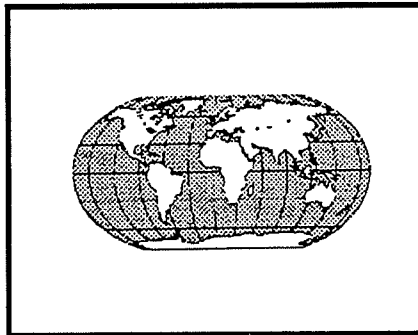


U.S. SUPPORT FOR COUNTRY STUDIES TO
ADDRESS CLIMATE CHANGE



Guidance for Mitigation Assessments: Version 2.0

Prepared by
Countries Studies Management Team
Washington, DC

Energy Analysis Program
Lawrence Berkeley Laboratory
Berkeley, California, USA 94720

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FOREWORD

The U.S. Country Studies Management Team has prepared this guidance document for use by countries receiving U.S. support for the analysis of options to mitigate greenhouse gas emissions. This guidance document provides step-wise guidance on methods for evaluating mitigation options for the energy and non-energy sectors. The guidance document draws on material presented in the draft IPCC Mitigation Methods documents. In addition, some of the material provided in this document is being incorporated in an Appendix to the Technical Report to the Mitigation Methods chapter. The Country Studies Management Team is offering similar guidance materials for the other two main elements of country studies: emission emission inventories, and vulnerability and adaptation analyses.

This guidance document has several purposes:

- Assist countries in making decisions about the scope and methods for their mitigation assessments.
- Provide countries with guidance and step-by-step instructions on each of the basic elements of mitigation assessments.
- Inform countries of the nature and extent of technical assistance that will be provided by the Country Studies Management Team.

The County Studies Management Team will focus its technical assistance activities on the methods described in this document. More detailed information and training on the methods is provided at training workshops sponsored by the U.S. Country Studies Program. **Countries are encouraged, where appropriate, to use their own methods, which may provide more accurate or thorough analysis.**

We have a continuing interest in receiving comments on the document and ask that they be sent to Chris Bordeaux at the address below:

Chris Bordeaux
Country Studies Management Team
1000 Independence Avenue, S.W. (PO-60)
Washington, DC 20585
Telephone: 202-426-1637; Fax: 202-426-1540

Please feel free to contact us if you have any questions about this guidance document or the U.S. Country Studies Program in general. We look forward to receiving your comments.

Ron Benioff, Technical Director
Country Studies Management Team

CHAPTER 1

The first part of the book discusses the basic concepts of the theory of groups. It begins with the definition of a group and the properties of groups. The next section discusses the subgroups of a group and the quotient groups. The third section discusses the homomorphisms of groups and the isomorphism theorems. The fourth section discusses the direct products of groups and the direct sums of vector spaces. The fifth section discusses the Sylow theorems and the structure of finite groups. The sixth section discusses the representation theory of groups and the character theory. The seventh section discusses the Galois theory and the solvability of polynomial equations. The eighth section discusses the theory of fields and the construction of finite fields. The ninth section discusses the theory of rings and the structure of commutative rings. The tenth section discusses the theory of modules and the structure of modules over a principal ideal domain. The eleventh section discusses the theory of algebras and the structure of algebras over a field. The twelfth section discusses the theory of Lie algebras and the structure of Lie algebras. The thirteenth section discusses the theory of associative algebras and the structure of associative algebras. The fourteenth section discusses the theory of quantum groups and the structure of quantum groups. The fifteenth section discusses the theory of Hopf algebras and the structure of Hopf algebras. The sixteenth section discusses the theory of quantum groups and the structure of quantum groups. The seventeenth section discusses the theory of Hopf algebras and the structure of Hopf algebras. The eighteenth section discusses the theory of quantum groups and the structure of quantum groups. The nineteenth section discusses the theory of Hopf algebras and the structure of Hopf algebras. The twentieth section discusses the theory of quantum groups and the structure of quantum groups.

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GLOSSARY

LIST OF CONTRIBUTORS

This document was prepared by a team of experts in the assessment of mitigation of greenhouse gas emissions. The contributors to this document are:

U.S. Country Studies Management Team

Robert Dixon	Director, Country Studies Management Team
Ron Benioff	Director, Technical Support Programs
Chris Bordeaux	Manager, Mitigation Support
James Krider	

Lawrence Berkeley Laboratory

Jayant Sathaye	Technical Leader, Mitigation Assessment
Steve Meyers	Guidance Document Coordinator
Ashok Gadgil	Agricultural Energy Use
Jon Koomey	Residential/Commercial Energy Use
Willy Makundi	Non-Energy Sectors
Alan Sanstad	Energy Modeling
Steve Wiel	Project Leader, Mitigation Assessment
Fridtjof Unander	Energy Sector

Other Organizations

Ed Hillsman Oak Ridge National Lab.	Transportation Energy Use
Marc Ross Univ. of Michigan	Industrial Energy Use
Jim Ohi D. Corbus Jason Mark National Renewable Energy Lab	Renewable Energy Supply
Richard Cirillo Gunther Conzelmann Argonne National Lab.	Conventional Energy Supply, ENPEP Model
Barbara Allen-Diaz Univ. of California, Berkeley	Rangelands and Grasslands

Michael Gibbs
ICF Inc.

Agriculture and Waste Management

John Weyant
Stanford Univ.

Energy-Economy Models

Mike Lazarus
Tellus Institute

LEAP Model

Sam Morris
Gary Goldstein
Brookhaven Natl. Lab.

MARKAL-MACRO Model

Nandita Mongia
Puran Mongia
Delhi School of Economics

ETO Model
LBL CGE Model

NOTATION

The following is a list of the acronyms, initialisms, and abbreviations (including chemical symbols and units of measurement) used in this document.

ACRONYMS, INITIALISMS, AND ABBREVIATIONS

AFBC	atmospheric fluidized-bed combustion
AHP	Analytical Hierarchy Process
BRAC	Benefit of Reducing Atmospheric Carbon
BOD	biochemical oxygen demand
CCC	cost of conserved carbon
CCE	cost of conserved energy
CENR	Committee on Environment and Natural Resources
CGE	computable general equilibrium
CHP	combined heat and power
COMAP	COmprehensive Mitigation Assessment Process for forestry
COPATH	Carbon, Pasture, Agriculture, Total, Harvesting
CSMT	Country Studies Management Team
DOC	degradable organic carbon
DOE	U.S. Department of Energy
DOS	U.S. Department of State
EMS	energy management systems
ENPEP	ENergy and Power Evaluation Program
EPA	U.S. Environmental Protection Agency

EPIC	Erosion and Productivity Impact Calculator
FAO	Food and Agricultural Organization
GEF	Global Environment Facility
GDP	gross domestic product
GHGs	Greenhouse gases
GWP	global warming potential(s)
HVAC	heating, ventilation and air conditioning
IAEA	International Atomic Energy Agency
IGCC	integrated gasification combined cycle
IPCC	Intergovernmental Panel on Climate Change
LEAP	Long-Range Energy Alternatives Planning
LIEF	Long-run Industrial Energy Forecasting model
LUCS	Land-use and Carbon Sequestration model
MARKAL- MACRO	Market Allocation Macro-economic model
MIMEC	Multisectoral, Intertemporal Model of Emissions Constraints
MSW	municipal solid waste
NGO	nongovernmental organization
NOAA	National Oceanic and Atmospheric Administration
O&M	operating and maintenance
OECD	Organization for Economic Cooperation and Development
ORNL	Oakridge National Laboratory
OTA	Office of Technology Assessment
PC	pulverized-coal

PFBC	pressurized fluidized-bed combustion
PVC	poly-vinyl chloride
RET	renewable energy technologies
SOC	soil organic carbon
SRF	short-rotation forestry
STAIR	Services, Transport, Agriculture, Industry and Residential energy model
T&D	transmission and distribution
UEC	unit energy consumption
UNEP	United Nations Environment Programme
USAID	U.S. Agency for International Development
USDA	U.S. Department of Agriculture
VA	value added
VS	volatile solids
WRDC	World Radiation Data Center

CHEMICAL SYMBOLS AND ABBREVIATIONS

C	carbon
Ceq	carbon equivalent
CO ₂	carbon dioxide
CO	carbon monoxide
CFC	chloro-fluoro carbons
CH ₄	methane
H ₂	hydrogen
HCFC	halo-chloro-fluoro carbons
NMHC	non-methane hydro carbons
NO _x	nitrogen oxides
N ₂	nitrogen
N ₂ O	nitrous oxide
O ₂	oxygen
O ₃	ozone
SO _x	sulfur oxides

UNITS OF MEASUREMENT

Btu	British thermal unit
°C	degree(s) Celsius
d	day(s)
g	gram(s)
GJ	gigajoule
ha	hectare(s)
km	kilometer(s)
kW	kilowatt
kWh	kilowatt-hour
L	liters
m	meter(s)
m ³	cubic meter(s)
Mwe	megawatt electric
Pg	petagram(s)
RPM	rotations per minute
tC	tonnes of carbon
Tg	teragrams
TOE	tonnes of oil equivalent
Twh	terawatt-hours
yr	year

