

Climate change in the GMS

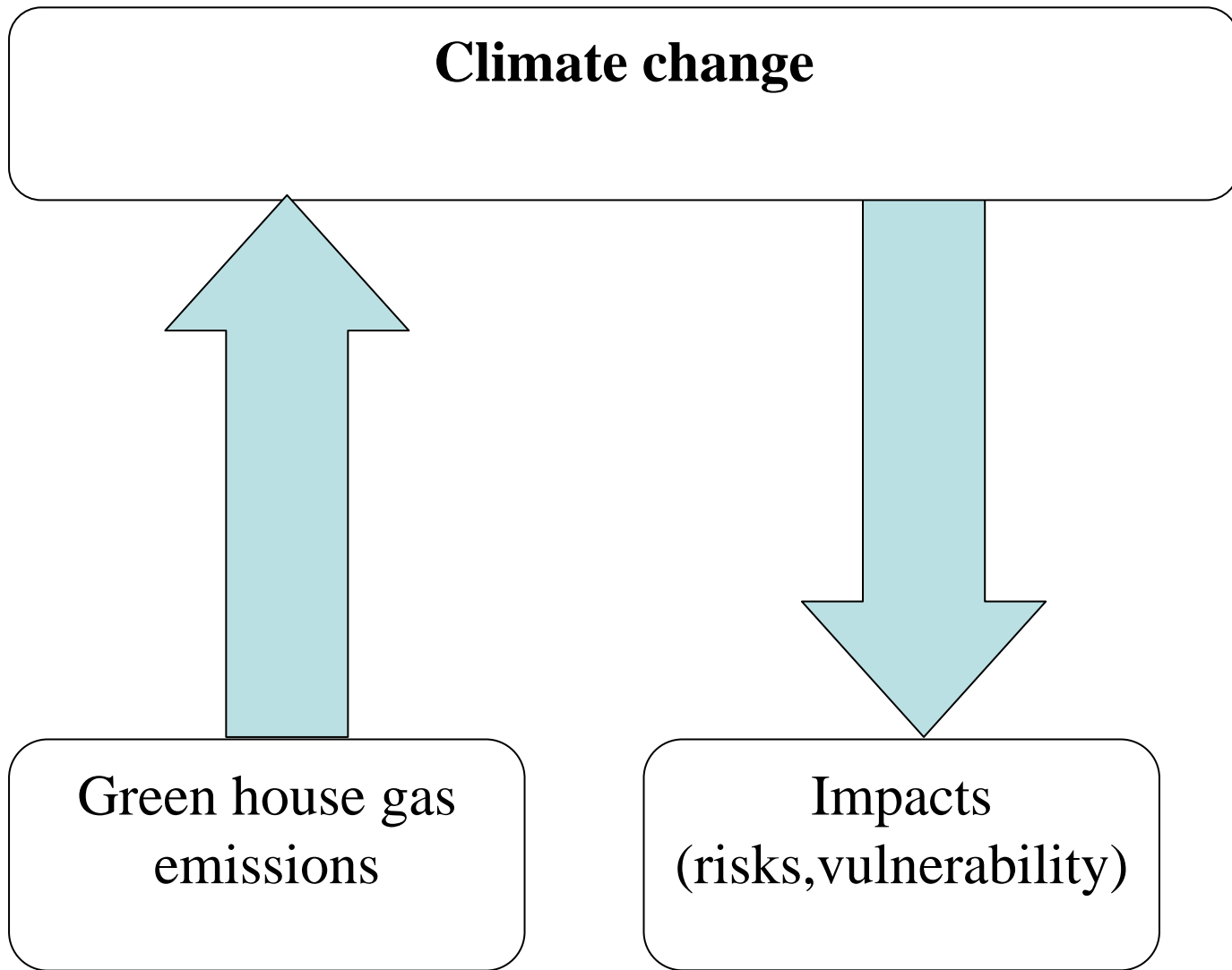
How to respond by the CEP?

Arend Kolhoff, TAP-member

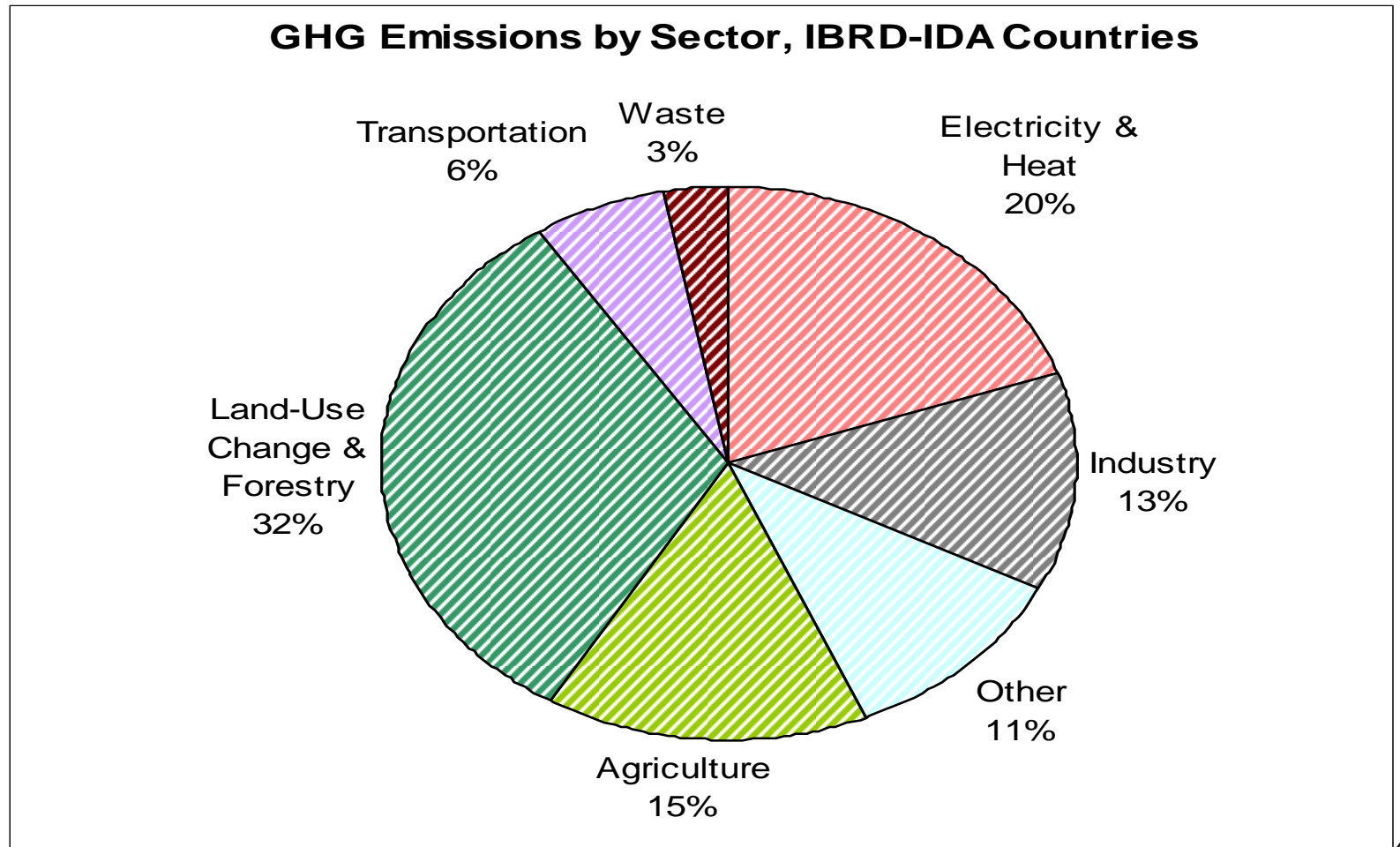
WGE 2 July 2008 – Luang Prabang

Key issues in this presentation

- Climate change in a nutshell
 - Emissions
 - Impacts (focus on biodiversity)
- Climate change policies
 - Mitigation
 - Adaptation (focus on biodiversity)
- Role of CEP
- Application of SEA

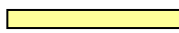


GHG emissions by sector in developing countries



Developing Countries Most At Risk: Impacts

<i>Drought</i>	<i>Flood</i>	<i>Storm</i>	<i>Coastal 1m</i>	<i>Coastal 5m</i>	<i>Agriculture</i>
Malawi	Bangladesh	Philippines	All low-lying Island States	All low-lying Island States	Sudan
Ethiopia	China	Bangladesh	Vietnam	Netherlands	Senegal
Zimbabwe	India	Madagascar	Egypt	Japan	Zimbabwe
India	Cambodia	Vietnam	Tunisia	Bangladesh	Mali
Mozambique	Mozambique	Moldova	Indonesia	Philippines	Zambia
Niger	Laos	Mongolia	Mauritania	Egypt	Morocco
Mauritania	Pakistan	Haiti	China	Brazil	Niger
Eritrea	Sri Lanka	Samoa	Mexico	Venezuela	India
Sudan	Thailand	Tonga	Myanmar	Senegal	Malawi
Chad	Vietnam	China	Bangladesh	Fiji	Algeria
Kenya	Benin	Honduras	Senegal	Vietnam	Ethiopia
Iran	Rwanda	Fiji	Libya	Denmark	Pakistan

 Low Income

 Middle Income



GMS countries

Source: World Bank

Vulnerability of sectors to CC impacts SE-Asia (Dr Snidvongs)

- Agriculture -2 H
- Health -2 H
- Settlements -1 M
- Land degrad. -2 H
- Water res. -1 H
- Coastal ecos. -2 H
- Biodiversity -2 H

Vulnerability:

-2 highly vulnerable

-1 moderately vulnerable

0 slightly or not vulnerable

+1 moderately resilient

+ 2 most resilient

Level of confidence:

VH = very high

H = high

M = medium

L = low

VL = very low

Vulnerability of biodiversity to impact of climate change

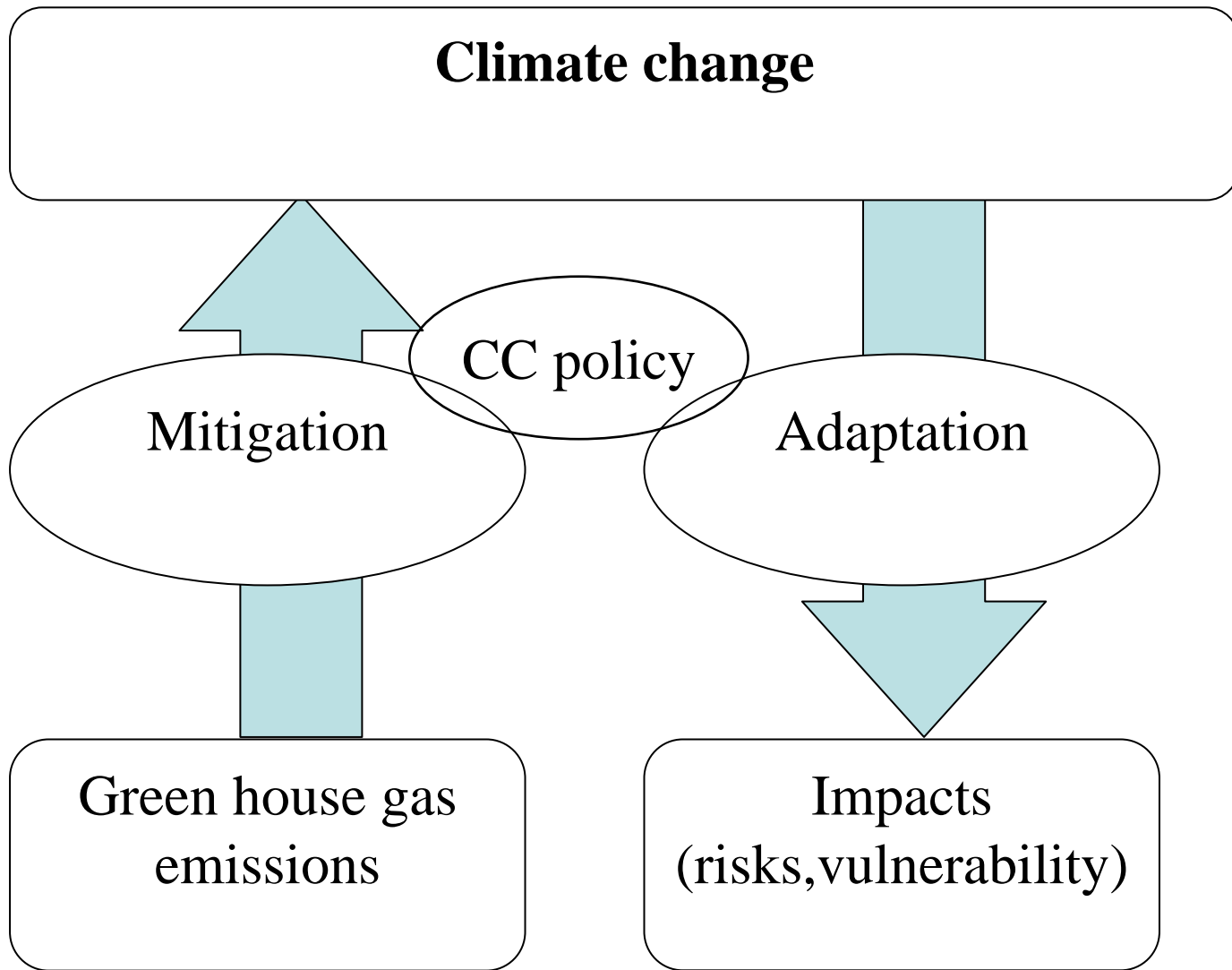
Research and simulation in Europe shows in 2050:

- Most amphibian species lose all habitat
- Mountain ecosystems most vulnerable, 60% loss of species
- Polar ecosystems lose and gain species
- Species move to northern latitude & higher altitude
- Common and invasive species will increase

Projected change in simulated climate space for Capercaillie (*Tetrao urogallus*) in 2050



How to respond to
climate change ?



Climate change policies

- National Climate change policies
- National Mitigation plan / strategy
(to be integrated in)
 - Sector plans
 - Regional, local development plans
- National Adaptation plan / strategy
(to be integrated in)
 - Sector plans
 - Regional, local development plans

What could be the role of CEP in responding to climate change ?

1. Support development of CC policies?
2. Develop regional CC policies for GMS?
3. Support climate proofing of nat. and sector policies?
4. Ambassador in awareness raising?
5. Climate proofing ADB GMS sector strategies?
6. Support innovations in mitigation, adaptation?
7. Implement mitigation and or adaptation strategies for CEP activities?

Technical Advisory Panel's opinion

Main focus of GMS - CEP:

- Strategic: “Climate proofing” of national, and sector plans by using SEA
- Concrete: Implement relevant adaptation strategies for CEP - Biodiversity Corridors Initiative

Adaptation strategies for biodiversity corridors initiative (1)

- Healthy ecosystems more adaptive
 - Decrease threats such as pollution, poaching, disturbance, fragmentation
- Develop ecological network
 - Large well protected core areas
 - Corridors should be robust, enabling species to move
 - Network should be coherent
- Translocation of species

Adaptation strategies for biodiversity corridors initiative (2)

- What does this mean for the development of the ecological network under BCI?
- Recommend first to:
 - Study impact of CC on biodiversity in GMS and assess whether planned ecological network is sufficiently resilient towards expected CC impacts

SEA is **THE** tool for mainstreaming climate change in strategic decision-making

- SEA can assist in preparation of:
 - National Climate change policy or national mitigation / adaptation plan or strategy
 - **(sub)Sector plans e.g. energy, transport**
 - **Regional development plans**
- EIA climate proofing of projects

How to consider CC in SEA for energy sector planning?

- What ?
Composition of fuel mix
 - GHG emissions
- Where?
Site selection (coal fired power plant)
 - Vulnerability of potential sites for CC impacts using CC scenarios for 10, 30 and 50 years
 - Opportunity for carbon capture and storage
- How?
Technology
 - BAT measures

How to consider CC in SEA for transport sector planning?

- What ?
Modes of transport
 - GHG emissions
- Where?
Corridor and route selection (high way)
 - Vulnerability of potential routes for flooding using CC scenarios for 10, 30 and 50 years
- How?
Technology
 - Climate proof design & implementation (compliance)

Thank you