



Co-Development and Use Low Carbon Development (LCD) Tools in US and China

Thomas Peterson & Steve Roe - Center for Climate Strategies

About Us

The screenshot shows the homepage of the Center for Climate Strategies. At the top, there is a search bar and the organization's logo, which consists of a stylized globe icon and the text "THE CENTER FOR CLIMATE STRATEGIES". Below the logo is the tagline "HELPING PEOPLE WORK TOGETHER TO CREATE A BETTER SAFER WORLD". A navigation menu includes "Who We Are", "Expertise", "Where We Work", "News", "Resources", and "Contact Us". The main content area features a "CCS News Highlights" section with a photo of three people in a meeting. Below the photo is a news item dated "MARCH 27, 2018" titled "CCS and Cote d'Ivoire Build Analysis Framework". To the right of the news item is a world map with several countries highlighted in yellow. At the bottom of the page, there is a copyright notice and social media icons for Facebook, LinkedIn, and Twitter.

THE CENTER FOR CLIMATE STRATEGIES
HELPING PEOPLE WORK TOGETHER TO CREATE A BETTER SAFER WORLD

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CCS News Highlights

Created in 2004 to build consensus on climate change solutions, the Center for Climate Strategies (CCS) *Helps People Work Together to Build a Better Safer World*. We are an internationally recognized nonprofit organization that is expert, impartial, and focused on high impact, collaborative approaches. Our vision is that governments, stakeholders, and citizens worldwide adopt the *values, concepts, and techniques* needed for strong new actions and partnerships that stabilize the earth's climate, promote better economies, and sustain energy and natural resources. We believe that transformative success is driven by genuine caring for all people and elements of the environment, respect for informed local self-determination, and through the integrity, inclusion, innovation, and transparency of our work with others.

Click on the map below to see CCS at work and read more about Who We Are.

MARCH 27, 2018
CCS and Cote d'Ivoire Build Analysis Framework
Abidjan and Gagnoa, Côte d'Ivoire. In support of the Africa Low Emissions Development Strategies (LEDS) Project and the Government of Cote d'Ivoire, CCS convened a workshop with the national LEDS...

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- Formed in 2004
- Based in Washington, DC
- 2009 Partnership with GEI for low carbon development
- Capacity building and learning by doing technical assistance
- Multi objective participatory policy development
- Policy/investment integration
- Tool development and use
- National and subnational scale
- Energy, economic and environmental expertise in all sectors and issue areas
- Granular and aggregate analysis of implementation

CCS-GEI Partnership





THE CENTER FOR
CLIMATE STRATEGIES

Global
Environmental Institute



China LCD Planning

Concept

Equip subnational officials and analysts with training, tools, and methods for Low Carbon Development Planning and Analysis through capacity and mainstreaming

Accomplishments

- Co-Develop and provide comprehensive LCD Planning and Analysis Curriculum
- Support learning by doing application of local LCD policy planning and analysis
- Train Government officers, research institutes, analysts in 18 cities, 13 provinces
- Help subnational policy makers build innovative and integrated program capacity on low carbon development and green growth

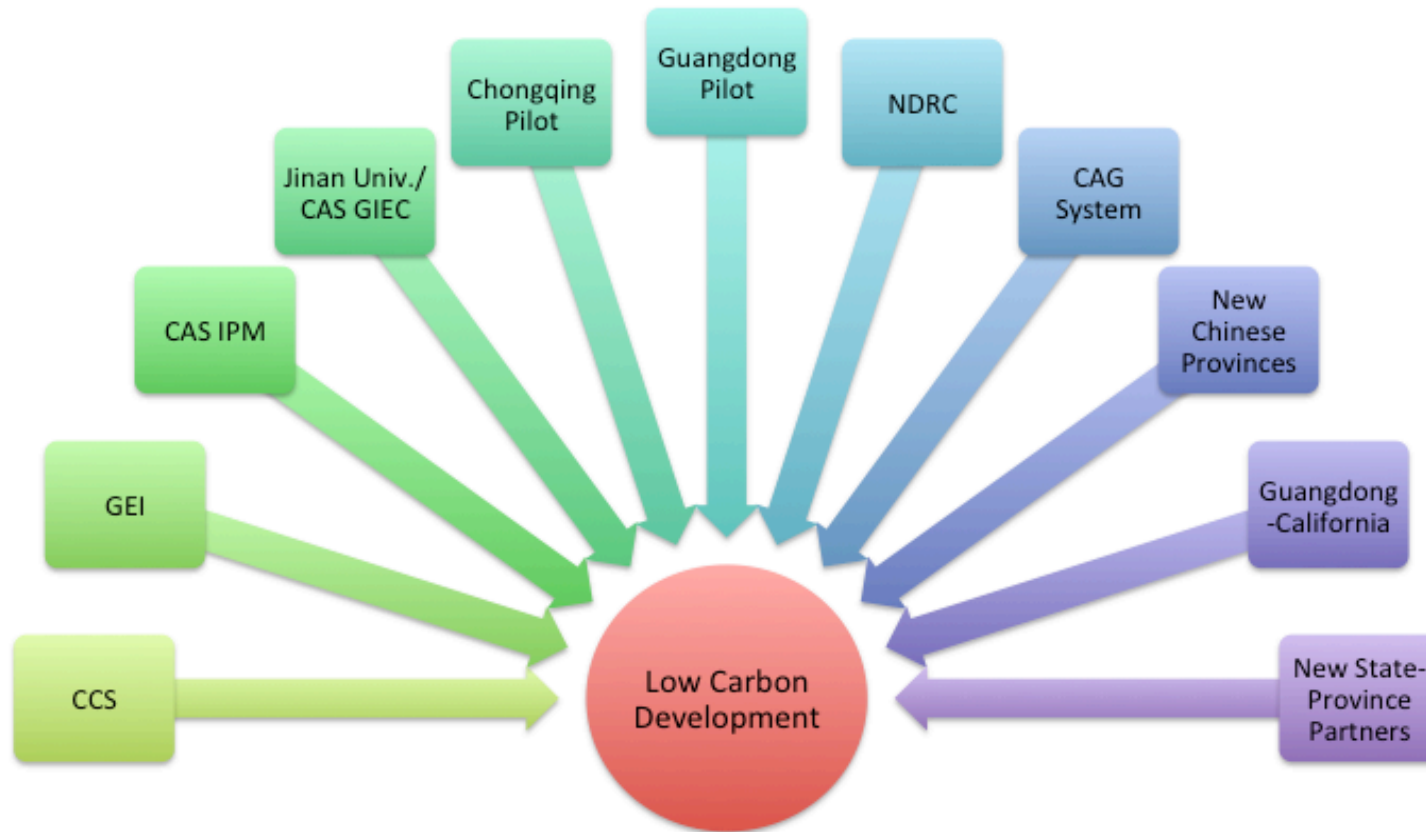


Path Forward

Based on LCD Curriculum, provide further technical support with new local partners on LCD Planning, including renewable energy implementation in South China, and explore cooperation on LCD and renewable energy outside China

NDRC

US China Cooperation

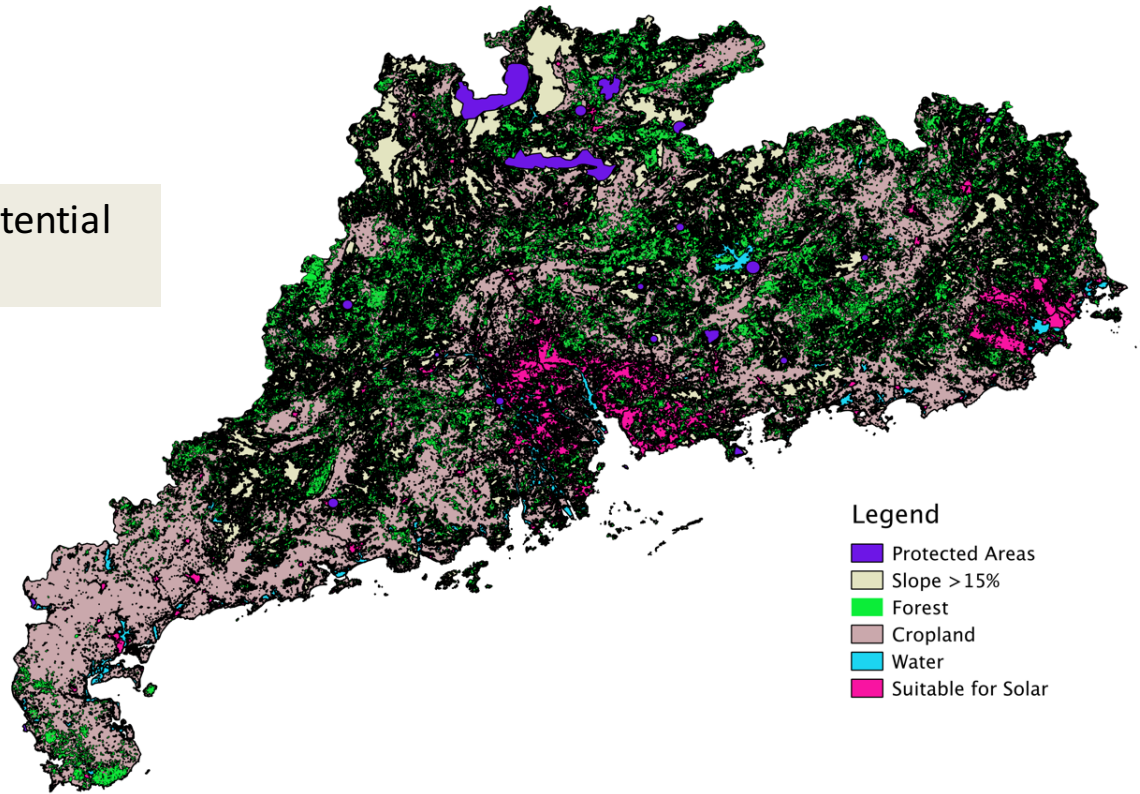


Professional Collaboration



Geographic Expansion

Areas with Best Solar PV Potential
Guangdong Province, China





Cooperation

Inside China

LCD implementation

NDC implementation

Energy and economic shift

Sustainability and green civilization

Outside China

Belt Road

NDC implementation

LCD, LEDS, Green Growth

Sustainable energy and landscapes

Green and social impact investments

China LCD Planning



- Energy, economic, and environmental policy selection, design, and implementation planning localized for China
- National planning needs
 - Nationally-Determined Contributions (NDCs)
 - Low Emissions Development Strategies (LEDS)
 - Other economic, energy, environmental goals
- 10-step Planning System for policy recommendations
- LCD/LEDS/NDC Toolkit for planners and technicians
- Pilot and mainstreaming process
- RE focus in South China (Guangdong, Guangzhou, Huangpu)



LCD Challenges

Goals

Paris only reaches 2.8-3.1 degrees

Gaps

Existing goals need better willpower

Shortfalls

\$27 trillion energy

\$100 trillion infrastructure



RE Challenges

Reliable Expansion

Reliable siting decisions

Correct technology app, location, time

Product Success

Specific technology applications

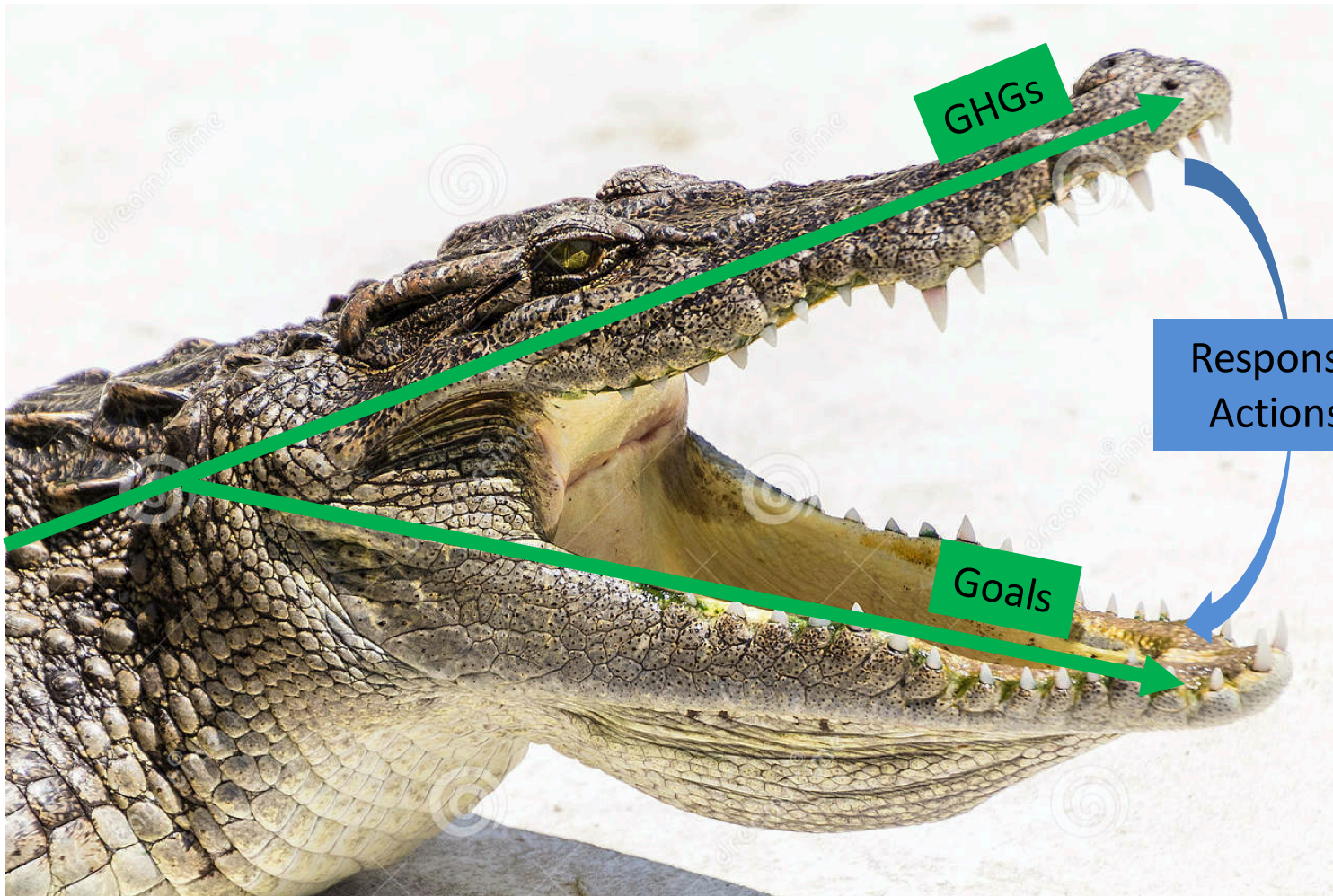
Investible product designs

Scale Up

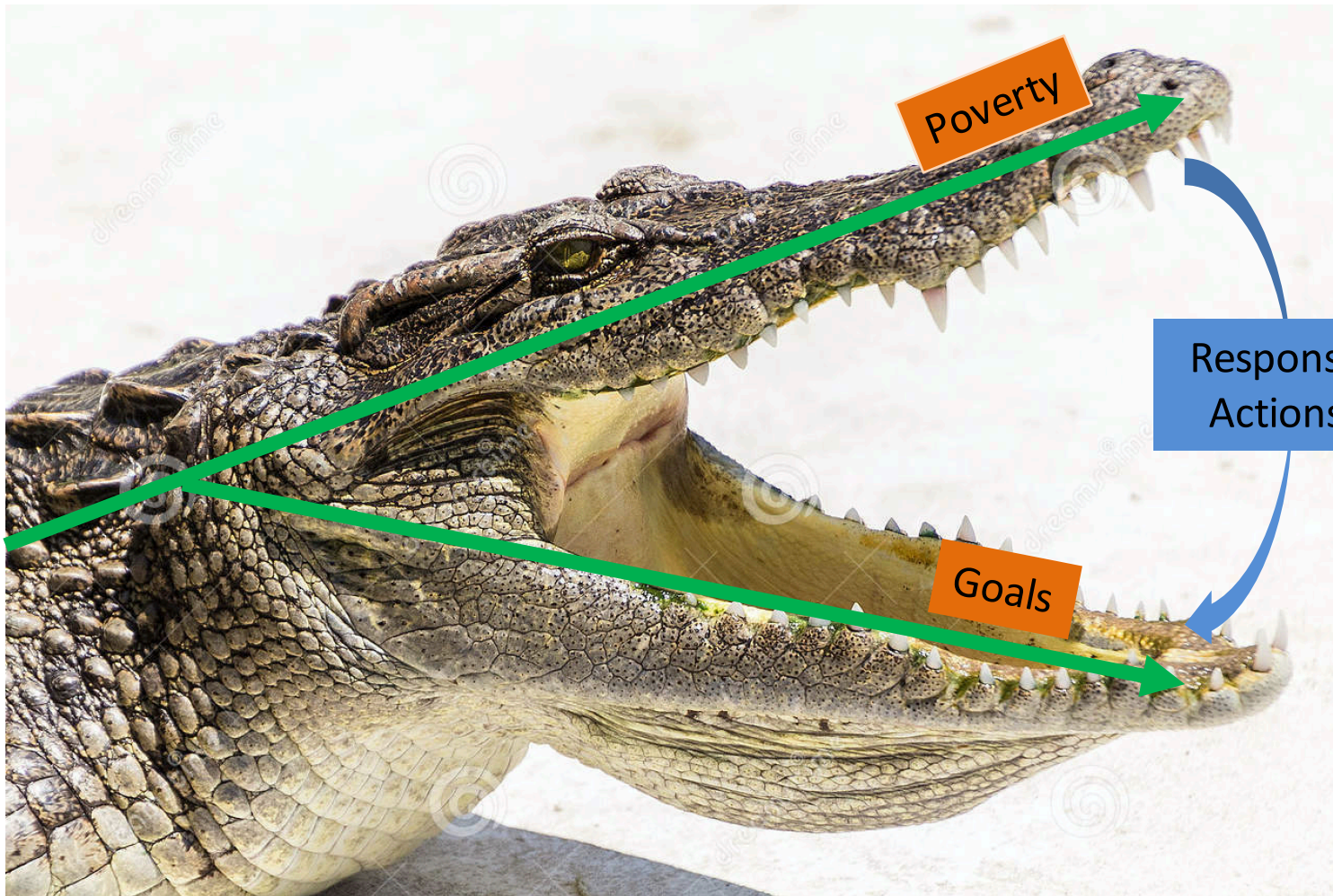
Market penetration targets, approaches

Mainstreaming capacities

Net Impacts



Net Impacts





Issue Areas

Supply/Demand Evaluation

- Assess resources, local supply/demand balance

Shared Decisions

- Public private partner collaboration

Business Implementation Model

- Steps, actions, agreements, requirements

Investment Mobilization

- Financial mapping, risks, returns, impacts

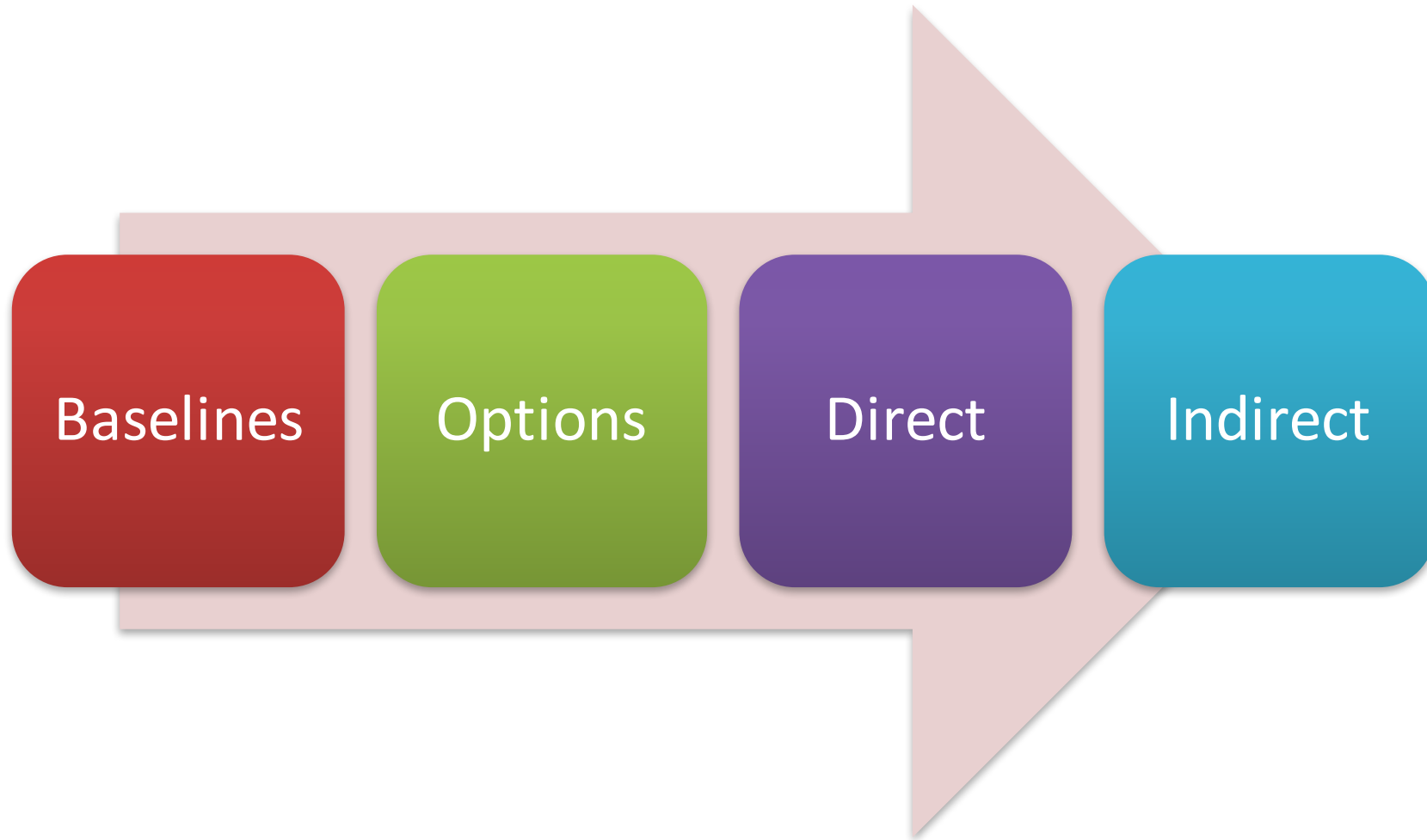
Mainstreaming

- From projects to investable products

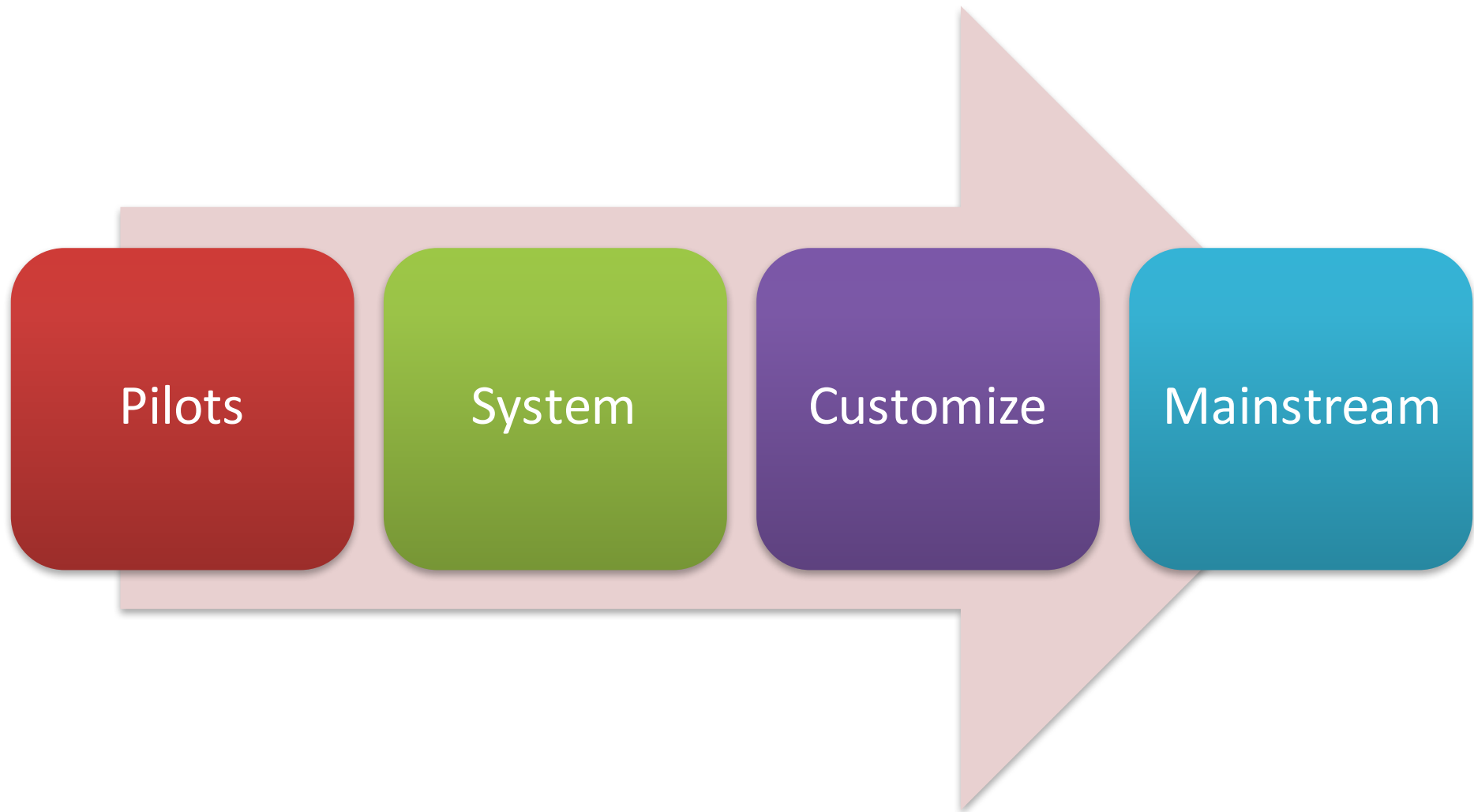
Avoid Errors



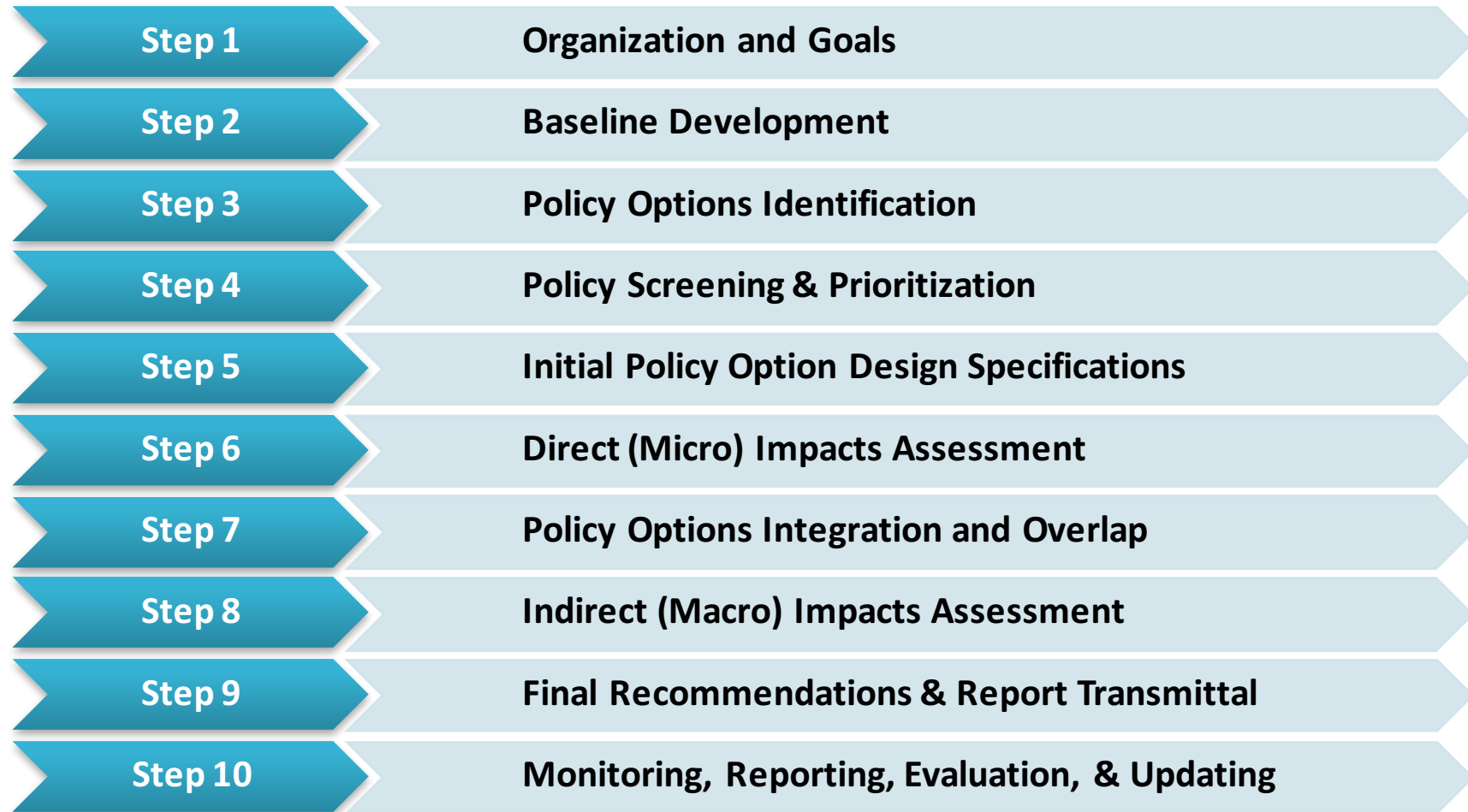
Analytic Framework



Planning Approach



10-Step LCD Planning Process





Decision Steps

- Getting Organized, Setting **Goals** & Objectives
- Developing **Baselines** (sectors and activities)
- Choosing/Designing **Response Options** (within & across sectors)
 - Scoping
 - Screening
 - Designing
- **Evaluating/Testing** Response Options (Iteration to final designs & results)
 - Direct impacts
 - Integrative effects
 - Indirect impacts
- Reporting Recommendations & **Results**
- **Implementing**, Monitoring, Updating



Tools and Templates

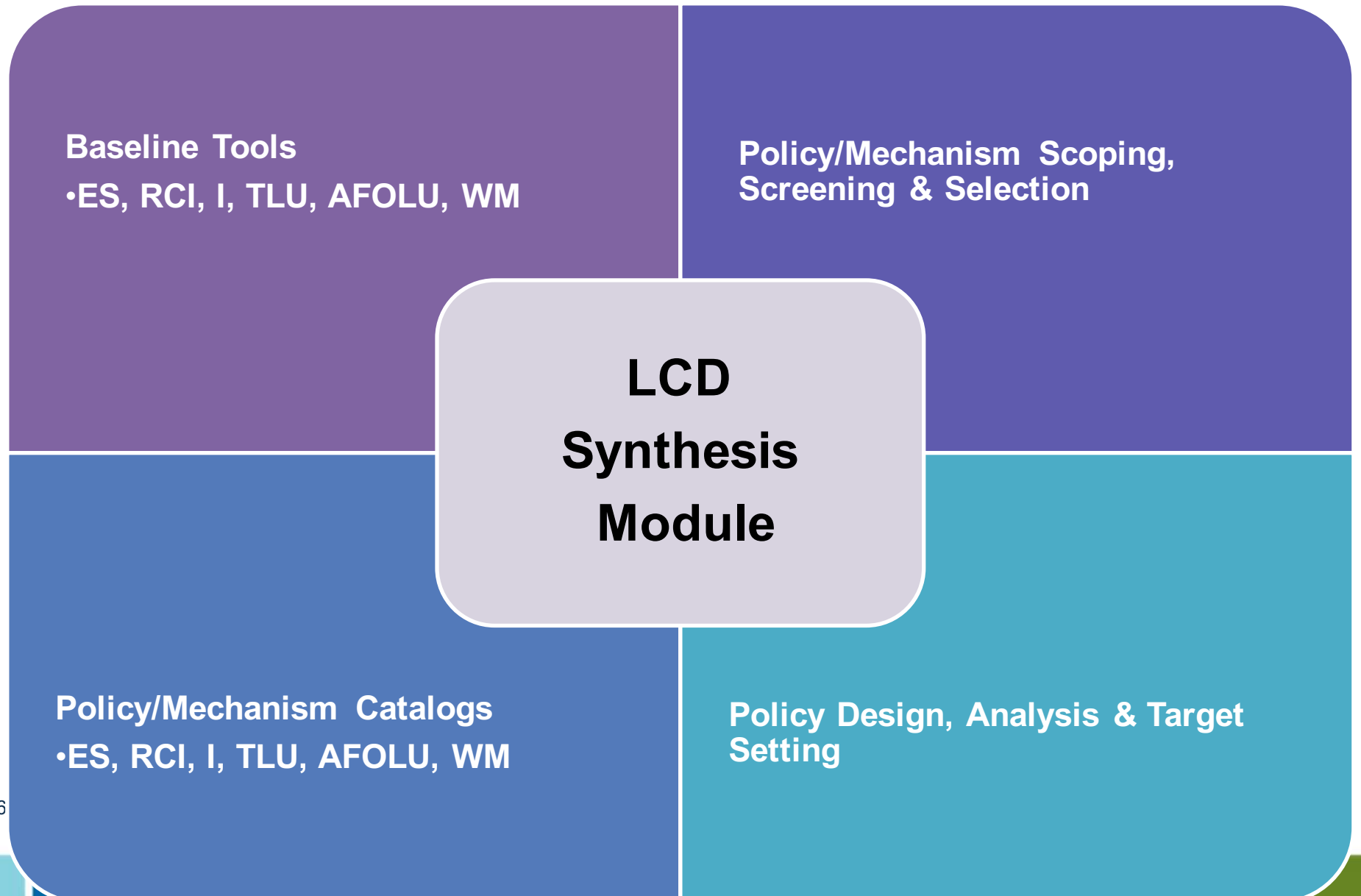
- Decision process
 - Evaluative Facilitation
 - Multi objective, participatory, stepwise, implementation driven
- Decision support
 - Principles and Guidelines
 - Baselines
 - Response Measure Options
 - Response Measures Design
 - Direct Impacts
 - Indirect Impacts
 - Integrated Framework



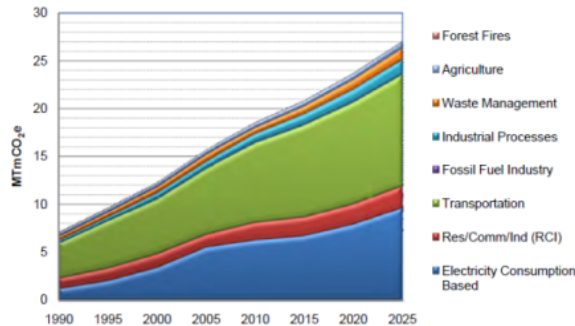
Participation

- Diverse Stakeholders
 - Government (national and subnational)
 - Nongovernmental (citizens, institutions, business)
- Expert and Affected Parties
 - Economic interests
 - Energy interests
 - Entrepreneurs
 - Citizens

Analytical System

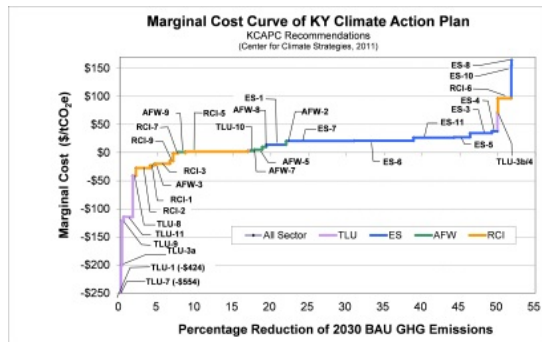


Action Planning Toolkit



Energy,
Economic &
Emissions
Baselines

- **Economy-Wide Synthesis Module, plus:**
 - Energy Supply Module
 - Residential, Commercial & Institutional Module
 - Industrial Module
 - Transportation Module
 - Agriculture, Forestry & Land Use Module
 - Waste Management Module

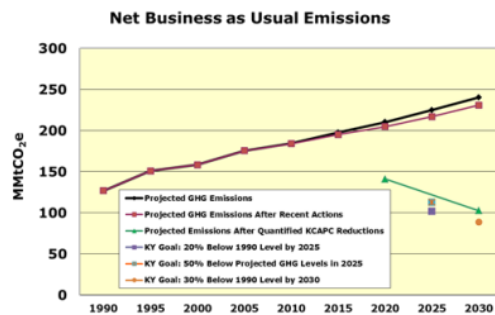


Multi-
Criteria
Action
Catalogs

- **Sector-Specific for Action Screening & Prioritization:**
 - Energy Supply
 - Residential, Commercial & Institutional
 - Industrial
 - Transportation & (Urban) Land Use
 - Agriculture & Forestry
 - Waste Management

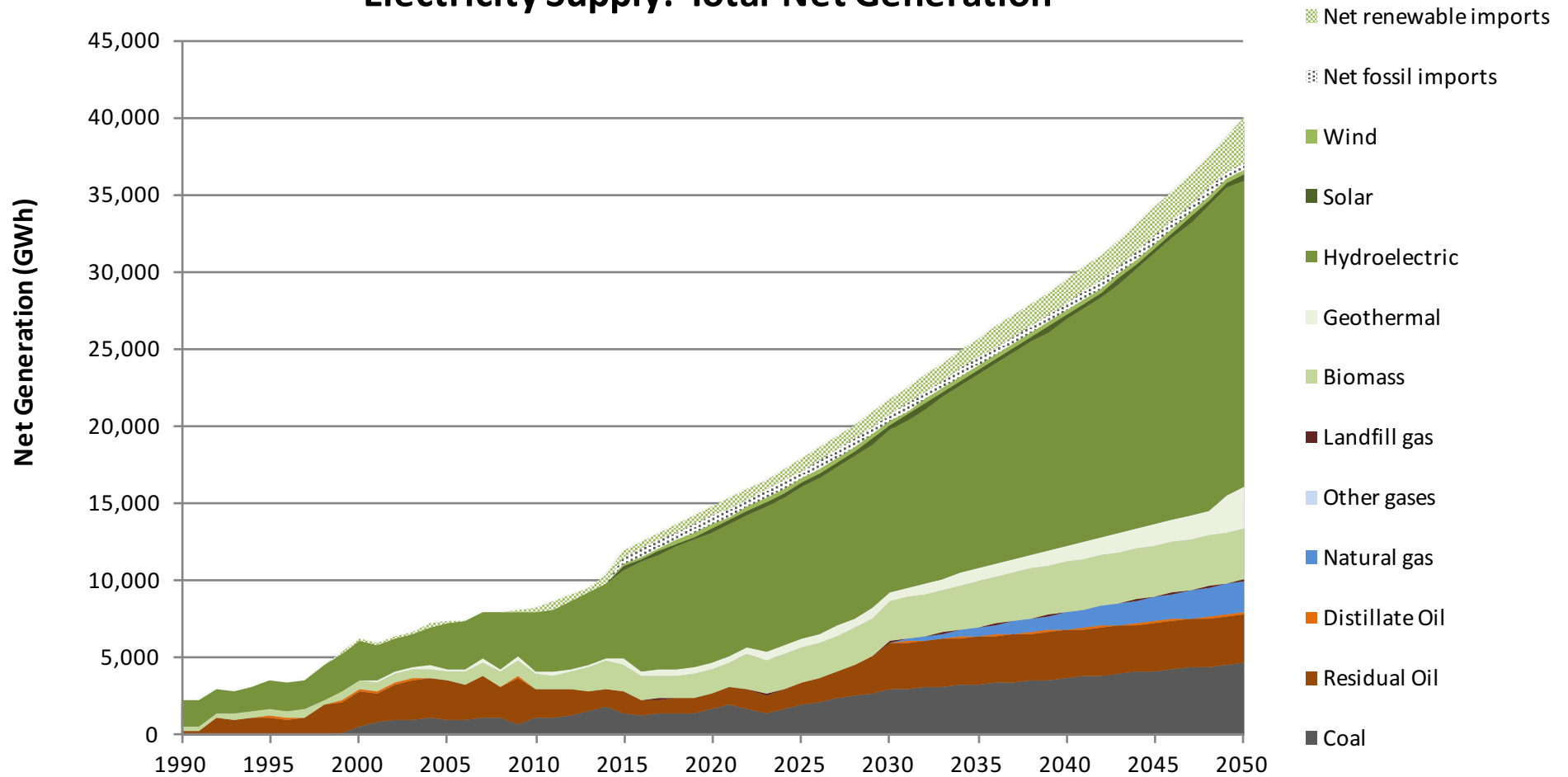
Policy
Design &
Analysis

- Policy Design Templates
- Causal Chain Templates
- Microeconomic Analysis Principles
- Sector-level Microeconomic (Cost Effectiveness) Modeling Tools
- Macroeconomic Screening Tool
- Linkage to Formal Macroeconomic Models (e.g. REMI)
- Financing Mechanisms Guidance
- Cross-Sector Integration Tools in the Synthesis Module (assess progress to targets, develop MAC curves)



Guatemala Energy Supply Baseline

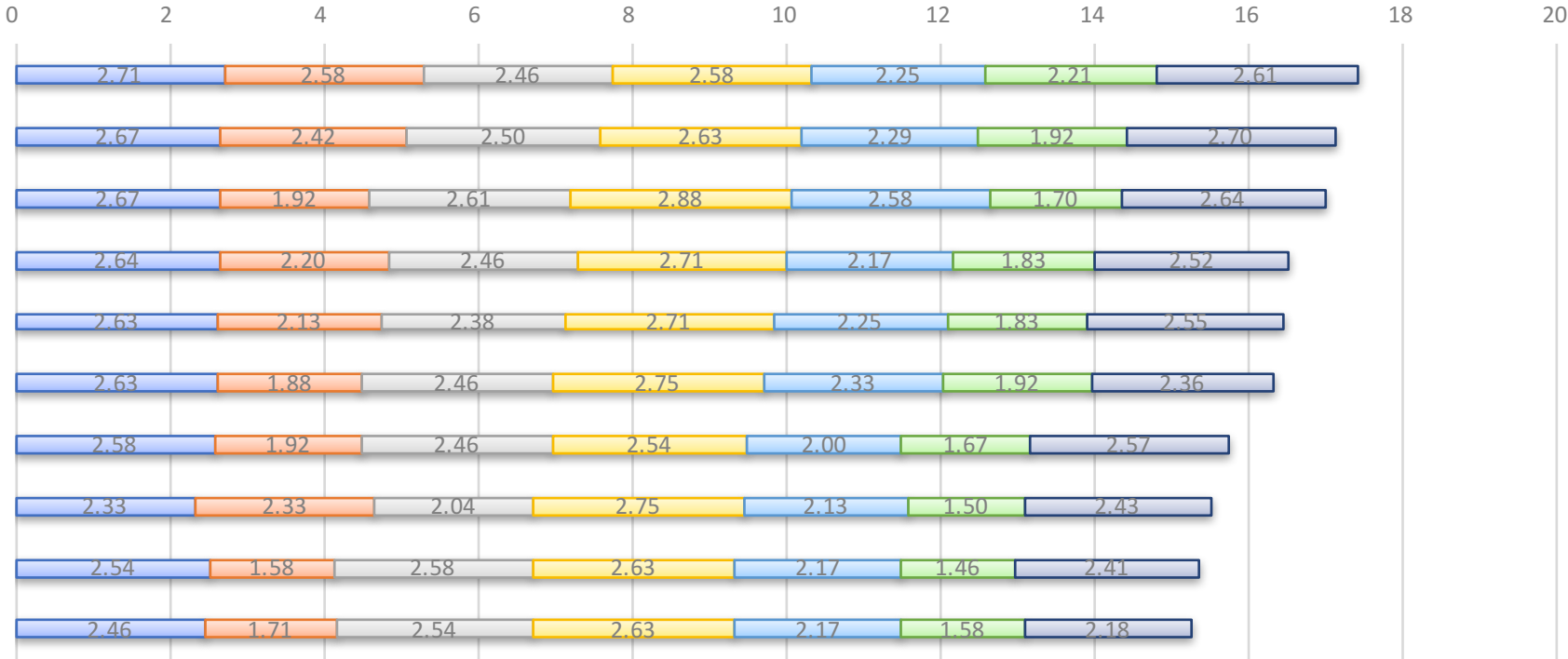
Electricity Supply: Total Net Generation



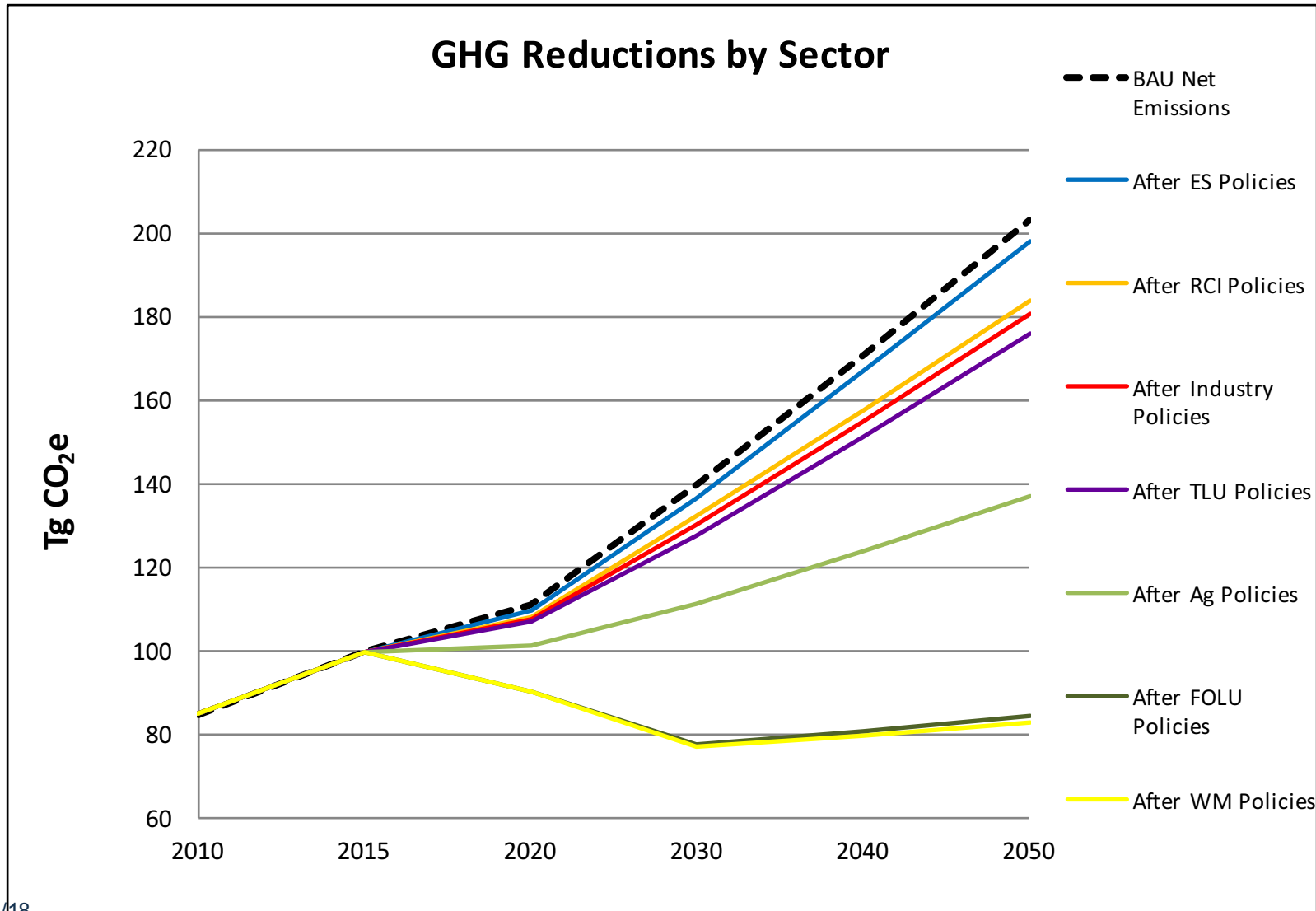
Guatemala MCA Screening

Top 10 Options Guatemala EC LEDES AFOLU Sector

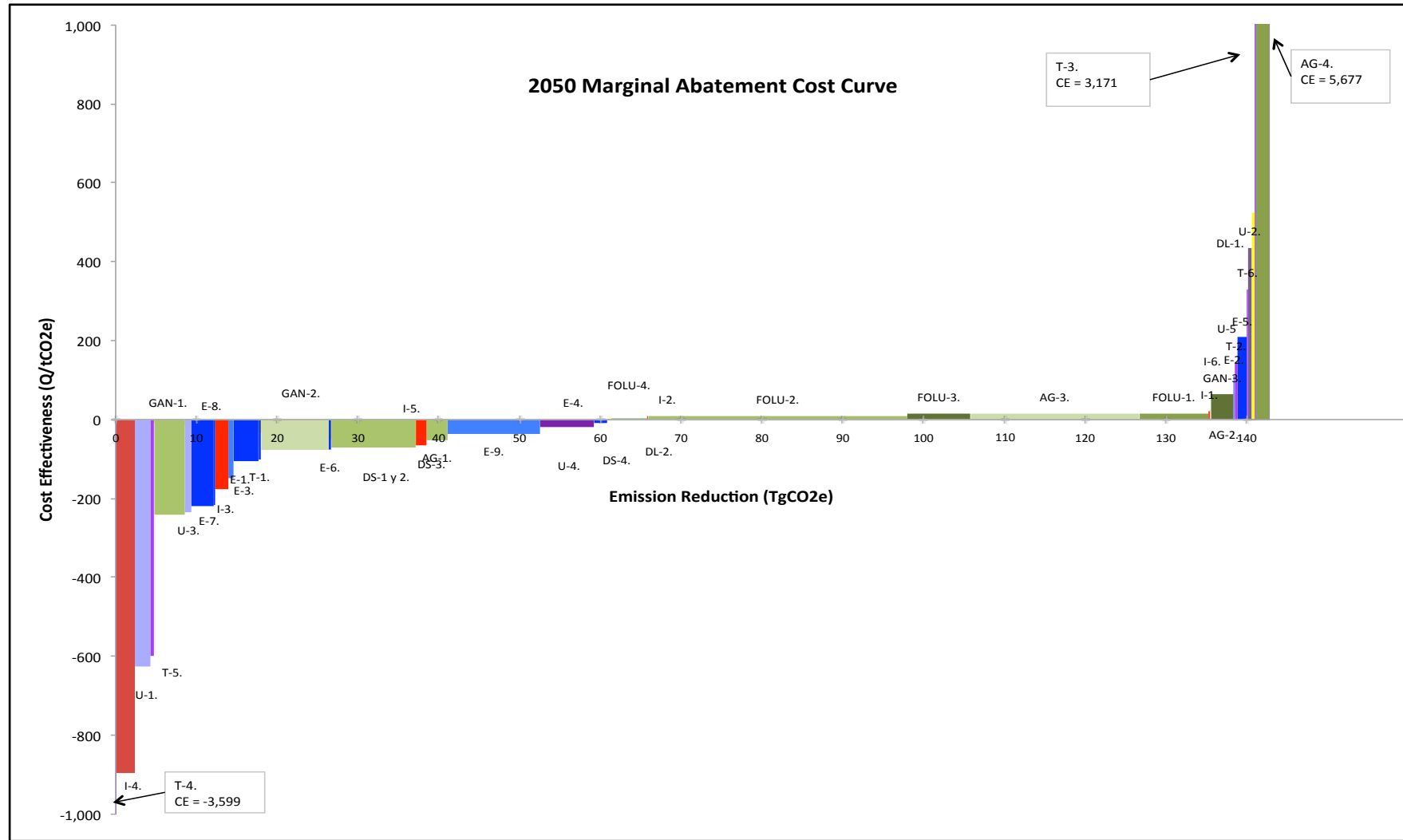
- Reducción de emisiones
- Crecimiento económico (inversiones, ingresos, generación de empleo)
- Co beneficios (salud, calidad de vida)
- Impacto ambiental positivo
- Aceptación social
- Viabilidad política
- Viabilidad técnica



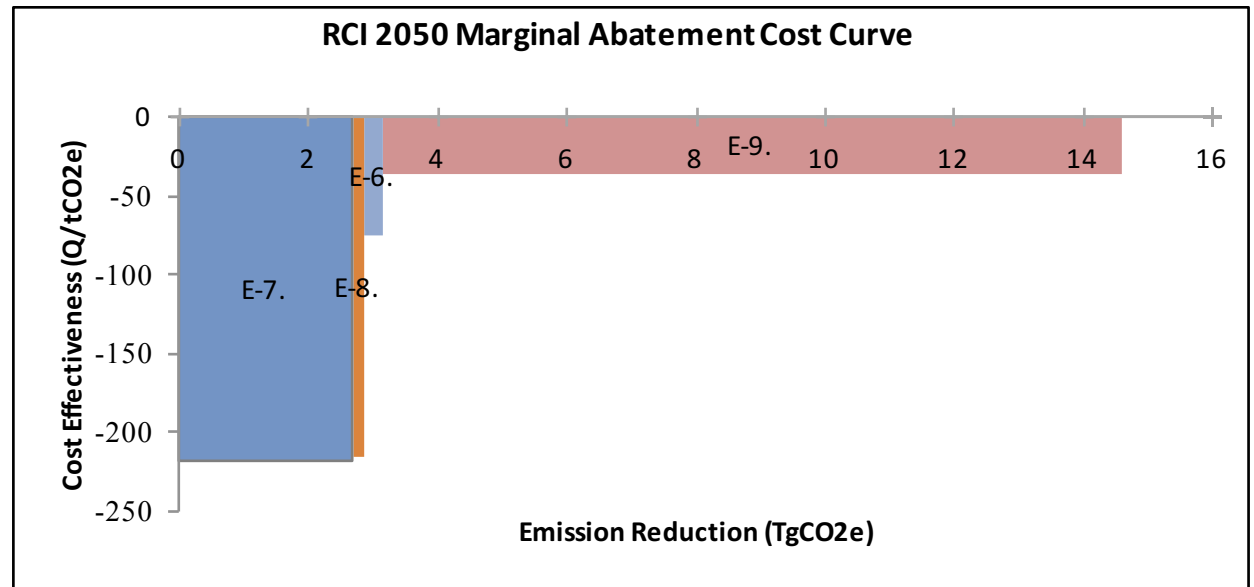
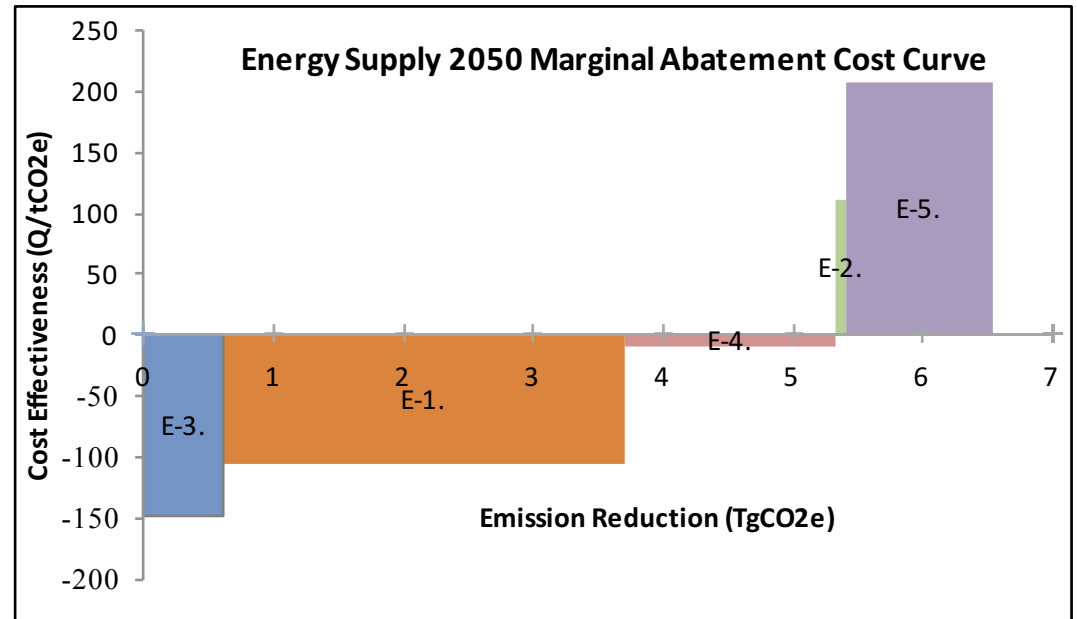
Guatemala NDC Goals



Guatemala MACC

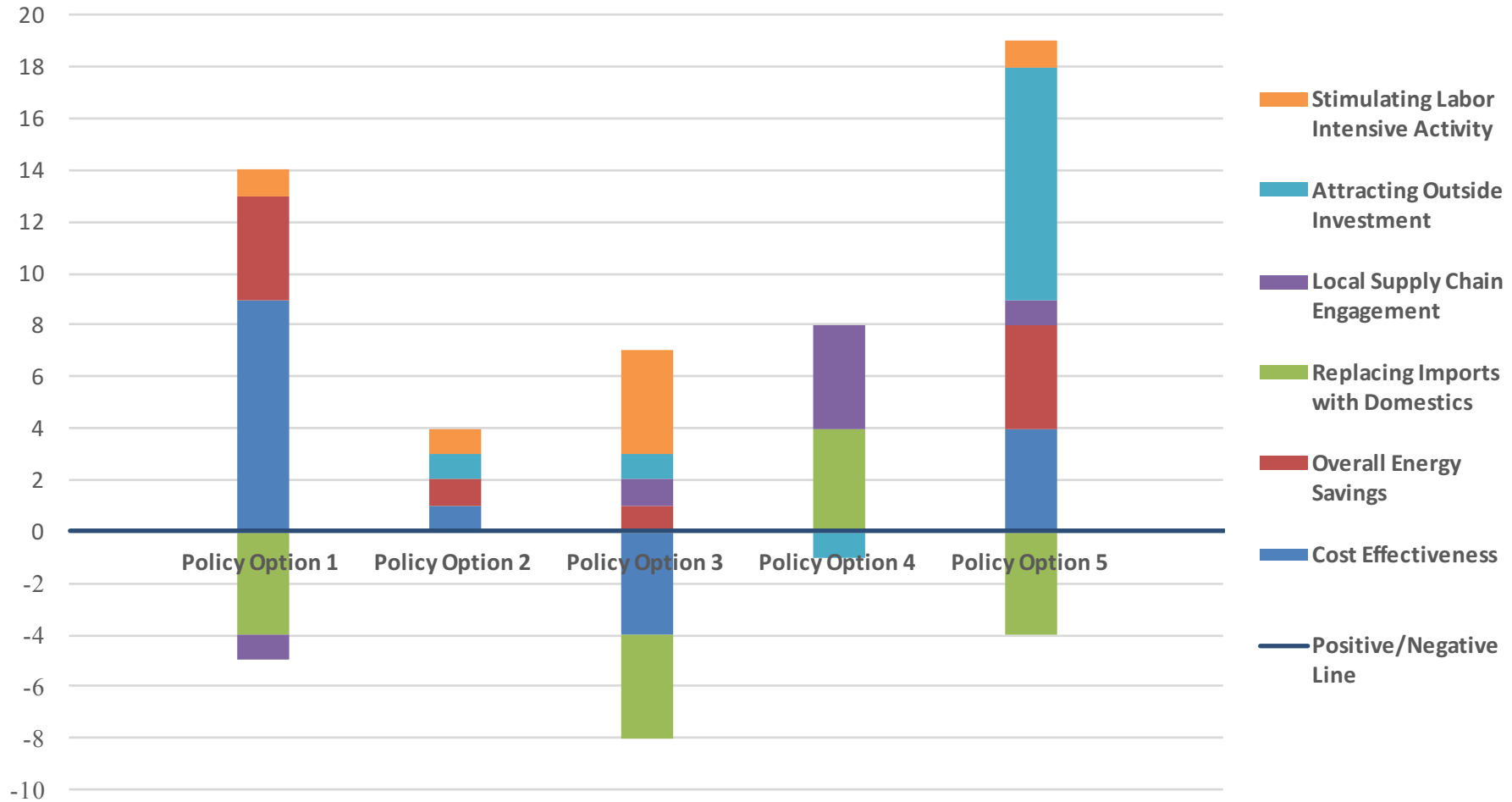


Guatemala Draft Sector-Level MACCs

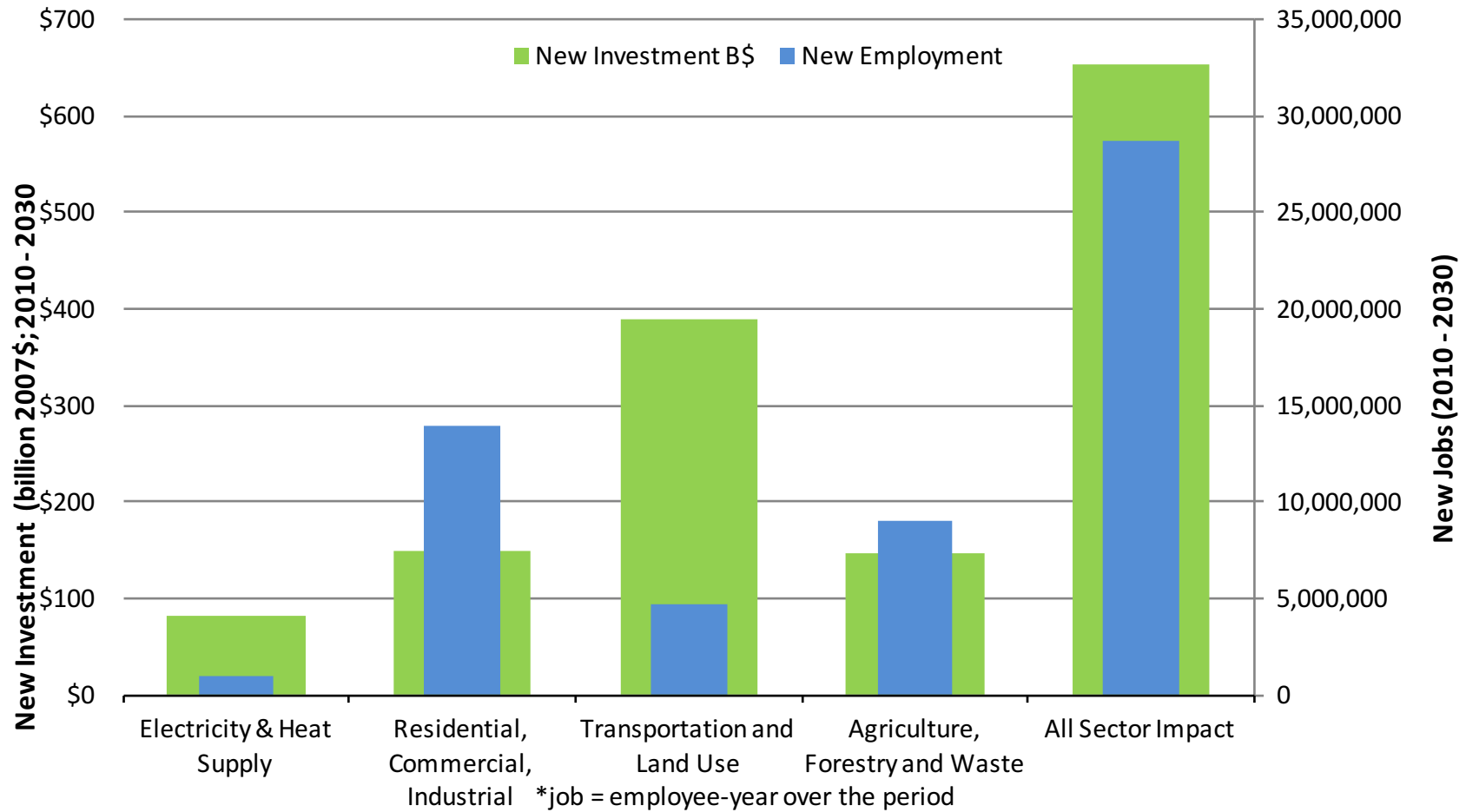


Macroeconomic Indicators

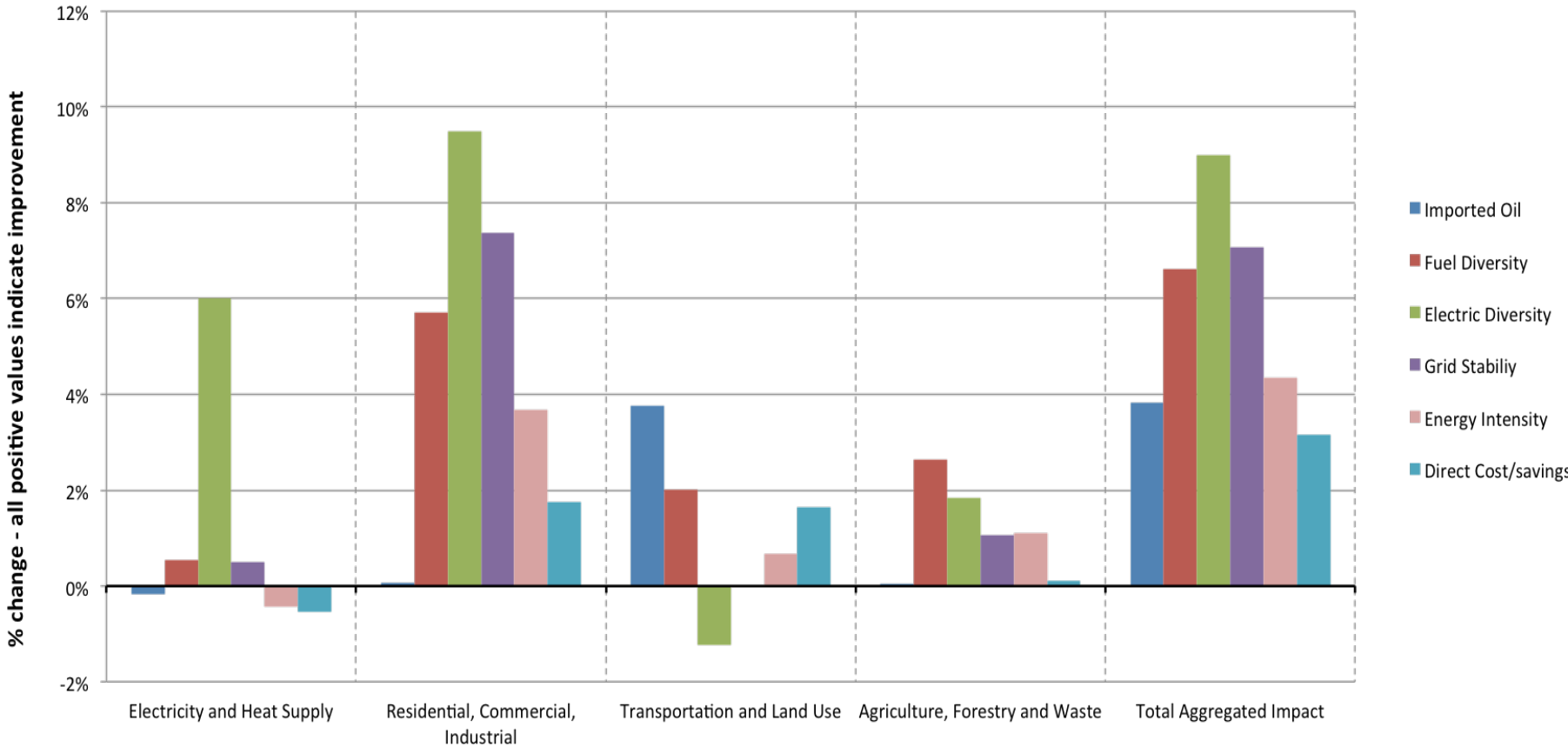
Hypothetical Policy Options



Jobs and Investment



Energy Security



Planning to Implementation

LCD/LEDS Planning Template

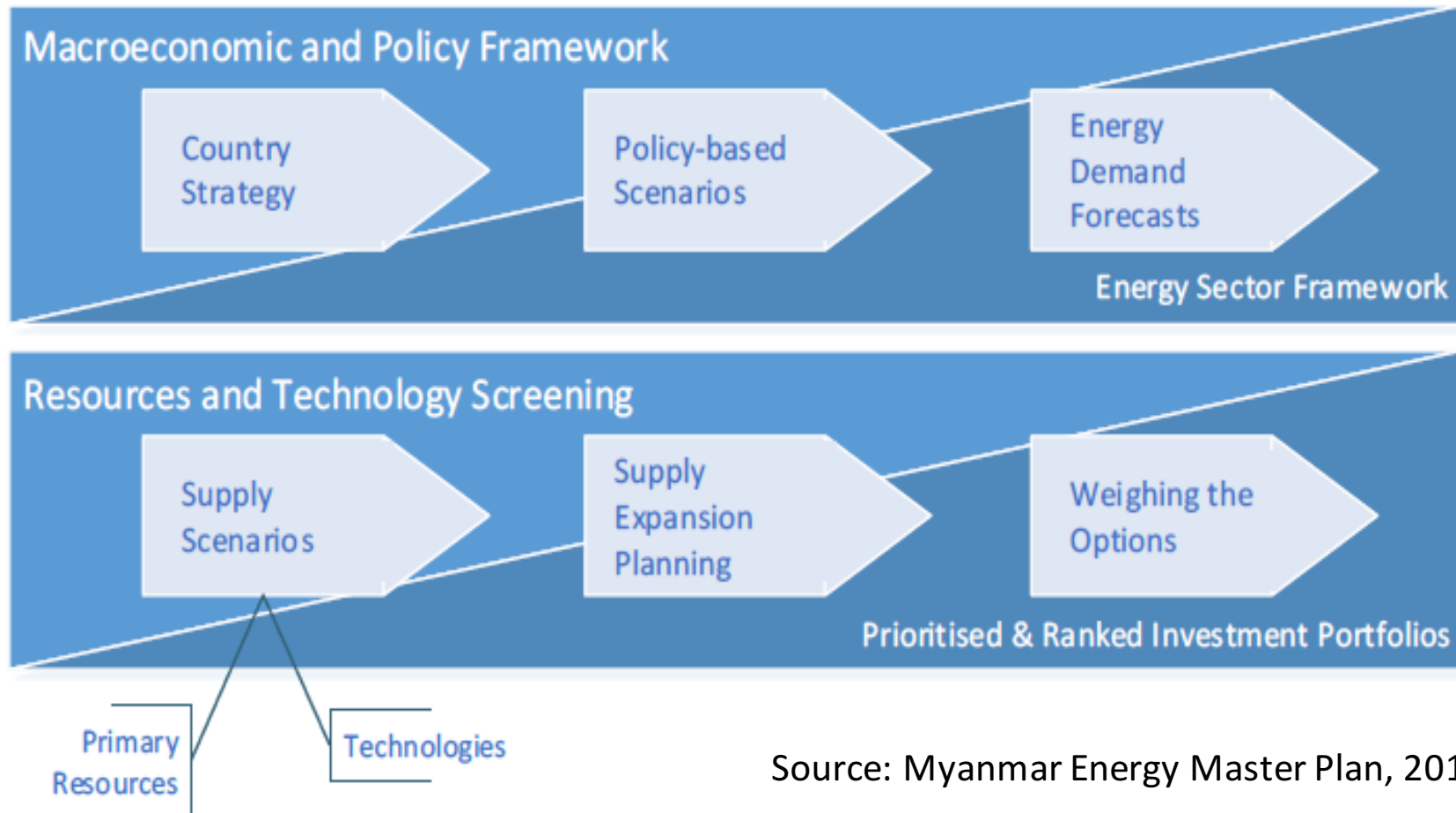
- Policy Description (concept)
- Policy Design: goals, timing, parties involved
- Causal Chain for GHG Reductions
- Implementation Mechanisms
- Related Policies/Programs & Recent Actions
- Estimated Net GHG Reductions and Net Costs/Savings
 - direct impacts, including financial, GHGs, energy, resources
- Key Uncertainties
- Additional Benefits and Costs, including indirect and macroeconomic effects
 - jobs, income, economic growth, prices, market share, etc.
- Feasibility Issues

RE Implementation:

- Details required for specified program or project priorities: jurisdictional and local RE resource assessment; technology screening; financial analysis; etc.
- Now shifting to implementation models such as in the South China RE project

RE Implementation

Figure II-1: Integrated Energy Planning Process

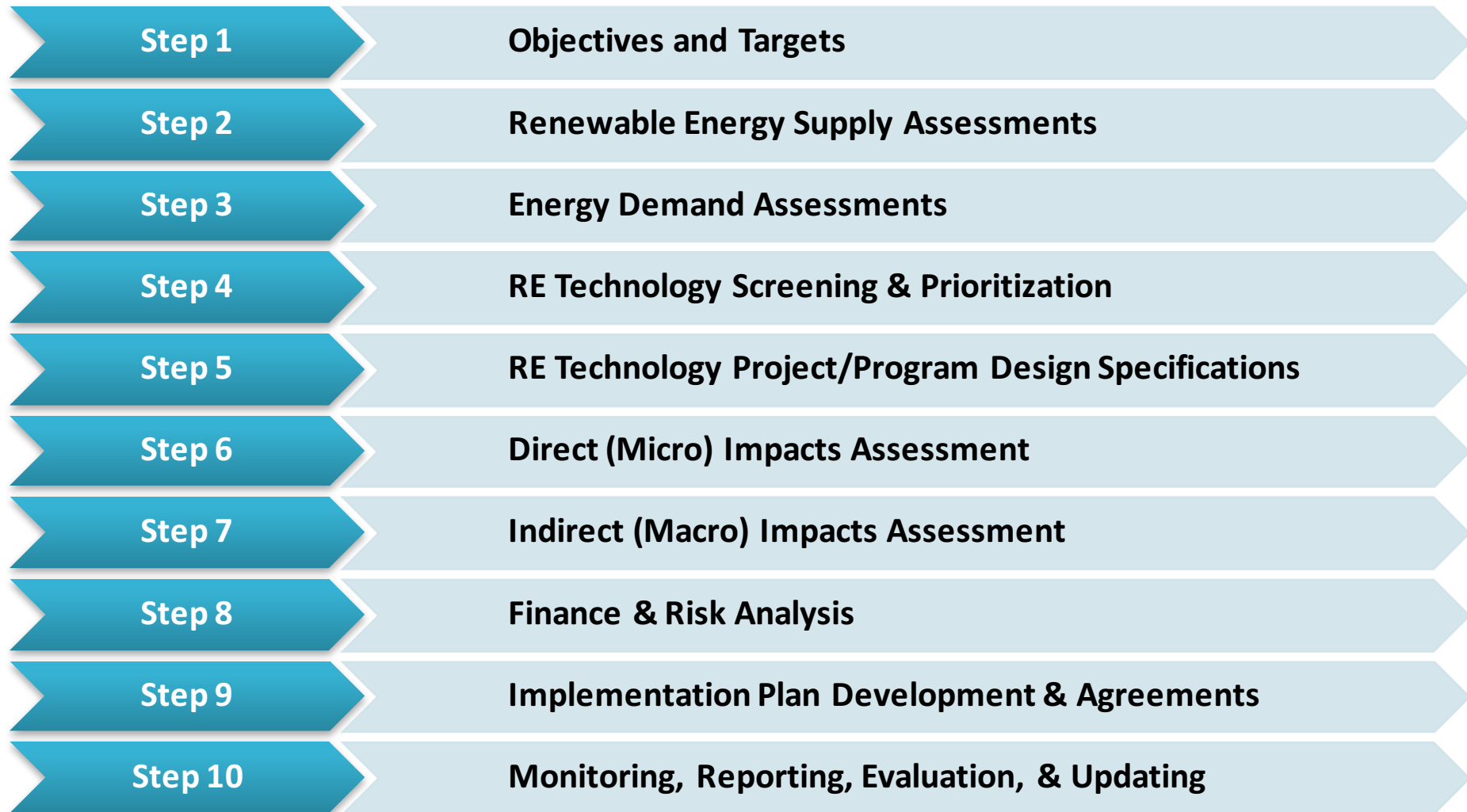


Source: Myanmar Energy Master Plan, 2015.

RE Implementation



10-Step REI Planning & Implementation



Thanks!

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