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A 3D rendered scene featuring a blue globe on a silver stand, placed on a white desk. A white chair is positioned in front of the desk. The background is a light blue gradient with a white arc at the top and a blue arc at the bottom.

# Review of existing Low Emissions Development Strategies in the World

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# Review of international LEDS

## Presentation Agenda



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Discussion  
Item one



### **Presentation of LEDS Components**

Common LEDS components

Discussion  
Item two



### **An exploration of LEDS Essentials**

From existing global examples

Discussion  
Item three



### **Feedback and findings**

Feedback and findings from LED managers



# International LEDS



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- There is growing number of LEDS, information can be found on the following website <http://europeandcis.undp.org/lowcarbon>
- EU – A Roadmap for Moving to a Low Carbon Economy 2050

Examples LEDS:

- Annex I country: United Kingdom, Slovenia, Japan
- Non-Annex I Countries: South Korea, Turkmenistan, Moldova

**Many countries developing LEDS as they see the advantages for economic growth, social and environmental benefits NOT because they are obliged to!**



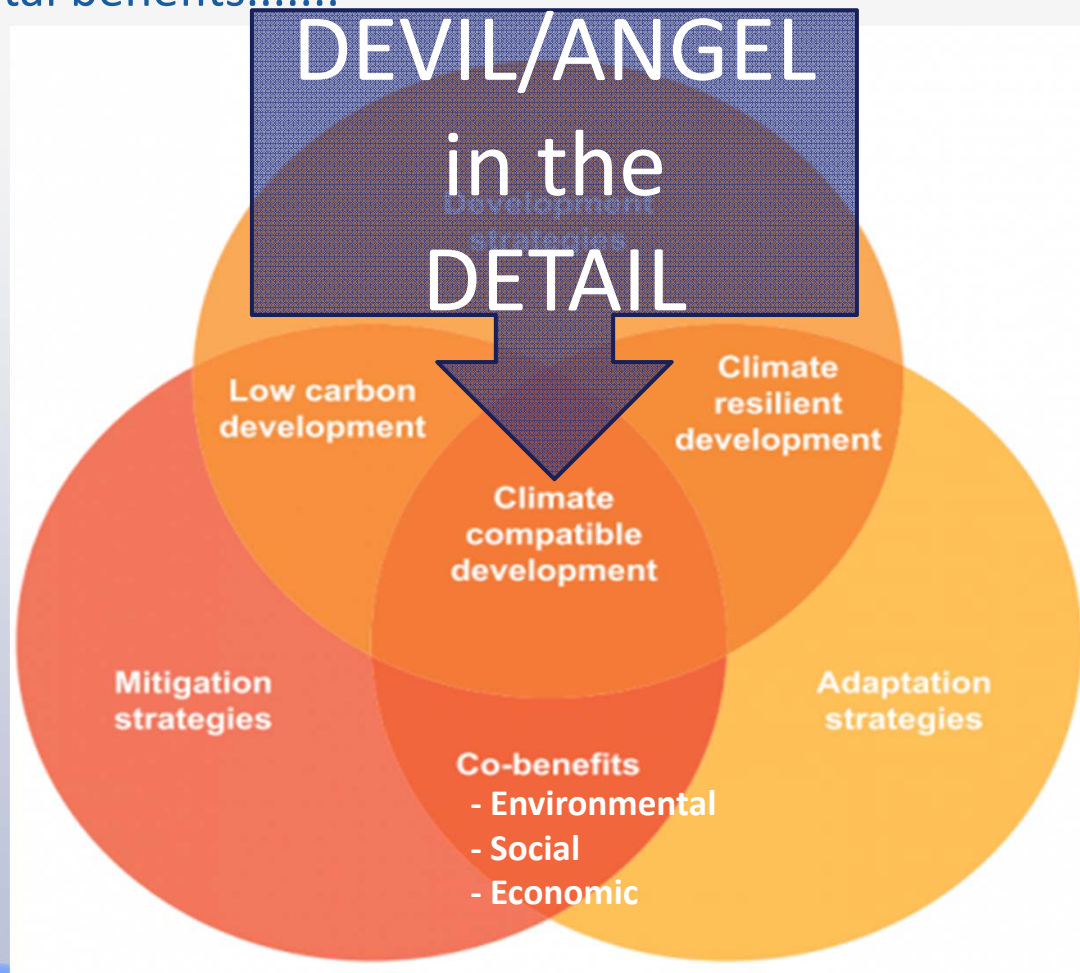


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# Basic Concept of LEDS =

LOW EMISSIONS DEVELOPMENT IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

But how do we achieve triple bottom lines of social, economic and environmental benefits.....



# LEDS Components

Examples of LEDS components explored



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- Visions and Goals
- Timeframe
- Assessment of Current Situation and Projections – Global and National
- Relation to national Development Strategies, Budgets and Ministerial Coordination
  - Holistic Consideration of Sustainable Development
- Institutional arrangements – identification of stakeholders
- Identification of Priority Programs
- Choosing Priority Programs
  - Nationally Appropriate Mitigation Actions (NAMAs)
  - Sectoral roadmaps
- Finance and cost of Mitigation Measures
- Additional categories
  - Barriers to Implementation
  - Vulnerability and Adaption to Climate Change
  - Green growth, Poverty Reduction, Equal opportunities, Education, Job Growth
- Monitoring, Reporting and Verification



# Timeframe and associated vision/goal of LEDS



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- EU Road Map
  - Sectoral targets and Roadmaps Until 2050
  - 80% reduction in GHG from 1990
- Short term Strategy:
  - Around 2010-2020 (~10-35% reduction)
- Medium Term Strategy:
  - 2010-2020 until 2030, 2040, 2050 (~30-95% reduction)
- Long Term Strategy:
  - 2100 (100% reduction / zero emissions)
- **Vision Goal**
  - **Annex I countries**, vision is top down, shaped by international agreements and then NAMAs and often sectoral roadmaps are decided upon
  - **Non-Annex I countries**, vision is bottom up, developing NAMAs followed by creating an overall vision



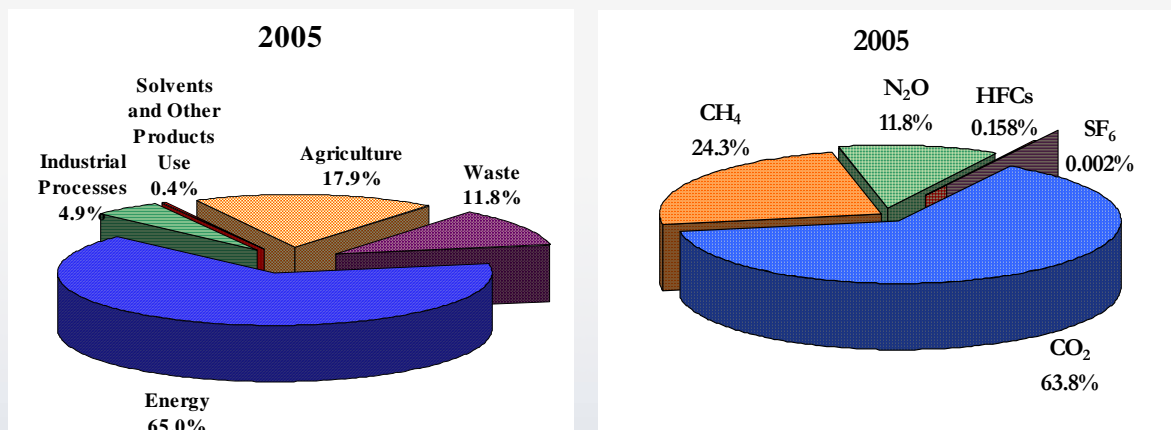
# Assessment of Current Situation:

## National GHG Inventory and past emission trends



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• **Figure 1:** GHG Emissions by Sector and by Gas, 2005



## National Situation

- National GHG Inventory
  - By sector
  - By gas
- Past economic, energy and emissions trends

	1990	1991	1992	1993	1994	1995	1996	1997
1. Energy	34.52	30.22	21.38	16.48	13.98	11.14	11.43	9.53
2. Industrial Processes	1.35	1.10	0.58	0.52	0.38	0.38	0.39	0.43
3. Solvents	0.07	0.06	0.05	0.04	0.03	0.03	0.03	0.03
4. Agriculture	5.32	5.04	4.49	3.84	3.60	3.39	3.05	2.84
5. LULUCF	-1.67	-1.16	-0.92	-0.54	-0.87	-0.76	-0.74	-1.32
6. Waste	1.63	1.76	1.87	1.89	1.86	1.83	1.88	1.82
	1998	1999	2000	2001	2002	2003	2004	2005
1. Energy	7.94	6.18	5.44	6.64	6.74	7.33	7.49	7.72
2. Industrial Processes	0.35	0.34	0.33	0.33	0.34	0.41	0.48	0.58
3. Solvents	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.05
4. Agriculture	2.52	2.44	2.31	2.22	2.31	2.25	2.21	2.13
5. LULUCF	-1.16	-1.31	-1.35	-1.39	-1.23	-1.31	-1.32	-1.38
6. Waste	1.76	1.83	1.73	1.60	1.53	1.50	1.45	1.40

**Figure 2:** Greenhouse Gas Emission and Sink Trends by Sector in Mt CO<sub>2</sub> eq., 1990-2005



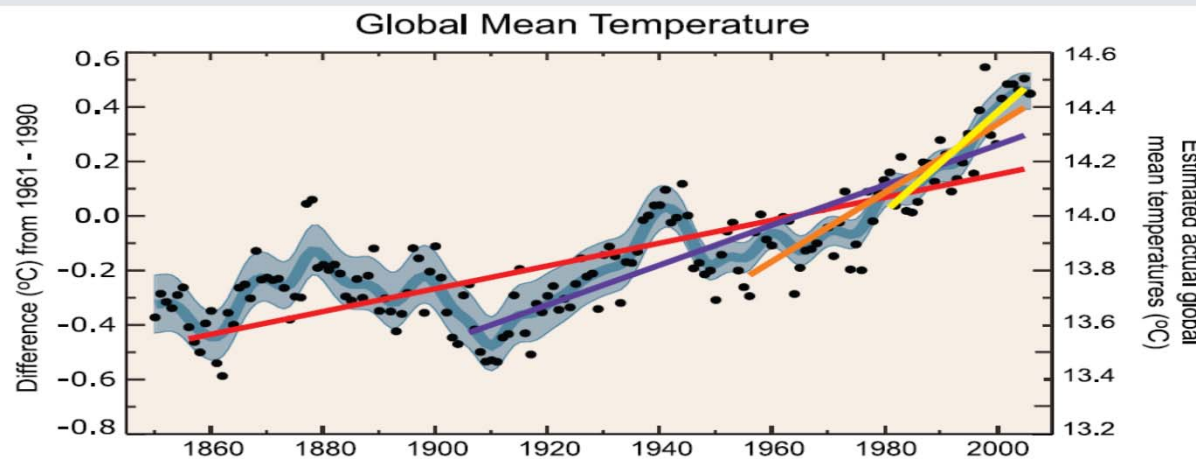
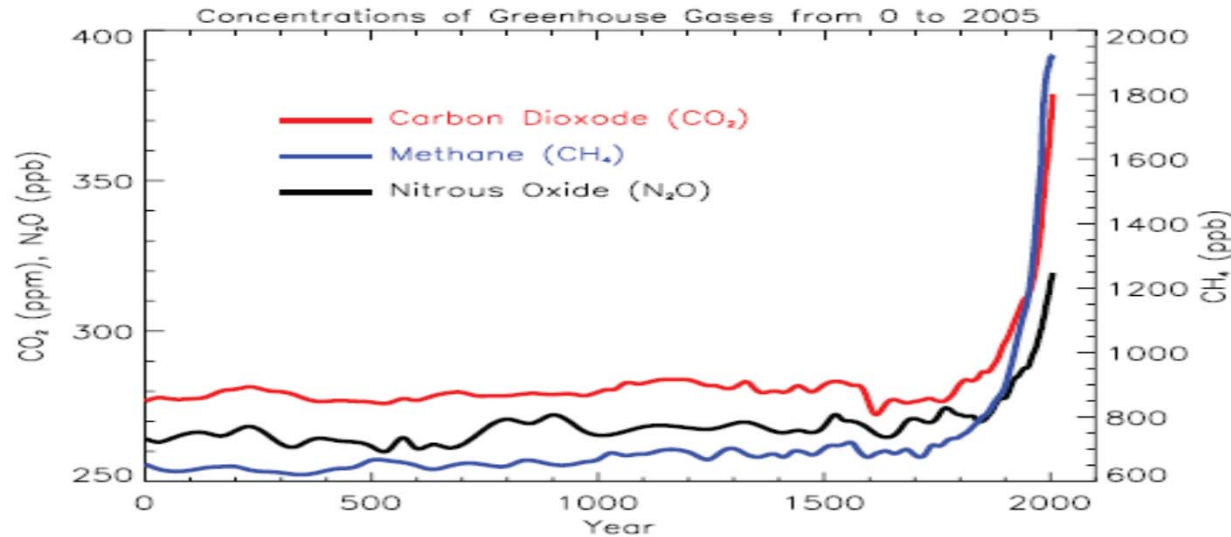
Source: Moldova  
Draft LEDS, 2011

# Assessment of Current Situation:

## International Climate Agreements and Climate trends



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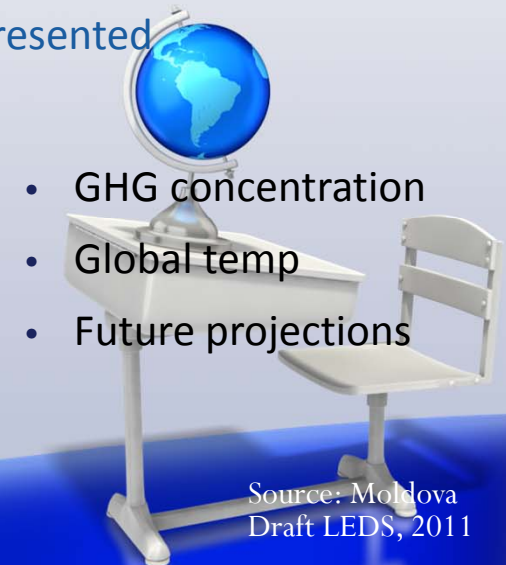


Period (Years)	Rate (°C per decade)
25	0.177±0.052
50	0.128±0.026
100	0.074±0.018
150	0.045±0.012

• Annual mean  
 — Smoothed series  
 — 5-95% decadal error bars

### International situation:

- Annex I Countries must consider: Kyoto (second commitment period), Cancun, Bali, Durba
- Annex II, Bali Action Plan
- Any Further agreements
- Latest IPCC findings and data presented



- GHG concentration
- Global temp
- Future projections

Source: Moldova Draft LEDS, 2011



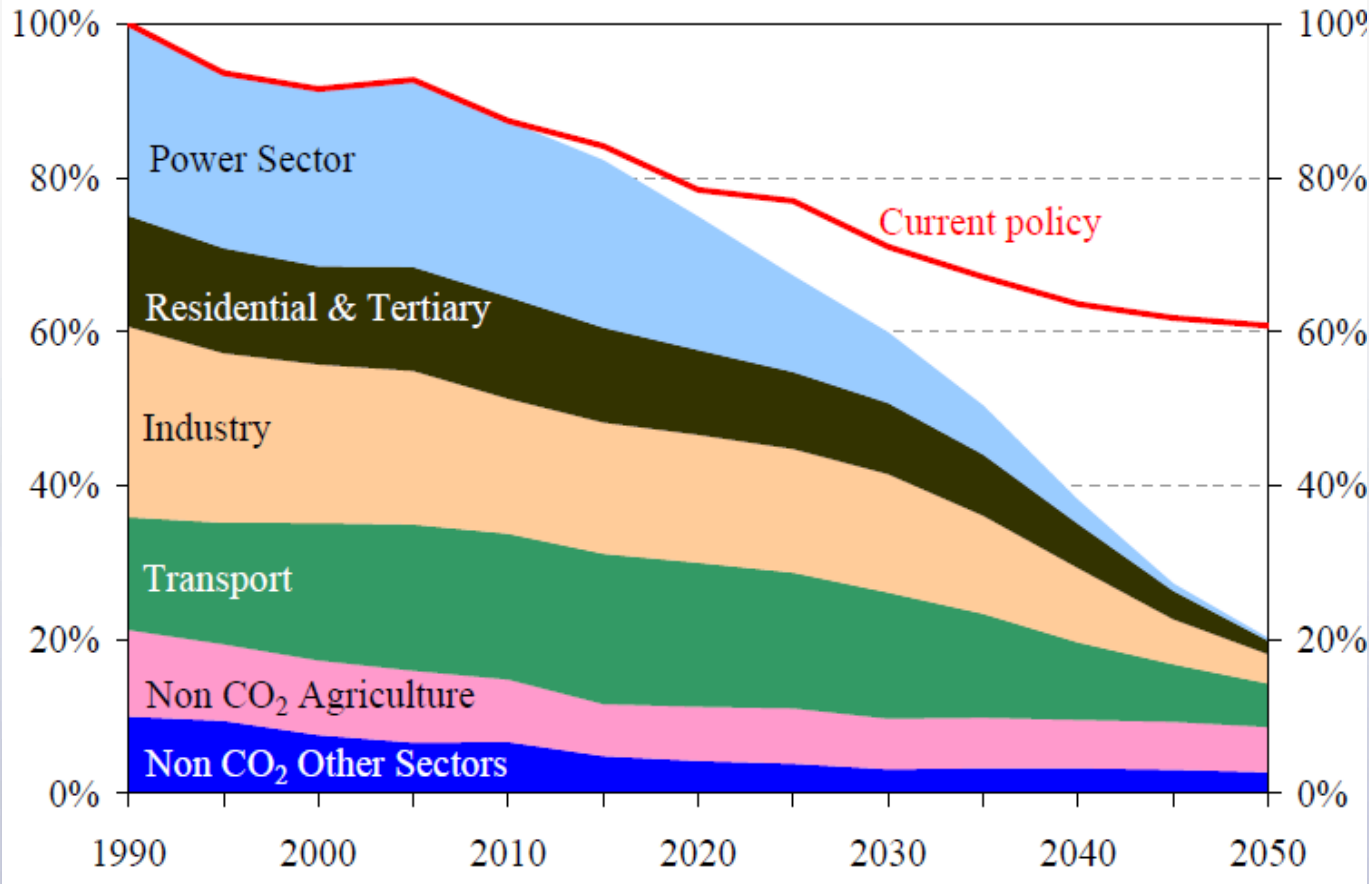
# Projections:

## Future Emissions Strategy



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- Emissions Reduction goal by sector



## Emissions projections

- Reduction goal by sector
- Business as usual scenario
- With measures scenarios



# Identification of Institutions and stakeholders:



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## Participants in Discussions

- Line Ministries
- Local Government
- General Public
- Business
- Research institutions
- NGOs (national and international)
- Experts
- UN and other multinational organisations
- EU – Commission and member states

## Committee

Individual representatives nominated by Line Ministries



# •Relation to other Development Plans, Budgets and Inter-ministerial Coordination



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# Sustainable Development Goal of LEDS:

Ensuring triple bottom lines



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- All LEDS at least mention Sustainable Development

- Some focus on economy wide Green Growth strategies

- Some maintain holistic consideration of Sustainable Development throughout

## Basic

- Briefly covers Sustainable Development

## Moderate

- Considers sustainable development characteristics within NAMAs and sectoral roadmaps

## Comprehensive – Green Growth

- Considers development strategies and green growth within separate chapter

## Comprehensive - Holistic

- Integrates a holistic concept and understanding of Sustainable development throughout strategy



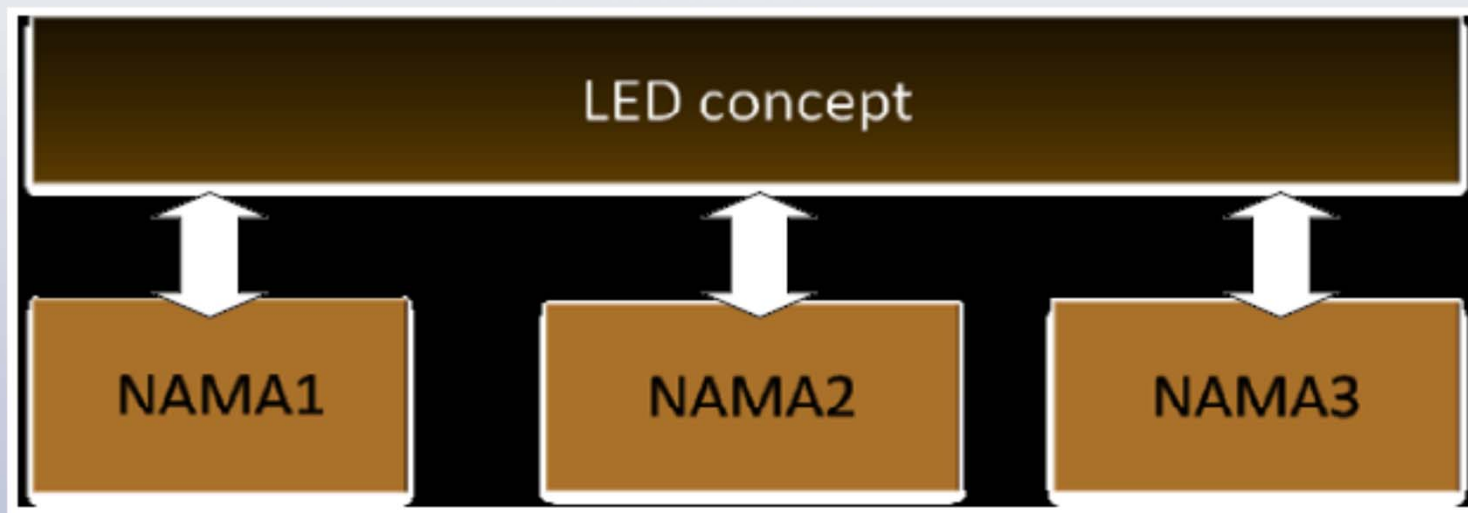
# Choosing Priority Programs:

## Non-Annex I



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- LEDS to individual measures or Nationally Appropriate Mitigation Actions (NAMAs)
  - Consider existing NAMAS
  - Prioritise creation of new NAMAS
- Mostly developing countries



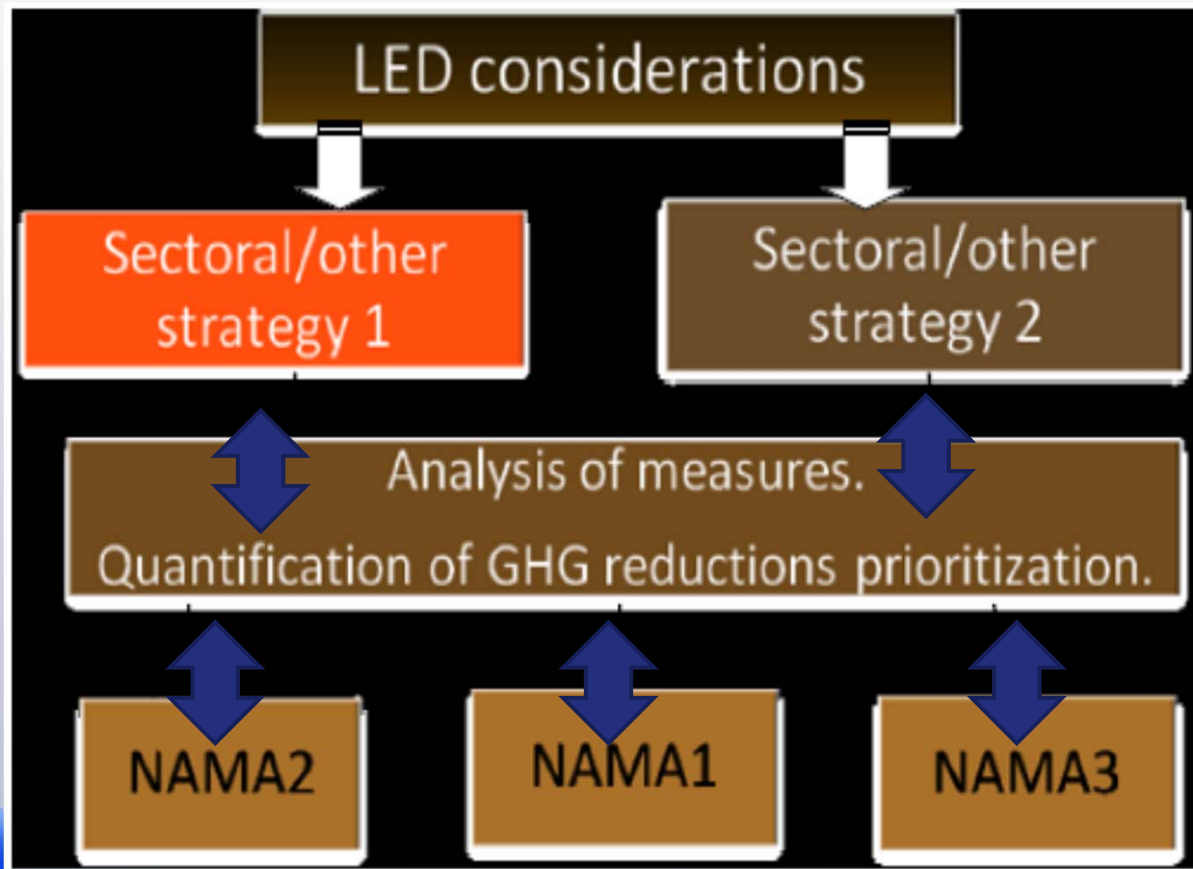
# Choosing Priority Programs:

## Annex I



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- LEDS to prioritise sectoral strategies with individual measures/NAMAS.
- EU Roadmap takes this approach
- Developed countries



- Green Growth Strategy
- Adaption to Climate change
- Other strategies for sustainable development

# Finance Options:

## Sources of finance for priority programs



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- Identify need for governments to create favourable investment framework conditions to unlock private investment in LED sectors
- Finance Options for mitigation measures
  - International finance for annex I countries
  - Government revenue/public expenditure (Households and Private Sector)
  - Public and private investment,
  - Carbon markets – Global, EU, and new markets
  - Percentage of export energy revenue
  - Public and private financing (tax and credit) mechanisms: Renewable Energy Certificate Schemes, Feed-in Tariffs, Tax incentives etc.
  - Funds such as Climate Funds, Renewable Energy Funds, Environmental Funds



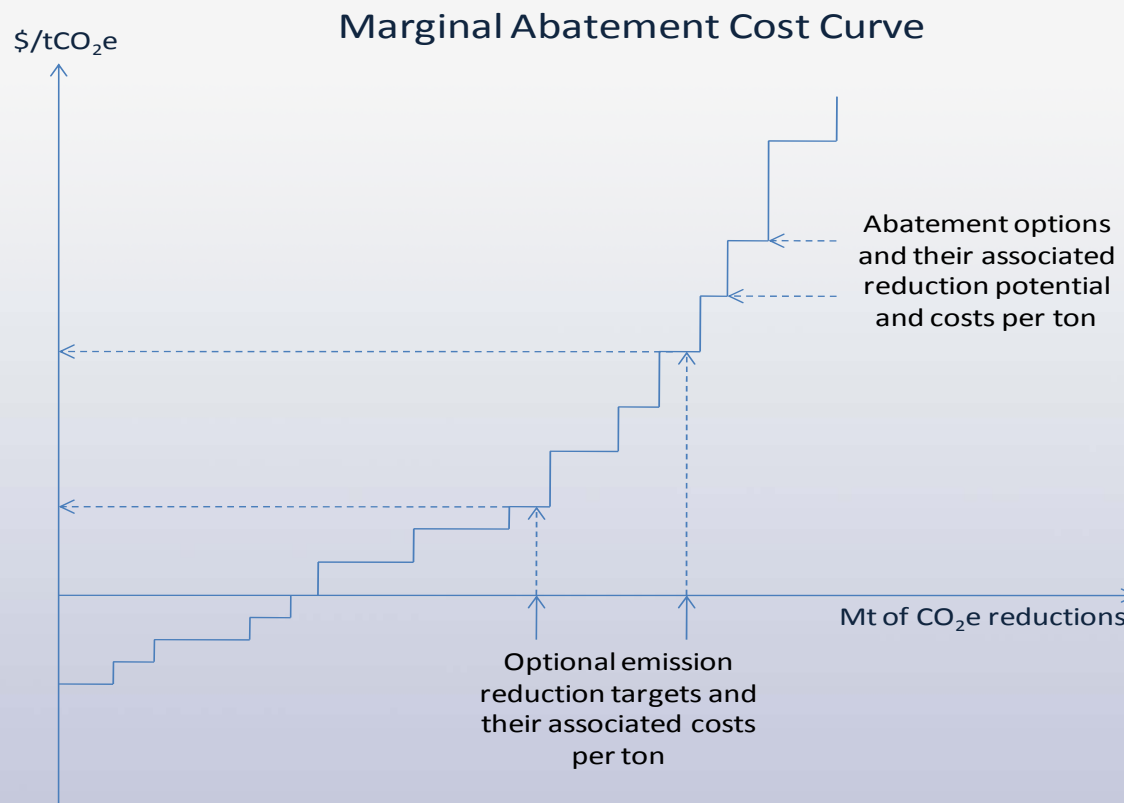
# Mitigation costs

## Cost benefit analysis of different mitigation options:



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- Marginal Abatement Cost Curves – McKinsey GHG Abatement curve



- Marginal cost effectiveness of climate change mitigation



Source: Moldova  
Draft LEDS, 2011



# Additional Element: Barriers to Implementation



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Some LEDS explore possible barriers and challenges to implementation

- Financial
- Technical
- Political
- Capacity
- Coordination

Challenges may constrain the effective, large scale deployment of low GHG technology and mitigation measures, therefore it is important to address and explore how to overcome possible challenges



# Additional Element:

## Vulnerability to Climate Change



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- Increase in natural disasters – flooding, droughts and sea level rise
- Increased likelihood of droughts – threats to crops and hydro power production
- land use change, changes to agricultural country - threats to agricultural production levels and the threat this poses to economic development
- Threats to development and economic security caused by climate change

Although...

**Considering these vulnerabilities can be used to improve risk management systems and preparedness for climate change**



# Monitoring Reporting and Verification (MRV)



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- Identification of national and internationally accepted MRV to ensure consistency in the achievement of LED goals.
- Some provide basic coverage of MRV – some in separate documents
- Many countries overlooked the inclusion of MRV frameworks
- Good examples of MRV procedures and framework found in Slovenia and Moldova LEDS



# Feedback

## Lessons learnt from LED Managers



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### Key LED Success factors:

- Top-level commitment and leadership
- Integration into development planning, cross-cutting approach
- Strong data basis & scientific analysis (GHG inventory, BAU, scenarios, etc.)
- Transparency in approach and assumption
- Stakeholder participation and engagement
- Acceptance of technical assistance and use of peer-to-peer learning
- LED viewed as a living and dynamic document
- Inter-ministerial coordination structure including key ministries (finance, economy, energy, etc.)

### Key LED Pitfalls

- External imposition
- Poor integration in national development strategies
- Poor inter-ministerial coordination
- Lack of capacity for prioritisation



# 😊 Thank You for your time 😊



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