Achievable Renewable Energy Targets

For Puerto Rico's Renewable Energy Portfolio Standard



Final Report

Agustín A. Irizarry-Rivera, Ph.D., P.E. Department of Electrical and Computer Engineering agustin@ece.uprm.edu

José A. Colucci-Ríos, Ph.D., P.E. Department of Chemical Engineering biodieselpr1@aol.com

Efraín O'Neill-Carrillo, Ph.D., P.E. Department of Electrical and Computer Engineering oneill@ece.uprm.edu

Project sponsored by:

Puerto Rico´s Energy Affairs Administration Under contract number 2008-132009 October 2008 thru November 2009

Acknowledgements

This work was sponsored by the Puerto Rico Energy Affairs Administration under Contract Number 2008-132009. We are especially grateful, for his support and useful comments, to Dr. Javier Quintana Méndez Administrator of the Puerto Rico Energy Affairs Administration.

Graduate students contribution to this work was significant. The authors wish to express their gratitude to, and acknowledge the individual contribution of, the following students:

Miguel Ríos contributed to Chapter 2 Wind energy.

Franchesca Aponte and Magaby Quintero contributed to Chapter 3 Ocean energy.

Arlene Sosa, Luisa Feliciano and Johana Dumeng contributed to Chapter 4 Solar resource and solar thermal technologies.

Hillmon Ladner contributed to Chapter 5 Photovoltaic technology.

Liliana Martínez contributed to Chapter 6 Biomass and Chapter 7 Fuel Cell Technology.

Edy E. Jiménez contributed to Chapter 8 Micro hydroelectric technology.

Copyright Notice

All figures and tables in this report were created by the authors, or their student collaborators, except when otherwise noted. Adapted figures and tables are identified as such and their original sources are credited. Data or figures from public domain sources such as: United States Department of Energy (DOE), United States Geological Services (USGS), United States National Renewable Laboratory (NREL), National Oceanic and Atmospheric Administration (NOAA) and others are identified and their use conforms to the copyright policy published in their respective Internet sites.