

COMMENDATIONS
Center for Energy and Environment Research
PROGRAMS



CENTER FOR ENERGY AND ENVIRONMENT RESEARCH
UNIVERSITY OF PUERTO RICO — U.S. DEPARTMENT OF ENERGY

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Abstracts of letters related to CEER activities from federal and local Government Agencies and from members of the University of Puerto Rico President's-CEER Senior Advisory Committee are included in this publication.

Also because of its importance the address given by Dr. A. Trivelpiece, Director of the Office of Energy Research, U.S. Department of Energy upon the presentation of the Exceptional Public Service Award to CEER is reproduced here (9-13-82). This address list several major accomplishments of CEER.

January 1983

Dr. Alvin Trivelpiece
Director, Office of Energy Research
Presentation of the Department of Energy Exceptional
Public Service Award to the Center for Energy and
Environment Research
September 13, 1982

Welcome

It is a personal pleasure for me to be able to take part in National Hispanic Heritage Week by honoring the distinguished work done for the Department and the Nation by a very special organization -- The Center for Energy and Environment Research, known as CEER, located at the University of Puerto Rico. On behalf of the Secretary and the Department I would like to welcome the Director of CEER, Dr. Juan A. Bonnet to Washington. I am going to briefly describe CEER, its role, and some of its accomplishments in energy and environmental research.

First - Something About Its Origin

In 1957, with support provided by the Atomic Energy Commission, under President Eisenhower's Atoms for Peace Program, the University of Puerto Rico established the Puerto Rico Nuclear Center. This new center carried out many important programs and activities in nuclear science and engineering, nuclear medicine, and environmental and health effects research. A whole generation of Latin American nuclear scientists received their initial training in nuclear energy and related research at the Center. In 1976, in recognition of the need to establish a broadened and comprehensive energy program to support National and Puerto Rico needs, the Nuclear Center was renamed the Center for Energy and Environment Research. At that time, Research and education programs were initiated in biomass, Solar thermal and photovoltaics, wind and ocean energy, Waste recycling conservation research, and in the environmental and health impacts of alternate energy systems.

CEER is a unique research institution located in an unparalleled research environment. Few places in the world offer such a diversity of research opportunities as Puerto Rico. Puerto Rico has rapidly developed into an ideal laboratory for Caribbean and subtropical energy research. CEER's unique bilingual and bicultural status has contributed to its ability to work on energy research and technology application with scientists from many neighboring Latin and South American countries.

Several of the major accomplishments of CEER for the last five or so years are:

- (1) Development of an internationally recognized research program in biomass, with specific emphasis on the use of tropical grasses and sugar cane in both direct and indirect biomass conversion;

- (2) Discovery of a small snail indigenous to Puerto Rico that has the ability to eliminate the parasitic host which causes schistosomiasis, a dangerous tropical disease all over the world;
- (3) Internationally recognized research on the effects of energy development upon tropical marine and rainforest ecosystems;
- (4) Development of comprehensive research programs in the practical application of ocean thermal energy, and in the use of solar thermal systems for industrial and agricultural application;
- (5) The education and training of hundreds of Latin and South American professionals in nuclear science, nuclear medicine, environmental research and solar energy fields; and
- (6) Development of excellent bilingual energy education and training programs, which are now serving as models in several other states.

Presentation of Award

We believe that CEER has become the most important Hispanic research center in the United States. We want to recognize the work and accomplishments performed by CEER during the past 25 years. Secretary Edwards will now present the DOE Award for exceptional public service -- to the Director of CEER, Dr. Juan A. Bonnet, Jr. -- Mr. Secretary.


United States
Department of Energy

Award for Exceptional Public Service

Conferred upon

**Center for Energy and Environment Research,
University of Puerto Rico**

In recognition of its 25 years of distinguished service to the Nation in the fields of nuclear medicine, education, training, and research. Its continuing efforts to enhance the medical, agricultural, environmental, and scientific research capabilities in Latin America exemplify the highest commitment to the spirit of international cooperation and the strengthening of ties with our Latin American neighbors. This tradition of scientific excellence and dedication to achievement has continued as the Center turns its attention to the future energy needs of the Caribbean Basin.


James B. Edwards
Secretary

September 13, 1982

November 2, 1982

"As a member of the CEER Advisory Committee it has been gratifying to see each year how the programs of CEER have increased in technological depth and scope, and to observe the solid accomplishments that have been made despite the funding uncertainties that have beset the programs".

"The accomplishments of Dr. Alexander's group in developing "energy cane" are particularly notable achievements in biomass production, and the pioneering work of Dr. Sasscer's group in exploring and demonstrating the outstanding promise of Puerto Rico as a site for ocean thermal energy production also deserves special recognition".

Dr. W.H. Avery
Director
Ocean Energy Program
The Johns Hopkins University

September 13, 1982

"CEER is a unique research institution located in an unparalleled research environment. Few places in the world offer such a diversity of research opportunities as Puerto Rico. Puerto Rico has rapidly developed into an ideal laboratory for Caribbean and subtropical energy research. CEER's unique bilingual and bicultural status has contributed to its ability to work on energy research and technology applications with scientists from many neighboring Latin and South American countries".

Presentation of Award

"We believe that CEER has become the most important Hispanic research center in the United States".

Dr. Alvin Trivelpiece
Director
Office of Energy Research

September 3, 1982

I am quite impressed with CEER's Terrestrial Ecology Division. The El Verde Field Station is an invaluable U.S. facility where both DOE and privately supported environmental research can be conducted. Its location in the Luquillo experimental forest is of considerable historic importance because of the previous rain forest research completed there as part of the AEC program. A solid data base is available on the flora and fauna of the forest and the potential for comprehensive and synthetic research in a number of important areas is greatly facilitated by such a situation. Moreover, other rainforest sites are quickly being perturbed beyond recovery in the rest of tropical America; the location of the El Verde Station in the protected Caribbean National Forest insures future researchers continued access to this unique ecosystem.

Dr. Michael R. Willig
Assistant Professor of Biology
Loyola University
New Orleans, LA 70118

August 23, 1982

FY 1982 APPRAISAL OF BUDGET ACTIVITIES - CEER

"Enclosed for your information is a copy of the subject appraisal for FY 1982. The appraisal reflects an overall rating of excellent for the performance of budget activities by the CEER staff".

William R. Bibb, Director
Energy Programs and Support Division
US Department of Energy
Oak Ridge Operations

22 de julio de 1982

"Agradecemos la cooperación de la agencia que usted dirige en el logro de los objetivos del Programa de Empleos de Verano para jóvenes. Su participación en el programa ha sido de verdadero valor y significado muy positivo en el desarrollo vocacional/ocupacional de la Juventud Capitalina".

Hernán Padilla, M.D.
Alcalde
Municipio de San Juan

April 14, 1981

"This center represents to Puerto Rico and to San Juan, its capital city, fountain for leadership, policy formulation, regulation, legislative action and economic decisions in our government".

"I candidly support the Center request to continue its operation as a resource for Puerto Rico as well as the United States".

Hernán Padilla, M.D.
Mayor

31 de marzo de 1982

"Recibimos la copia del Informe Anual de 1981 del Centro para Estudios Energéticos y Ambientales de la Universidad de Puerto Rico, el cual encontramos muy interesante y orientador".

"Consideramos de particular interés para nuestras labores la parte relacionada con los estudios sobre conservación de energía en el campo de la transportación".

Rafael Faría
Secretario de Transportación y Obras Públicas
Apartado Postal 41269-Minillas Station
Santurce, Puerto Rico 00940

23 de marzo de 1982
Tel. (809) 724-7171

"Estamos convencidos de que el Centro realiza una labor de importancia y trascendencia. Es para nosotros un placer colaborar con esta tarea y reiteramos nuestra disposición de asistirle en el futuro".

Carlos T. Novoa, Director Ejecutivo
Oficina de Planificación y Presupuesto
Municipio de San Juan
San José 151-153-155
Apartado Postal 4355
San Juan, Puerto Rico

March 9, 1982

"CEER has developed a highly marketable technical capability which should be attractive to private sector. In addition, the facility and staff will continue to be available as a resource to the UPR, with potential funding sources including the Government of Puerto Rico and DOE. For example, CEER may be utilized by the Government of Puerto Rico for certain tasks during the final phase of the Territorial Energy Assessment Project being conducted by the DOE, and mandated by P.L. 96-597. This effort is currently underway, and is to be completed by December, 1982".

Rich Neal
Executive Assistant
Intergovernmental Affairs
The White House
Washington, D.C.

February 7, 1982

"The terrestrial program is in the forefront of research in the tropical rain forest area. The application of this research will be useful throughout the Caribbean and Central American regions and should make Puerto Rico the central focus of rain forest knowledge".

"The marine program is off to a fine beginning. The kind of information that is being obtained is necessary to protect renewable resources while increasing the development of energy and other types of offshore activities".

Helen M. McCammon, Director
Ecological Research Division
ER-75 Office of Health and
Environmental Research
Office of Energy Research
Washington, D.C. 20545

January 28 and 29, 1982

"The Biomass Program at CEER, as described by Alexander has been exceptionally successful in achieving its initial objectives and the planned activities for the next year or two are not only well designed, but execution has already begun".

"The overall program, expanding from its initial limitation on tropical grasses, into a broader group of tropical biomass resources including not only fermentable carbohydrates and lignocellulose toward gas and liquid hydrocarbon production is certainly the best in the Americas and probably one of the best in the entire world".

UPR Senior Advisory Committee
on Energy and Environment

May 14, 1981

"We believe that the excellent progress made by the Center over the last several years in developing strong programs in such areas as biomass and bioconversion, solar photovoltaics, conservation, and energy-related research has made the Center competitive with other research laboratories pursuing similar work. Increased efforts must be made, of course, to diversify the base of financial support for the Center including, where possible, increased support from the university itself, the Commonwealth Government, and from private industry. We believe that the Center's past and current accomplishments will significantly aid this diversification".

N. Douglas Pewitt
Acting Director
Office of Energy Research
U.S. Department of Energy

20 de marzo de 1981

Carta del Sr. Pedro Gelabert dirigida al Hon. Carlos Quirós,
Coordinador Interagencial, La Fortaleza, San Juan, P.R.

"Consideré prudente, por lo tanto, dirigirme a usted ya que estimo que la labor que el Centro realiza es encomiable y necesaria para continuar el funcionamiento de la Junta de Calidad Ambiental y otras agencias gubernamentales".

"En especial, tenemos sumo interés en desarrollar programas integrados en educación ambiental y en el desarrollo de estándares de calidad ambiental que tomen en consideración las condiciones tropicales de nuestra Isla. Estos proyectos son de alta necesidad no solamente en Puerto Rico, sino en todo el Caribe.

Pedro A. Gelabert
Presidente
Junta de Calidad Ambiental

12 de marzo de 1981

Carta del Dr. Fred V. Soltero Harrington dirigida al Hon. Carlos Quirós, Coordinador Interagencial, La Fortaleza, San Juan, P.R.

"Mi participación en este comité me ha permitido apreciar de cerca la muy efectiva labor del Centro para Estudios Energéticos y Ambientales

(CEEA) de la Universidad de Puerto Rico y de los logros obtenidos en la investigación sobre fuentes alternas de energía y de los aspectos ambientales de las mismas".

"Las funciones del CEEA son complementarias a las actividades del Departamento de Recursos Naturales y a las de otras agencias del gobierno".

"La labor de investigación del CEEA es indispensable para la solución de nuestros problemas energéticos y ambientales y para el bienestar de nuestro Puerto Rico".

Fred V. Soltero Harrington, Ph.D.
Secretario
Departamento de Recursos Naturales

February 20, 1981

"I want to congratulate you on the quality of work that Don Sasscer and the Center for Energy and Environment have been doing on the Landing Craft Utility (LCU) off the coast of Punta Tuna. The uninterrupted supply of seawater to the heat transfer monitors for the Biofouling Corrosion and Materials (BCM) Program has been notable in OTEC development".

"The entire team are to be **congratulated** for finding a way to implement your excellent and creative suggestions to Mr. F. Castellon".

William E. Richards
Acting Director
Division of Ocean Energy Systems
US Department of Energy

10 de febrero de 1981

"Les felicitamos por la excelente labor realizada y les deseamos continuados éxitos en sus programas".

Wilson M. Loubriel
Director Ejecutivo
Autoridad de los Puertos

February 6, 1981

Letter from Dr. Melvin Calvin addressed to Dr. Alex G. Alexander, Head, Biomass Division, CEER

"I have already told you how much we (the Committee) appreciated your presentation last month. How impressed we were at the progress you have made toward the development of an energy cane (Sordan 77) and the fact you are beginning a movement toward the operation of a biomass fuel 300 MW power plant".

Dr. Melvin Calvin
Professor of Chemistry
University of California
and Nobel Prize Winner

9 de enero de 1981

"Les felicito por haber alcanzado varias de las metas en los programas de ecología y desarrollo de fuentes alternas de energía. Les exhorto a continuar trabajando en busca de soluciones de los programas energéticos y ambientales de nuestra isla".

Jenaro Collazo Collazo
Secretario
Departamento de Servicios Sociales

Letter from the Department of Energy addressed to Dr. Ismael Almodóvar, President, University of Puerto Rico.

July 21, 1980

"Let me say at this point how pleased we are with the substantial progress made by the Center during the past five years in developing and carrying out important energy research and development programs of relevance both to the Commonwealth Government and to the Department".

"I am also pleased to see that you are proposing that future financial support of the Center's core activities be provided jointly by the University and the Commonwealth. We have always viewed such support as essential to the future of the Center.

Edward F. Frieman
Director of Energy Research
US Department of Energy

14 de julio de 1980

"Con relación a la Segunda Semana de la Conservación de Energía, aprovechamos la ocasión para reiterarle nuestro agradecimiento por su valiosa colaboración en esta actividad, que ha sido de enorme utilidad para todos".

Sra. Octavia Maldonado Pons
Coordinadora, Programa de Gobierno
Oficina de Energía de Puerto Rico

February 26, 1980

"Upon evaluating your preliminary report entitled "Research and Development Program Needs for Energy Alternatives in Puerto Rico" we agree that the Center role should appropriately be redefined so as to enable it to perform the research and development program for attaining Puerto Rico's energy independence. We are aware of course that in order to fulfill this expanded role the Center will more probably require additional funding."

Eng. José Marina, Director
Planning and Engineering
Puerto Rico Electric Power Authority

February 7, 1980

"I believe that an organization such as CEER devoted primarily to researching energy problems of the area, is vital, and should continue to exist in the future".

Dr. Derek P. Gregory
Vice President
Engineering Research
Institute of Gas Technology

February 4, 1980

Letter from Prof. David M. Gates addressed to Dr. Gary H, Toenniesen, The Rockefeller Foundation

"I have served for three and a half years on the Advisory Committee to CEER (Center for Energy and Environment Research), University of Puerto Rico.

They are dedicated...to resolve some of the environmental problems and economic dilemmas of Puerto Rico at the same time.

"Their intent as a commonwealth is eventually to become energy self-sufficient and at the same time to protect their environment, a task which is not easy nor until now has it been obvious how to accomplish this goal. But a number of events have transpired which are significant and change the picture".

"They have off the shores of Puerto Rico at Punta Tuna the finest site in the world for OTEC (Ocean Thermal Energy Conversion).

"...they have affiliated with CEER a USDA-supported plant physiologist by the name of A.G. Alexander who has been testing and breeding strains of sugar cane for energy production...He has had great success..."

"Puerto Rico also has one of the few tropical rainforests within U.S. territory, a rainforest which has been much studied but which should be truly a national center.

"During the last year Dr. Laurence Tilly has joined CEER as Director of all ecological and environmental programs. He is a first-rate scientist with particular expertise in limnology."

"Here in Puerto Rico are energy projects, agricultural projects, and environmental projects all together at one time."

Prof. David M. Gates
Professor of Botany
University of Michigan

February 4, 1980

"My Department of Energy colleagues are all impressed with the progress being made in many of the key areas and we look forward to assisting you in the next phases of the Center's activities."

Richard E. Stephens, Director
Division of Institutional Programs
Office of Energy Research
US Department of Energy

19 de septiembre de 1979

"Esta Junta considera que el gobierno de Puerto Rico debe prestarle atención prioritaria a la problemática energética desde la perspectiva de la investigación científica. La investigación científica está dirigida al desarrollo de fuentes alternas de energía constituye la garantía y el arma más efectiva para continuar el desarrollo obtenido y alcanzar las metas de bienestar social. Entendemos que el CEEA está llevando a cabo un gran esfuerzo de investigación con el propósito de buscar alternativas que permitan que Puerto Rico se libere total o parcialmente de la dependencia energética prevaeciente."

"Por último se les recomienda que se explore la alternativa de que la Oficina de Puerto Rico aporte fondos a los programas de investigación y desarrollo del CEEA."

Lcdo. Miguel A. Rivera Ríos
Presidente, Junta de Planificación de P.R.

August 3, 1979

"As a result of our meeting and other discussion, members of the Oversight Committee have indicated satisfaction with the progress made by the CEER during the current program year despite funding limitations and deferrals. We believe that a strong foundation has been laid for future year accomplishments."

Toni Grayson Joseph
Associate Director for
Field Operations Management
Office of Energy Research
US Department of Energy

October 10, 1978

"Good progress has been made in the last twelve months in developing a stronger, more comprehensive conservation R&D program focused on specific Commonwealth needs and problems."

"This (Solar Technology) remains a strong research area in the overall program."

"In conclusion, the Oversight Committee is again pleased to see the progress being made in the individual CEER research programs."

Joel Snow
Associate Director for Research Policy
Office of Energy Research
US Department of Energy

July 26, 1978

"We have been extremely pleased with the progress you and your colleagues have been making this year, and sincerely hope that the new funding level will at least allow continued, if shower, progress next year."

Joel Snow
Associate Director for Research Policy
Office of Energy Research
US Department of Energy

March 20, 1978

"I am particularly optimistic for the prospect of the Center to become an international center of environmental research and training for Latin America."

Jeff Swinebroad, Manager
Environmental Programs
Division of Biomedical and
Environmental Research
US Department of Energy

December 1977

"...we are again pleased to see continuing progress in the evolution of the Center into a comprehensive energy research and education resource both for the University of Puerto Rico and the Commonwealth Government."

"...we are again pleased to see good progress continuing in the various Center programs and look forward to working closely with you and your associates throughout the transition period."

Joel Snow
Associate Director for Research Policy
Office of Energy Research
US Department of Energy

