Medellin and in Rio de Janeiro research groups were established in close

partnership with major private sector stakeholders which have become well sponsored centres of excellence for energy policy modelling in the region. EULAFER has been working since 1996 to develop the capacity of LA energy players to understand key issues from an international research perspective. It is producing the long-term, incremental "background" information and creating a learning culture that will inform policy making perhaps more significantly than the time-limited projects promoted in Synergy and Alure. One particularly beneficial feature has been the exchange of research students. The project co-ordinator was convinced that this was the most effective way of introducing future policy makers to advanced European planning and mapping methodologies and transfer the lessons for developing liberal but socially inclusive regulatory environments.

9.5.3. *International research cooperations under the framework programmes (FP)*

A recent Commission report is worth quoting in some detail³³.

"In the course of the Panel interviews many of the Member States expressed the view that the FP3 and FP4 could have been designed to be more effective in addressing the needs of non-member states, in particular developing world countries. They considered that this situation has not improved within FP5 in that the four Thematic Programmes are very Eurocentric. There was the possibility on international cooperation (INCO) activity in the environment and other sectors within FP4, with the opportunity for funding to help developing world countries participate through Shared Cost Actions. However, this was not an effective arrangement in that many scientists in the Member States considered the science quality of their counterparts in some developing countries to be such that it would not have led to a successful bid. Consequently, joint proposals were not produced. Recognising this as a problem, the Commission changed to workshops/studies using an Accompanying Measure approach (ENRICH). This has had limited success. Nevertheless there are many opportunities...for European and developing world scientists to work together for mutual advantage.

"The Commission, aided by Member States, needs to use a different approach to the somewhat techno-centric stance that has been adopted in the past. Rather than Europeans developing a research proposal and then drawing in partners from the developing world, the process has to be reversed. Unless research capacity in the developing world can be enhanced, little will be achieved. These are issues which need to be debated urgently by the Commission Directorates and the Member States' Aid Agencies to ensure that a realisable research programme to address these important topics can be accomplished with FP6"

The Panel's conclusion is summarised in the following recommendation³⁴:

"There are opportunities for mutually beneficial research between EU environment scientists and their counterparts in developing countries. However, the Eurocentric nature of the FPs is not conducive to the effective involvement of scientists from the developing world. The Commission – through Member States' aid agencies and others – should introduce effective joint programmes into FP6 between developing countries and the EU."

9.5.4. *Recommendations*

LA researchers should become more involved in EU research networks. Parliament can play a useful catalytic role with the limited resources at its disposal, especially in regard to promoting collaborations in the Framework Programme. Therefore, we recommend the following actions:

³³ *Five Year Assessment Report Related to the Specific Programme: Energy, Environment and Sustainable Development* covering the period 1995 – 99, June 2000, p.15. Chairman N.E. Busch

³⁴ *Ibid*, p.V.

- i. evaluate the possibility of expanding the EULAFER network to form the basis for a general network for the exchange of students and researchers between Europe and LA on the full range of energy issues including modelling and regulation. The consortium leader agrees the network needs re-launching;
- ii. commission a study on mechanisms to increase the participation of international energy researchers in European programmes, both at Member State and EU level – we see no reason why this should be limited to LA researchers:
 - this study should focus on developing a schedule of awareness raising activities, (perhaps including a website and newsletter depending on the contract size) and develop the necessary information pack to facilitate participation;
 - it should also map the existing research capacity in relevant areas in LA, not only in energy technologies but in related fields such as transportation, construction and climate change, as well as social science issues related to energy;
 - it must also map the full range of existing international research programmes with collaboration opportunities, in Europe, USA and Japan;
 - there should be regular newsletter service containing a search of relevant international research programmes, calls for tender, dissemination of research findings, conferences etc.;
 - the Parliament should ensure that helpdesks and support to the Framework Programmes are tasked with promoting and facilitating participation.

ANNEX

1. The mid-term evaluation of Alure

1.1. Introduction

The evaluation was undertaken by an external energy expert, Mr. Philippe Bouix. The research was done between April and June 2000. The assignment comprised 22 working days in Europe and 10 days in Latin America (Brazil and Mexico). The report was completed in July 2000 and made public in mid December 2000. Mr. Bouix is an expert with 22 years of international experience in the sector.

The second round of the Alure programme (1998-2002) comprises two Phases. This mid-term evaluation took place at the end of Phase II and was designed to "provide the European Commission with a complete overview for the period 1998-2000 and with practical suggestions for an increased performance of the Programme during the remaining period 2000-2002"

1.2. Evaluation methods used

The evaluation started with a review of existing programme documentation including the evaluation report of Phase I, the main contract between the European Commission and the Consortium Fichtner-Seed, the promotion materials of the programme as well as several project proposals and reports. During the research the evaluator interviewed more than 50 people including EC officials, members of the Programme Team, most of the managers of past and ongoing projects, several representatives of European Energy organisations or companies and Latin American partners.

Also, a questionnaire was designed and sent to past and ongoing Alure project managers who had not been interviewed. Of the 25 questionnaires sent, 17 were returned which represents a very high response rate of around 70 %. The report is presented in a format that follows the recommendations of the SCR's (European Commission Directorate General for Common Service External Relations) February 1999 document "Guidelines for Evaluation".

1.3. Key issues for energy in Latin America

The evaluation proposes that currently the Latin American energy sector is facing three main challenges.

- (i) The rapidly developing energy markets call for huge investments in production, transport and distribution estimated at about €10 billion per year over the next decade.
- (ii) Consumers, both domestic customer and industry, are demanding more competitively priced energy services with wider and more reliable access. However, outside of the better developed countries and urban districts, over 150 million people in Latin America (more than one third of the total population) are not connected to regular gas or electricity supplies. Prospects for their connection are low given the new public sector economic constraints and the increasing private control of the supply services.
- (iii) Environmental threats: The environmental impact of future energy choices is a serious concern both for citizens at local level, in particular in urban areas, and at global level where Latin American governments are obliged to respond to various international environment treaty targets.

1.4. Alure is a necessary public intervention

Given the three key issues outlined above, the evaluation concludes that Alure is a necessary public intervention with a clear "intervention logic". The report concludes that the massive investment, transfer of management knowledge and technology needed to develop the energy sector in the region will come from international (including European) sources and mostly from business and other private financiers. Key characteristics of this private sector finance is that it will only consider short-to-medium-term return on investments and will not invest in non-profitable energy services. The report concludes that public intervention in the energy sector is needed to address two of the three key issues outlined above i.e., access of all people to energy services and the protection of the environment.

1.5. Intervention more effective at European level

The report proposes that a cooperation programme implemented at European level is more attractive and effective for all cooperation stakeholders than programmes launched by separate member states. The reason for this is that the EC is thought of as a "neutral broker" facilitating projects for mutual benefit without particular national interests to promote, this gives the programme increased credibility in the eyes of the Latin American stakeholders.

1.6. Programme participants

Programme participants have been public institutions, electricity and gas companies from both Europe and Latin America, large municipal authorities and European energy equipment suppliers. In most cases they are large companies, which reflects the fact that it has been mostly large companies participating in the rapidly developing markets in the last decade. Alure is a demand-driven programme and so it is not surprising that the big players with established businesses in the region have been able to develop the most convincing project proposals.

1.7. Benefits of participating in Alure

The Alure stakeholders identified a number of key benefits from participating in the programme:

- (i) accelerated and increased activity: The 50 % EC grant was appreciated as it increases and accelerates the outputs and impacts of their own efforts i.e., business development gets done more quickly and on a larger scale than it would have done without the grant;
- (ii) the grant not the key motivating factor: However, the EC financial grant was not the main incentive for participating in the programme;
- (iii) Alure a unique tool for pre-competitive collaborations: the programme participants attributed various pre-competitive benefits to their participation in an Alure project, for example, to obtain information, establish contacts, set up networks and transfer European experience. Some respondents also mentioned that the relations of trust and reciprocity established between normally competing European businesses will lead to collaborations in other business areas.

1.8. The evaluation conclusions

1.8.1. Relevance

The programme is very timely given the present state of evolution of the Latin American energy sector. The programme fulfils the expectations of the participants, does not duplicate or significantly overlap work at member state level or other EC programmes. The evaluation concludes that the programme occupies a genuine "market niche" and offers a unique and high value service to all participants.

1.8.2. Design

The report concludes that:

- (i) given the current programme design, the objective of letting 40 implemented projects in the five year period of Alure II will be very difficult to achieve without a significant adjustment of inputs. At the time of the report, to reach the objective would have meant that another 26 projects needed to be selected and implemented in the following 18 months, twice the number of projects approved during the first 18 months;
- (ii) however, it must be kept in mind that ten person months of effort was dedicated to arranging the Rio Energy Forum (REF, 28-29 June 1999). The conference was extremely successful and useful but meant that other programme tasks could not be completed so effectively.

1.8.3. Efficiency

The Alure process for letting projects is slow and the access cost to the programme is high enough to discourage potential participants. The preparation of projects occupies a disproportionate amount of the support team's resources, given their contractual tasks. The support team is understaffed when compared with other similar programmes, which contributes significantly to the difficulties with reaching the target number of projects.

The application forms are complex and demand too much time from EC managers, support team, advisory team and consortia. On average, three person months are required to complete the application. The detailed and time consuming specification of inputs during contract preparation was singled out as a burden, as all payments are subject to strict *a posteriori* control. The lack of explanation for delays between project approval and contract on the one hand, and long payment delays on the other, creates frustration among contractors. The programme is developing a reputation for opacity and bureaucracy.

1.8.4. Effectiveness

The evaluation concludes that Alure has produced good quality projects involving the relevant energy players in a large number of countries both in Europe and Latin America who have expressed their overall satisfaction with the programme. However, the inefficiencies described above are beginning to make the large and influential companies question both the capacity and commitment of the EC to support cooperation in this region.

1.8.5. Overall impact

Although it is too early to analyse the impact of the programme, the qualitative and quantitative results of the first completed projects tend to indicate that the overall objectives of Alure are achievable: increasing energy supply, improving the quality of energy services, and ensuring sustainability of energy solutions in Latin America.

1.8.6. Sustainability

It was not originally planned in the programme to set up durable structures or activities, however it appears that the market players are very interested in a scheme of cross fertilisation and are willing to support it on a longer term than the present Alure duration.

1.9. Recommendations from the evaluation

The report makes a number of clear recommendations for programme development.

1.9.1. Simplify proposal requirements

The Alure proposal and contract procedure must be revised according to the very precise vade-mecum produced by SCR in 1999. These new modalities represent a major simplification of current procedures. The only documents required in advance are:

- description of the action envisaged
- total estimated budget and percentage of grant requested
- CVs of key experts
- letters of intent from consortium
- name of project account auditing firm.

The control of the funds is effected *a posteriori*, as the payment of the EC grant is subject to the provision of technical reports and audited eligible costs, upon the completion of the project.

1.9.2. Accelerate selection of projects

At the moment the selection criteria are mostly qualitative and the selection procedure requires a meeting of the Advisory Committee which causes major delays, as this group only meets twice a year. The introduction of standard quantitative criteria would enable project selection to be handled mostly electronically and free-up the time in meetings for discussion of policy, strategy, monitoring and decisions on debatable proposals. The report proposes some quantitative selection and monitoring criteria:

- amount of energy produced, saved or substituted
- capacity installed or saved
- global warming or local pollution avoided
- number or percentage of population benefiting from energy services
- business flow induced between EU and Latin America over five years
- subsidiarity: number of countries involved.

1.9.3. Update marketing tools

The website and promotional material should be updated to reflect the changes in the application procedures. Changes should include:

- the summary results of completed projects
- an example of a completed proposal form
- a FAQ section on the website,
- hyperlinks to the homepage of the Alure projects,
- flash news and energy press clippings and internet sources,
- documents or hyperlinks to EU and Latin American country energy profiles.

1.9.4. Adapt marketing message/ campaign

The target audience for the programme should be developed to include engineering and consulting firms as they can play the role of project broker with some energy companies who would not themselves normally submit a proposal. As the new proposal modalities allow contractors to purchase equipment and subcontract part of the work, this should be clearly advertised as it will widen the constituency of interested parties. If the new modalities still do not attract interest from consortia in the key programme areas such as financing, rural energy or regional integration, it is possible to increase the percentage of the grant above 50%. It is recommended that such a targeted call to reach specific programme objectives should be the subject of a separate call for proposals.

The advisory committee has confirmed its willingness to act as more active promoters of the programme at international conferences they attend or organise. The report also recommends establishing a network of local relays in the region to promote the programme on a sub-contracted or part time basis.

1.9.5. Increase support to project implementation/ monitoring

The report recommends that the Support Team, and to some extent the Advisory Committee, liaise more closely with the project managers with a view to help monitor progress of the projects and to optimise the impact of the programme outputs and help with cross-fertilisation activities.

1.9.6. Start cross-fertilisation activities

It is recommended to start cross-fertilisation activities as soon as possible as it is part of the existing contractual agreement with the support team. The results of the first completed projects are a good foundation to start this work. Examples of activities proposed are:

- workshops on specific issues
- success stories seminars
- an information system between project managers.

1.9.7. Initiate self-supported activities

Some cross-fertilisation activities should be conducted on a cost-sharing basis, whereby the Alure infrastructure supports the development cost and the participants pay for the running costs. This would be an appropriate and timely signal to send to the private sector and better than conducting free activities until the end of the Alure contracts with nothing to follow on.

1.9.8. Budget implications

On the basis of the findings of the evaluation, the following implications are proposed:

- (i) each project requires about 2 person-months input from the support team, given the complexity of the tasks and the number of meetings that need to be attended;
- (ii) the Rio Energy Forum consumes ten person-months;
- (iii) part time local relays will be needed;
- (iv) short-term experts will also be required to assist with cross-fertilisation;

It is estimated that the Programme Phase II will require an additional allocation of 15 person months to reach the present contractual objective of implementing 40 projects.

2. The Evaluation of Synergy

2.1. Introduction

The evaluation of Synergy was carried out by PricewaterhouseCoopers between October 1997 and December 1998.

Synergy is a programme managed by the Directorate General for Energy (DGXVII) for the European Commission. The programme finances co-operation activities with non-Community countries in the field of formulation and implementation of energy policy to the mutual benefit of the parties concerned. The overall aim of the programme is to improve the long-term world energy situation and hence the energy security of the EU, by assisting third countries in the formulation and implementation of effective energy policies, including a proper institutional infrastructure.

Before becoming known as Synergy in 1993, the programme was called "The EC International Energy Cooperation Programme". Up until 1996, Synergy operated on an annual basis, with the support of the Budgetary Authority. It was decided in 1996 that Synergy must operate in 1997 under a new legal multi-annual basis, involving the member states more closely in the decision-making process. The Commission presented a communication called "An Overall View of Energy Policy and Actions" that led to the proposal for a Council Decision adopting a multi-annual Framework Programme for actions in the energy sector (1998 – 2002) which included Synergy. The proposal was adopted (Official Journal of 13 January 1999 page 16).

2.2. Programme finances

From 1981, the programme was financed from the Community's budget lines 706, 4.1040 and later from budget line 4.1041, and was consistently supported by the European Parliament. The programme began with an annual budget of just under ECU 650 000. The total amount spent in the period 1983-1989 was about ECU 47.7 million, representing an average annual spend of ECU 6.8 million. In the period 1991-95, Synergy's total budget was around ECU 40.1million. Commitments have increase every year until 1995, when the budget provision for Synergy amounted to ECU 9 million (excluding ECU 4.7 million transferred from the Thermie programme to support energy centres). It has since decreased: the budget for the programme was about ECU 8.9 million in 1996, ECU 6.9 million in 1997 and ECU 5.0 million in 1998. The total indicative budget for the period 1998 – 2000 was set at ECU 15 million by the Framework Programme.

In recent years, priority has been given to projects falling into the following categories:

- implementation of cooperation agreements with non-EU countries (seminars, workshops, training etc.),
- trans-boundary projects (promotion of the interconnection of energy networks),
- co-ordination aimed at optimising the results of all EC assistance programmes and projects,
- promotion of energy efficiency,
- promotion of industrial cooperation,
- direct support to the implementation of the principles and provisions of the Energy Charter Treaty.

In 1981, the average Commission commitment was about ECU 52 000 (at May 1999 prices). In 1991, 93 contracts were signed, with an average Commission commitment of ECU 68 146. In 1994, 44 projects were initiated, with an average value of ECU 167 287. However, in 1997 the average value was down to ECU 114 600.

In 1991-95, there were no formal guidelines establishing the level of co-financing. In 1996, the average rate of co-financing was 54 %. It increased to 56 % in 1997. As a result, co-financing rates were determined on a case-by-case basis. As a general rule, Synergy tries to keep co-financing below 50 % of the total budget.

2.3. Contract award and project financing

Synergy adopts two types of project funding strategy:

- (i) 100% support: projects launched at the initiative of the Commission and financed in their entirety. Responsibility for implementation is entrusted to an external consulting company or consortium selected on the basis of either an open call for tender or a restricted procedure;
- (ii) co-financing: projects either proposed by the Commission or by third parties which contribute part of the financing. The consultants are normally chosen jointly by the Commission and the co-financing body.

The Commission uses one of three basic types of contract:

- (i) direct contract: a direct award of contract to the organisation of choice without the need to tender for services.
- (ii) co-financing: usually initiated by a contractor submitting a proposal for assistance to Synergy and proposing the level of financing for themselves, Synergy and other partners.
- (iii) calls for tender of which there are two types:
 - (a) open calls require publication in the Official Journal of the European Communities. Synergy must use this procedure for any project which is of direct benefit to the Commission and which exceeds ECU 50 000. This procedure is also used when it is clear that there are large numbers of possible providers of the services requested by Synergy.
 - (b) Restricted call for tender is used by Synergy for projects of direct benefit to third countries with an estimated value of ECU 12 000 or more. For projects up to ECU 50 000 there must be at least three organisations on the shortlist, for projects over ECU 50 000 there must be at least five organisations on the shortlist. Synergy usually invites ten companies to submit proposals.

2.4. The evaluation methodology

The evaluation was based on a number of research modules: the establishment of a database containing descriptive and financial information for all the 1996-97 actions; desk research and analysis of key documents in project files; case studies of six contracts; two surveys, one of 1996 and 1997 contractors, and one of Synergy staff which was followed up by a number of interviews with project officers.

2.5. Achievements

The programme has a legal basis until the year 2002.

- (i) The member states are involved in the decision making process through the Synergy Committee.

- (ii) Most Synergy projects have achieved their objectives, usually defined in qualitative terms.
- (iii) Most contracts have been awarded to reputable and well-established contractors, both in the EU and in the beneficiary countries.
- (iv) The overall quality and dedication of the members of the unit managing the programme was very good and contractors gave high marks to the management of the programme.

2.6. Survey of contractors

Contractors for 103 projects received a short questionnaire covering: project description; achievement of objectives; implementation and assessment of the implementation. The questionnaire had a response rate of 87 %.

The overall findings indicate that the assessment of the contribution and efficiency of Alure is very positive. The financial management in particular was found to have improved since the previous evaluation in 1995 – 1996. However, three main shortcomings were identified:

- (i) coordination between Synergy and other EU departments,
- (ii) effectiveness of the partner(s) participation in project planning,
- (iii) stability and strength of support from national authorities in beneficiary countries.

Contractors underlined the need to improve the terms of reference of the projects and to better define the projects' targets and objectives. They feel that there is a need to improve the preparation and planning of the project, by having a better knowledge of the local circumstances in the recipient country. In particular Synergy must be prepared to assess and train the local partners and beneficiaries and bring their knowledge and skills up to a level where they can participate as partners if the best results are to be obtained.

Another aspect put forward is the imperative to ensure that the projects have a sustainable impact, through follow-up actions, dissemination of findings, support to institutions, funding of resident advisors, and development and support of local expert teams to relay and amplify project activities.

While recognising that the Synergy team is subject to budgetary constraints, there is a demand for more involvement of Synergy officers during the course of the project, for example by attending key meetings and conferences.

2.7. Survey of Synergy staff

The main strategic changes that were agreed with the Synergy staff were:

- (i) to define more precisely the programme's strategic objectives for each geographical region;
- (ii) to have fewer and more focused priorities;
- (iii) to conduct the evaluation of co-financed projects according to precise strategic objectives;
- (iv) to have a coordination role between energy Framework Programme external activities and other energy components of international cooperation programmes;
- (v) involve desk officers in the EU national delegations in the selection of projects;
- (vi) to have the option to modify the proposals submitted in response to the Call for Proposals in negotiation with the Commission.

2.8. Administrative and operational aspects

The programme was given a legal basis in 1997. The new regime involves the Member States more closely in the decision making process through the Synergy Committee which is made up of Member State representatives. The programme now operates under the multi-annual Energy Framework Programme 1998 - 2000, which, given its new legal status should secure the future of the programme.

Most other aspects of the administrative procedures are well executed and the staffing levels about right for the size of the programme. However, the monitoring and evaluation of the projects is still not sufficient and the key challenge for the Synergy staff is to design a monitoring and evaluation system which is effective and efficient in terms of use of resources.

2.9. Recommendations

2.9.1. Strategy

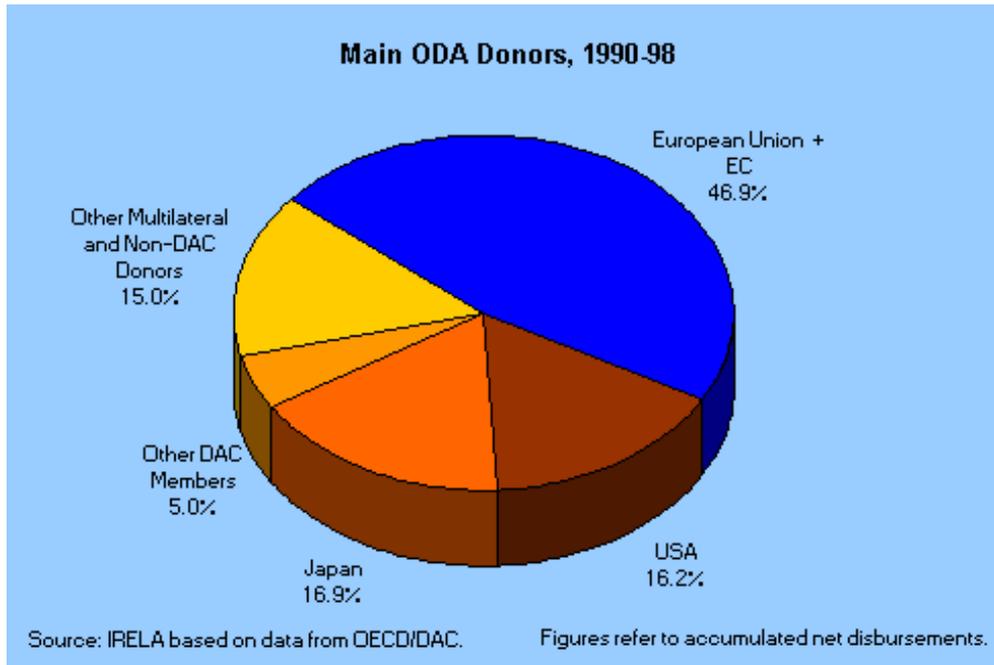
- (i) The programme must define its niche in terms of objectives and geographical areas in more precise operational terms and prioritise its activities.
- (ii) The links between EU energy policy, programme objectives, and the project portfolio must be better spelled out.
- (iii) The relation between strategy and programme objectives, and project selection must be made clear in project documentation.
- (iv) There needs to be a closer collaboration with EU industry.
- (v) Synergy should go for quality and not quantity and not increase the number of projects funded.
- (vi) The projects that have received Synergy funding on a long-term basis must be reviewed to check that they fit with current programme objectives.

2.9.2. Operations

- (i) There is a need to increase awareness of Synergy in Member States as there is a current imbalance in the geographical spread of participants.
- (ii) The Review of Activities should be an annual publication emphasising lessons learned and the development of programme strategy and how it relates to projects funding.
- (iii) In some instances the terms of reference for projects must be improved.
- (iv) Synergy staff should also devote more time to clarifying terms of reference and objectives with participants before awarding the contract.
- (v) Whenever possible the terms of reference should be based on a "logical framework" planning approach which includes measurable indicators of success and addresses post project sustainability.
- (vi) There is a strong case for speeding up Commission procedures for this programme where more than ten signatures are often needed to approve a payment.
- (vii) Projects should include measurable indicators of success and be obliged to submit an evaluation report at the end of the project. Synergy should supply contractors with a standard evaluation format and monitor the evaluation report before making the final payment.
- (viii) Synergy as a programme needs to develop measurable indicators for its own success and progress towards clear annual targets.

- (ix) Project officers should write an evaluation report at the end of each project which should be stored centrally to form a knowledge bank of best practice.
- (x) A fully operational database of projects and lessons learned should be developed to share knowledge between Synergy staff, within DG TREN and with other DGs.
- (xi) In every instance, bodies benefiting from Synergy funding must demonstrate in-depth understanding of the objectives and priorities of the programme and demonstrate that their project contributes to the objectives of the programme.
- (xii) Synergy should organise a regular, preferably annual, meeting in Brussels with all the contractors. The Commission should support only the expenses for the organisation but not the travel and accommodation costs.

3. Official development assistance to Latin America

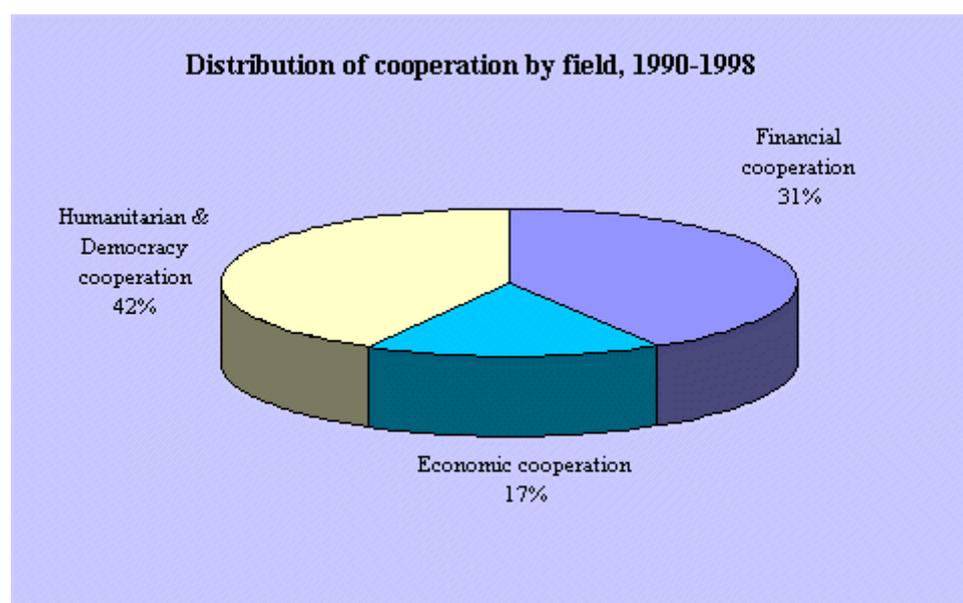


	1994	1995	1996	1997	1998	Total 1994-1998 value	% share
Austria	30	33	29	21	26	139	0.6
Belgium	44	98	95	47	60	344	1.5
Denmark	33	42	66	59	72	271	1.2
Finland	7	12	7	9	9	44	0.2
France	187	244	223	164	154	971	4.3
Germany	432	585	839	445	438	2,740	12.0
Ireland	1	2	3	3	3	12	0.1
Italy	261	76	99	36	122	594	2.6
Luxembourg	8	7	9	10	14	50	0.2
Netherlands	188	266	239	230	257	1,181	5.2
Portugal	0	1	1	0	1	4	0.0
Spain	353	337	343	220	289	1,542	6.8
Sweden	103	112	114	89	70	488	2.1
United Kingdom	49	97	44	61	75	325	1.4
EU Member Countries	1,696	1,911	2,112	1,394	1,590	8,704	38.2
European Commission	288	413	418	322	424	1,865	8.2
Total EU + EC	1,984	2,325	2,530	1,716	2,014	10,569	46.4
United States	986	736	344	544	492	3,102	13.6
Canada	89	85	101	110	90	475	2.1
Total USA + Canada	1,075	821	445	654	582	3,577	15.7
Japan	808	1,102	938	659	508	4,017	17.6
Other DAC Members	1	2	1	2	2	8	0.0
Total DAC Members	4,001	4,391	4,064	3,144	3,229	18,828	82.6
Other Multilateral and Non-DAC Donors	588	823	930	769	853	3,962	17.4
Overall Total	4,589	5,214	4,993	3,913	4,082	22,791	100.0

Source: OECD-DAC, Geographical Distribution of Financial Flows, Paris, various issues; OECD-DAC, Database; and IRELA calculations.

(Net disbursements in US\$ millions and as a share of total)

4. EU development cooperation to Latin America



	1994	1995	1996	1997	1998
Financial cooperation	202.31	231.57	199.85	190.18	191.00
Economic cooperation	80.16	73.42	93.41	90.55	69.79
- Economic coop. activities	46.31	57.77	63.05	64.20	49.85
- Energy policy	0.51	1.11	2.46	1.63	1.32
- R&D technology	18.91	0.54	7.06	11.63	8.32
- Investment promotion	11.47	9.34	14.15	12.09	9.18
- Cooperation agreements	2.95	4.66	6.69	1.01	1.12
Humanitarian and democracy cooperation.	171.62	211.83	213.79	199.60	225.55
- Food aid	17.43	47.86	54.07	43.17	70.27
- Refugees	28.88	20.00	22.00	21.16	15.29
- Fight against AIDS	1.85	5.62	3.16	2.57	2.25
- Fight against starvation	0.00	0.00	0.00	0.00	0.00
- Fight against drugs	3.10	2.37	3.32	2.05	0.08
- NGO activities	51.47	43.38	47.83	42.65	47.14
- Emergency relief	20.40	28.13	19.72	34.11	52.05
- Environment	23.97	39.21	34.12	26.25	24.36
- Rehab. & reconstruction	9.82	10.90	10.66	10.44	0.00
- Democrat. & human rights	12.89	14.00	16.13	14.77	12.90
- Promotion of women's rights	1.81	0.36	0.69	0.23	0.00
- Evaluation of cooperation	0.00	0.00	0.00	0.00	0.00
- Other	0.00	0.00	2.10	2.20	1.20
Total cooperation	454.08	516.83	507.05	480.32	486.34
(Commitments in millions of ECUs)					

Sources: European Commission, Bruxelles, 1998; and IRELA calculations.

5. World total carbon emissions by region, reference case, 1990-2015

(million metric tons)

Region/Country	History				Projections			Average Annual Percent Change, 1995-2015
	1990	1994	1995	2000	2005	2010	2015	
Industrialized								
North America	1,561	1,634	1,663	1,826	1,956	2,066	2,170	1.3
United States (a)	1,337	1,397	1,424	1,543	1,638	1,721	1,798	1.2
Canada	137	140	143	160	172	182	192	1.5
Mexico	87	97	97	123	146	163	180	3.1
Western Europe	1,016	987	1,014	1,081	1,147	1,208	1,279	1.2
Industrialized Asia	408	449	473	514	553	593	625	1.4
Japan	308	354	361	401	432	466	492	1.6
Australasia	100	95	112	114	121	127	133	0.8
Total Industrialized EE/FSU	2,985	3,069	3,151	3,421	3,656	3,868	4,074	1.3
Former Soviet Union	1,029	711	653	733	802	872	933	1.8
Eastern Europe	309	239	240	278	293	306	318	1.4
Total EE/FSU	1,339	949	893	1,012	1,095	1,178	1,251	1.7
Developing Countries								
Developing Asia	1,092	1,401	1,475	1,865	2,295	2,735	3,232	4.0
China	625	784	821	1,031	1,257	1,523	1,838	4.1
India	159	205	221	276	350	421	490	4.0
Other Asia	307	412	432	557	688	792	904	3.8
Middle East	203	241	254	265	291	315	344	1.5
Africa	205	239	248	267	294	322	352	1.8
Central and South America	189	212	220	263	319	382	452	3.7
Total Developing	1,687	2,092	2,197	2,660	3,199	3,755	4,379	3.5
Total World	6,012	6,111	6,241	7,093	7,950	8,800	9,704	2.2

(a) Includes the 50 States and the District of Columbia. U.S. Territories are included in Australasia.

Notes: EE/FSU = Eastern Europe/Former Soviet Union. The U.S. numbers include carbon emissions attributable to renewable energy sources.

Sources: **History:** Derived from Energy Information Administration (EIA), *International Energy Annual 1995*, DOE/EIA-0219(95)

(Washington, DC, December 1996). **Projections:** EIA, *Annual Energy Outlook 1997*, DOE/EIA-0383(97) (Washington, DC, December 1996), and World Energy Projection System (1997).

6. Research questionnaire survey data

Table 1. Issues Rated 'Most Important'

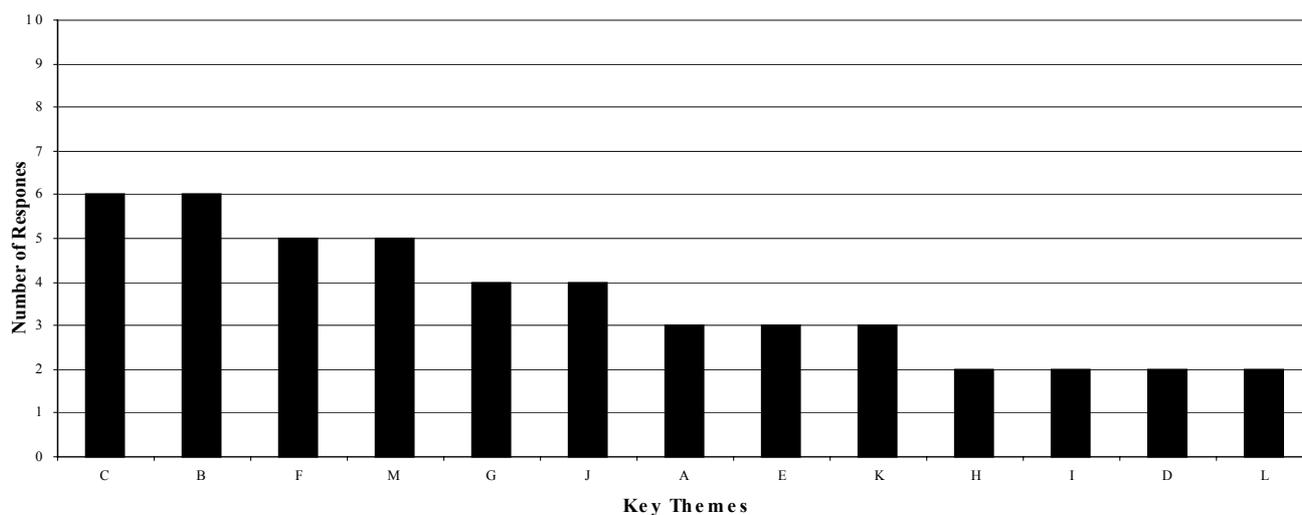
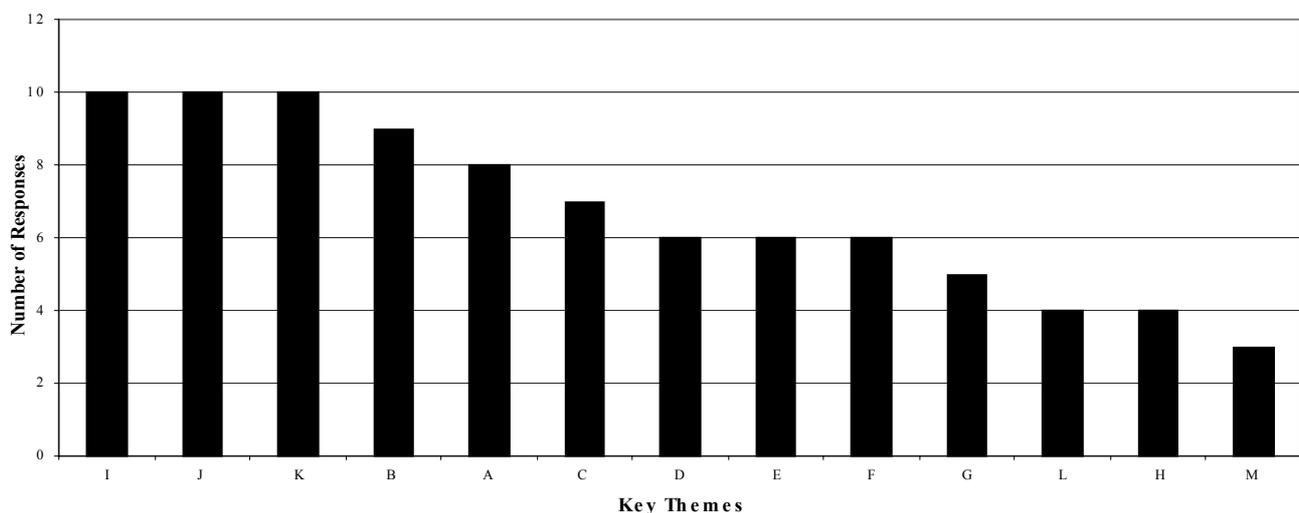


Table 2. Issues Rated as 'Important'



Key:

- A. Continued energy market liberalisation/privatisation
- B. Increasing regional energy market integration
- C. Energy market regulation issues
- D. Promoting energy service companies
- E. Focusing on the less developed nations in the region
- F. Promoting demand-side efficiencies e.g., energy efficiency in industry
- G. The role of energy in sustainable national or regional economic development
- H. Cross sectoral issues, e.g., energy in transportation, energy in construction industry
- I. Environmental issues/response to international climate change guidelines
- J. Technology, technology transfer and acquisition, research and development
- K. Renewable energy sources/renewable energy policies
- L. Developing NGOs and other civil society bodies related to energy
- M. Promoting social equity, e.g., access to energy for rural populations

Table3. Mechanisms Rated 'Most Important'

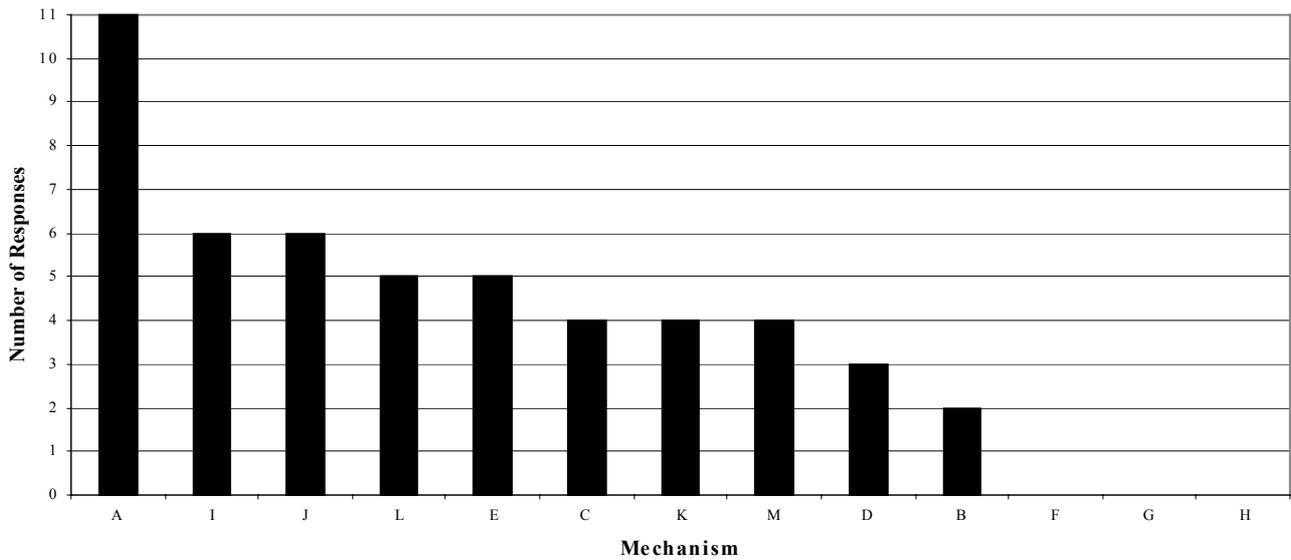
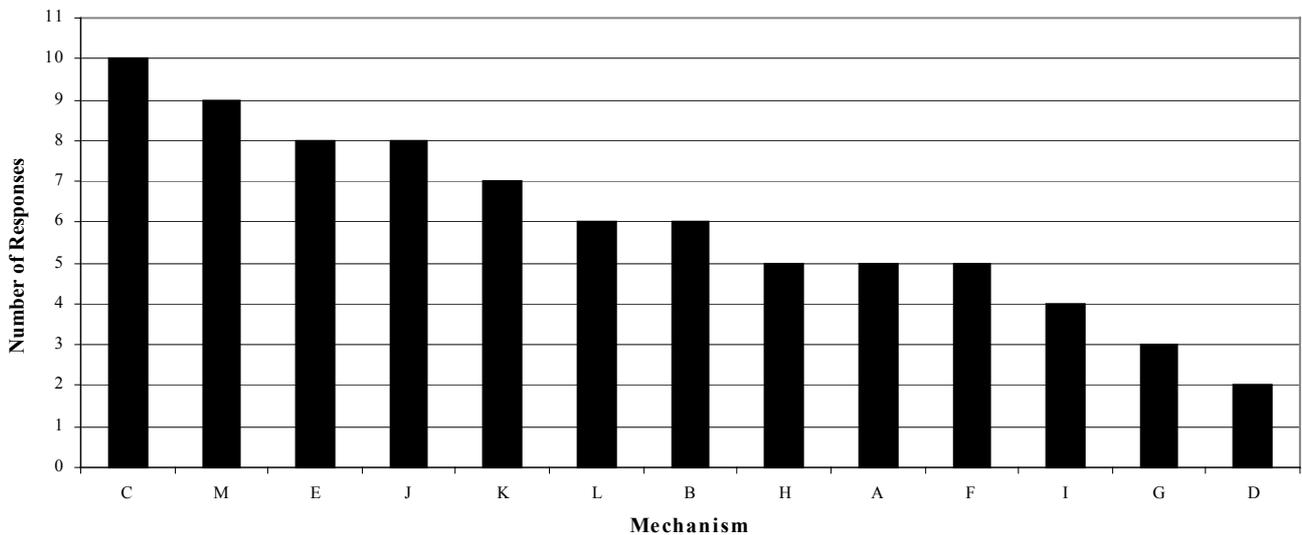


Table 4. Mechanisms Rated 'Important'



Key:

- A. Facilitating business-to-business partnerships with direct benefits to all participants
- B. Facilitating research and development networks focused mainly on universities
- C. Networks for policy makers and regulators
- D. Promoting thematic programmes e.g. energy and health, or energy and poverty
- E. National or regional strategy development networks to set energy development objectives
- F. Exchange of academics between European Union and Latin-American universities
- G. Industry secondment schemes
- H. Open call for proposals driven by business ideas, no single dominant programme theme
- I. Managed programme of clustered projects in highly targeted sector and policy areas
- J. Focused technology transfer programmes in specialised niche markets
- K. Information/dissemination of latest developments in European technology and markets
- L. Energy centres
- M. Training networks

7. Bibliography

Arrow, Ken (1962), "Economic Welfare and the Allocation of Resources for Invention", in Nathan Rosenberg (Ed.), *The Economics of Technological Change*, Penguin, Harmondsworth, 1971.

Bouix, Philippe, *The Evaluation of Alure*, European Commission, 2000.

Castells, Manuel, *The Rise of the Network Society*, Blackwell, Oxford, 1996.

Dooley, J.J., *Unintended Consequences: Energy R&D in a Deregulated Market*, Pacific Northwest National Laboratory, Washington, D.C. PNNL-SA-28561. February 6, 1997.

Energy Information Administration, *Annual Energy Outlook 1997*, DOE/EIA-0383(97), Washington, DC, December 1996.

European Commission, *EC Economic and Development Cooperation: Responding to the new Challenges of Climate Change*, Working Document, Ref: VIII/676/99/EN, 3.11.99.

European Commission, *Five Year Assessment Report Related to the Specific Programme: Energy, Environment and Sustainable Development covering the period 1995 – 99*, June 2000.

European Commission, *Official Journal of the European Communities*, Council Regulation 701/97/EC of April 14 1997, No.1.104 of 22.04.97.

Martin Ben, Salter, Ammon et al, *The Relationship Between Publicly Funded Basic Research and Economic Performance*, Report to HM Treasury, Science Policy Research Unit, Brighton, 1996.

Multilateral Development Banks Energy Project, *Latin America Report*, 1997.

OECD-DAC, *Geographical Distribution of Financial Flows*, Paris, various issues.

Organisation of American States, *Integrated Energy Development – experiences of the Organisation of American States*, Washington D.C., 1998.

Patten, Chris, "EU Policy towards Latin America", paper presented on 2 October 2000, at CLSA Emerging Market –Latin America Investors' Forum in Paris; "A Common Foreign Policy for Europe: relations with Latin America", paper presented on 9 November 2000 at Consejo Argentino para las Relaciones Internacionales (CARI) in Buenos Aires; "The European Union and Latin America: a new partnership for a new century", paper presented on 2 November 2000 at Casa de America in Madrid; "Europe and Latin America: meeting new challenges together" press article Nov, 2000 .

Pavit, Keith, "The national usefulness of the research base", paper presented to the Advisory Board of Research Councils, UK, April 1991.

PricewaterhouseCoopers, *The Evaluation of Synergy*, London, 1998.

United Nations Development Programme, *Energy After Rio: Prospects and Challenges*, New York, 1997.

Directorate General for Research
Directorate A
Division for Industry, Research, Energy, Environment and STOA

Full list of the most recent Energy Series Working Papers.

N° and date	Title	languages
Working Paper ENER 113 EN	EU-Latin American energy cooperation	EN
Working Paper ENER 112 EN	Energy subsidies in the EU: both direct and indirect	EN
Working Paper ENER 111 EN 11/1999	Emerging nuclear energy systems, their possible safety and proliferation risks	EN
Abridged Edition ENER 111 A EN 11/1999	Emerging nuclear energy systems, their possible safety and proliferation risks	EN - FR
Working Paper * ENER 110 EN 11/1999	Towards a re-orientation of national energy policies in the EU? Germany as a case study	EN
Abridged Edition ENER 110 A EN 11/1999	Towards a re-orientation of national energy policies in the EU? Germany as a case study	EN - DE - FR
Working Paper ENER 109 EN 08/1999	New developments in the field of photovoltaic cells	EN
Abridged Edition ENER 109 A EN 08/1999	New developments in the field of photovoltaic cells	EN - DE - FR
Working Paper ENER 108 EN 09/1999	The European Parliament and EU R&TD Policy 1994-1999	EN
Working Paper ENER 107 EN 02/1999	The opening-up of national RTD programmes to applicants from other Member States: A comparative study	EN
Abridged Edition ENER 107 A EN 02/1999	The opening-up of national RTD programmes to applicants from other Member States: A comparative study	EN - DE - FR
Working Paper ENER 106 EN 12/1998	Administrative burdens and procedural rules in the European Union's research programmes and in those of the individual Member States: A comparative study	EN
Abridged Edition ENER 106 A EN 12/1998	Administrative burdens and procedural rules in the European Union's research programmes and in those of the individual Member States: A comparative study	EN - DE - FR

Working Paper ENER 105 EN 11/1998	US climate change policy: Trends and perspectives for international cooperation	EN
Abridged Edition ENER 105 EN 11/1998	US climate change policy: Trends and perspectives for international cooperation	EN - DE - FR
Working Paper ENER 104 EN 10/1998	From Kyoto to Buenos Aires: Global climate change and international cooperation	EN
Abridged Edition ENER 104 EN 10/1998	From Kyoto to Buenos Aires: Global climate change and international cooperation	EN - DE - FR
Working Paper ENER 103 EN 04/1998	Innovations for the promotion of renewable energies	EN - FR
Working Paper * ENER 100 EN 05/1998	Directory of the most important Community legislative measures in energy policy	EN

(*) Asterisked publications are available on the Internet at the following address:

www.europarl.eu.int

To obtain paper copies of these publications, please contact:

E-mail : DG4-publications@europarl.eu.int

New .eu Domain

Changed Web and E-Mail Addresses

The introduction of the .eu domain also required the web and e-mail addresses of the European institutions to be adapted. Below please find a list of addresses found in the document at hand which have been changed after the document was created. The list shows the old and new address, a reference to the page where the address was found and the type of address: http: and https: for web addresses, mailto: for e-mail addresses etc.

Page: 2 **Old:** mailto:DG4-industrie@europarl.eu.int
Type: *mailto* **New:** mailto:DG4-industrie@europarl.europa.eu

Page: 76 **Old:** http://www.europarl.eu.int
Type: *http:* **New:** http://www.europarl.europa.eu

Page: 76 **Old:** mailto:DG4-publications@europarl.eu.int
Type: *mailto* **New:** mailto:DG4-publications@europarl.europa.eu
