



## REDD+ strategy update

STRICTLY CONFIDENTIAL

Presentation to  
1 March 2010

### Objectives for today

- Explain PNG's approach to REDD strategy after Copenhagen
- Share preliminary findings on greenhouse gas emissions and abatement opportunities
- Propose next steps

## Contents



1 Business as usual

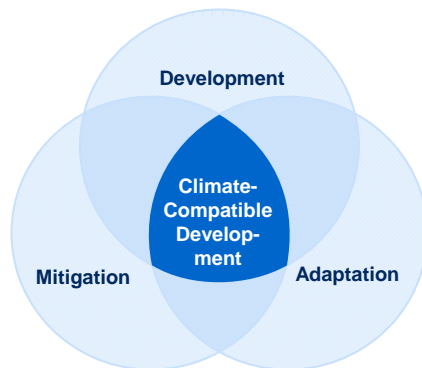
2 REDD+ initiatives

3 Next steps

| 2

## Papua New Guinea's strategy for Climate-Compatible Development has three elements

### Strategic framework



### Elements

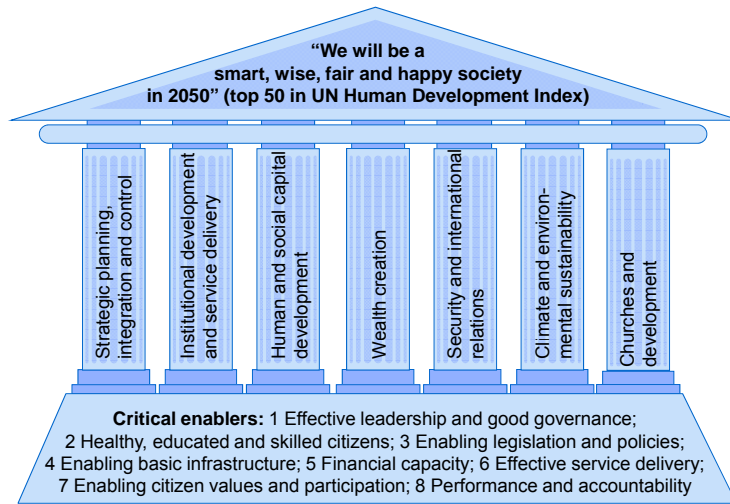
**Economic Development:** Achieve GDP per capita of USD 3,000 by 2030, as set out in our Vision 2050, to meet our people's aspirations for a better life.

**Mitigation:** Reduce emissions of greenhouse gases, by at least 50% by 2030 and 100% by 2050. Over 90% of this reduction will come from Reducing Emissions from Deforestation and Forest Degradation (REDD+), at an average cost of ~USD 4/t.

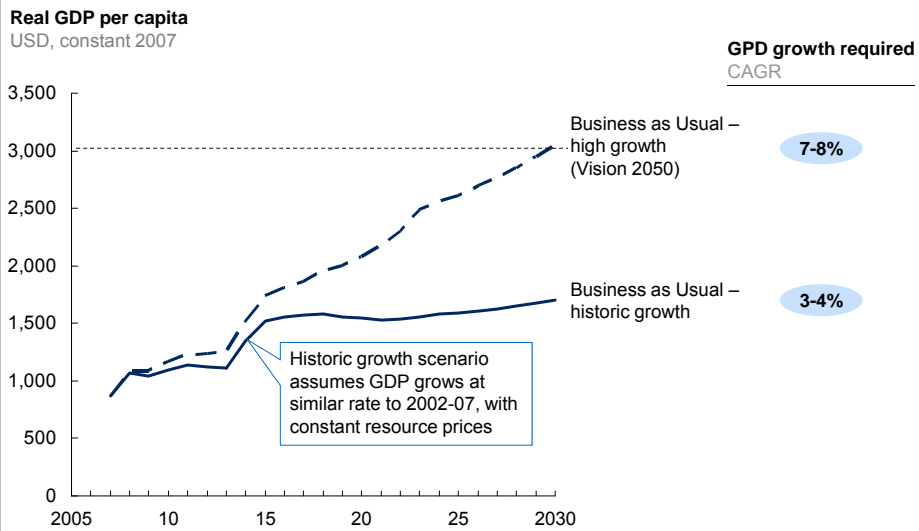
**Adaptation:** Reduce the vulnerability of Papua New Guineans to the risks associated with climate change, such as coastal and inland flooding, agricultural yield changes and disease.

| 3

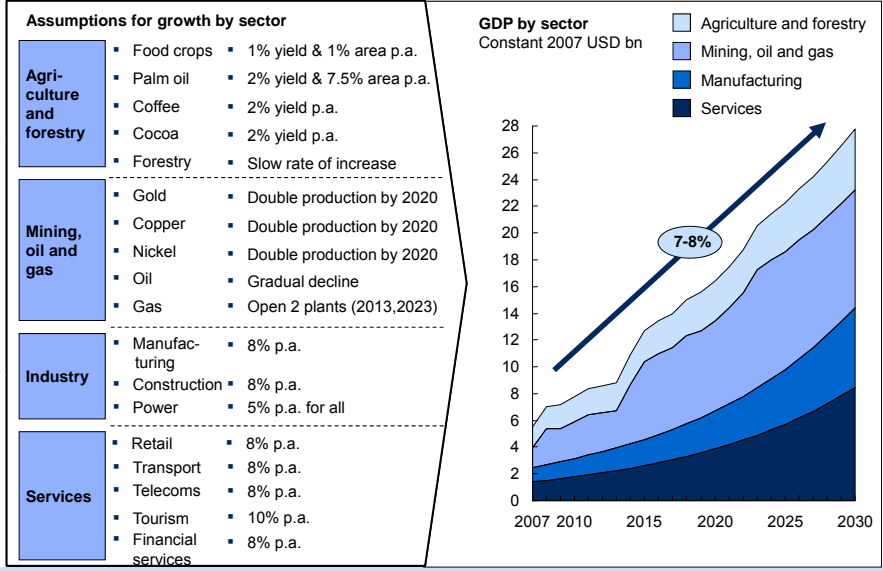
**Papua New Guinea's Vision 2050 emphasises wealth creation, human development and climate and environmental sustainability**



**To achieve this Vision, the economy will have to grow by 7-8% per year to achieve a GDP per capita of USD 3,000 by 2030**

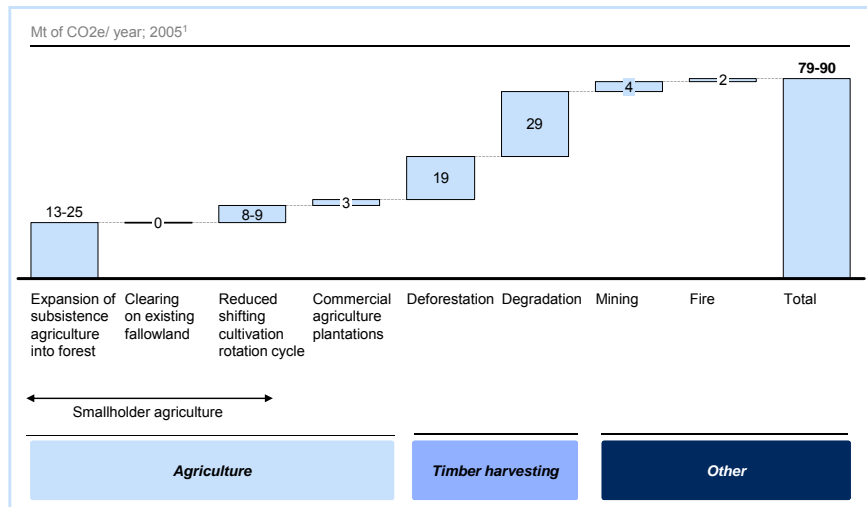


**The Vision could be achieved by a 'Business as Usual' high growth path, relying heavily on agriculture, mining, oil, gas and services**



**Total emissions resulting from land use, land-use change and forestry were approximately 79-90Mt CO<sub>2</sub>e in 2005**

PRELIMINARY

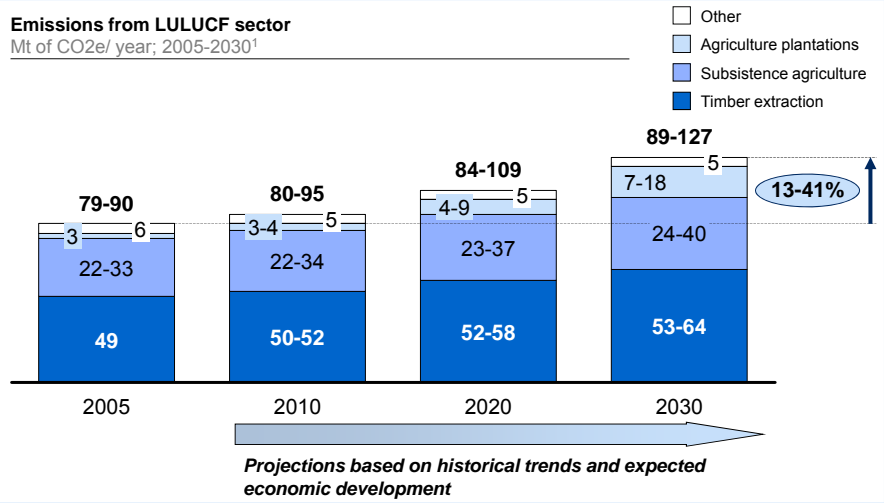


<sup>1</sup> High and low scenarios. Historical emissions calculated bottom-up, based on average existing analysis on historical forest cover change. Timber extraction assumed to result in 15% deforestation and 85% degradation

**In a Business as Usual scenario, these emissions are expected to increase by between 13 and 41% by 2030**

PRELIMINARY

**Emissions from LULUCF sector**  
Mt of CO<sub>2</sub>e/ year; 2005-2030<sup>1</sup>

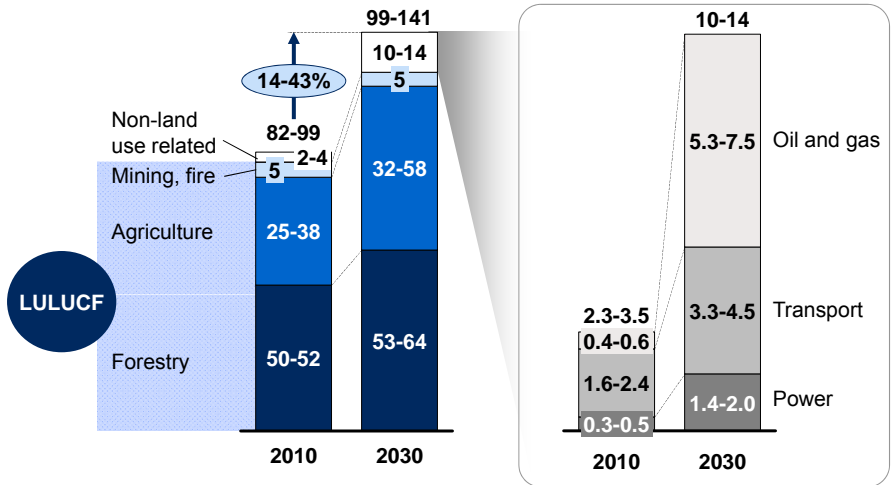


<sup>1</sup> 2005 emissions computed based on average of MPI-Shearman (adjusted) forest change model, which includes deforestation from Ok Tedi tailings spill incidence in "Other". Emissions from 2010 onwards based on extrapolated historical trend (subsistence agriculture), modified historical trend (fire), and economic development aspirations (timber extraction, agriculture plantations), while other continues to take additional effect for Ok Tedi mine into account.

SOURCE: Shearman (2008), MPI-BGC (2007), Team analysis






**LULUCF emission will still be the main contributor despite a 3-4 fold increase of emissions from power, transport and oil and gas**

**BAU GHG emissions by sector**  
Mt of CO<sub>2</sub>e/year



SOURCE: McKinsey analysis based on multiple sources

**Historically, deforestation and forest degradation in PNG has mainly been caused by smallholder agriculture and forestry**

Driver of deforestation	Proportion	Description
 <b>Smallholder agriculture</b>	20-30	<ul style="list-style-type: none"> <li>Increasing population leads to expansion of cropping area into forest (and shortening of rotation cycle)</li> </ul>
 <b>Commercial agriculture</b>	10-15	<ul style="list-style-type: none"> <li>Clearing of forest for establishment of commercial plantations (predominantly oil palm), mainly on fertile lowland forests</li> </ul>
 <b>Timber harvesting</b>	50-65	<ul style="list-style-type: none"> <li>Logging results in significant deforestation and degradation, mainly in lowlands/islands and middle altitudes</li> <li>Current logging practices are unsustainable</li> </ul>
 <b>Mining, infrastructure</b>	5-10	<ul style="list-style-type: none"> <li>Historically largely from mining, less from infrastructure</li> <li>Comprises direct and indirect deforestation (e.g. forest dieback due to Ok Tedi spill)</li> </ul>
 <b>Fire</b>	2-3	<ul style="list-style-type: none"> <li>Caused by humans (hunting, spreading from subsistence burning) and lightning, mainly in upper montane forests</li> <li>Forest degradation makes fires more likely</li> </ul>

SOURCE: Shearman (2008), Fox

**Contents**

**1** Business as usual

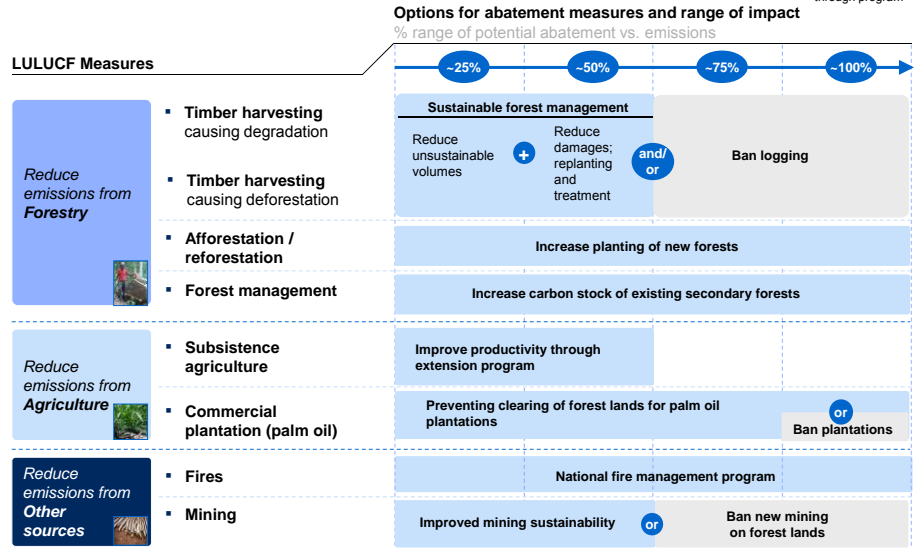
**2** REDD+ initiatives

**3** Next steps



## The abatement in the land use, land-use change and forestry sector will primarily come from forestry and agriculture measures

Stop current activity  
 Reduce emissions through program



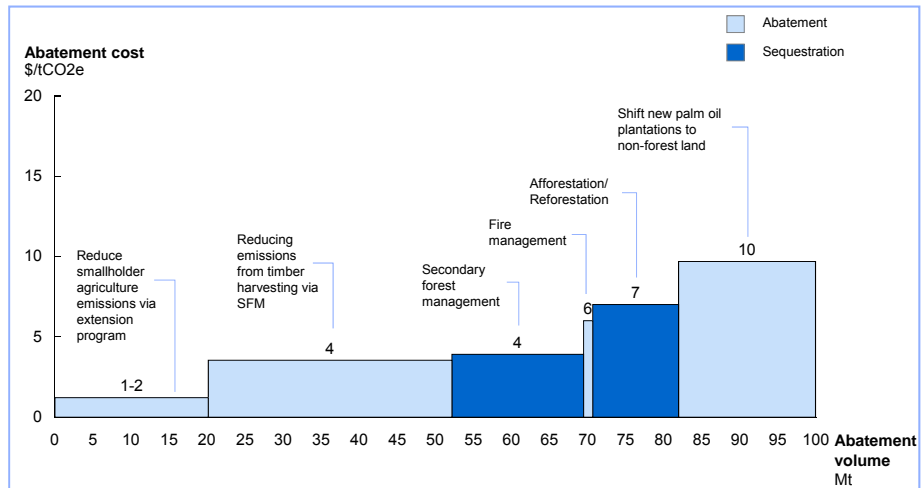
SOURCE: Team analysis

| 12

## Analysis suggests up to 100 Mt of abatement potential in 2030 from programmes tackling emissions from forestry and agriculture

PRELIMINARY

2030 high GHG emissions scenario



Note: The curve presents an estimate of the maximum potential of all technical GHG abatement measures below USD 90 per tCO<sub>2</sub>e if each lever was pursued aggressively, starting with the most affordable levers. It is not a forecast of what role different abatement measures and technologies will play. Assumes a 4% societal discount rate

SOURCE: McKinsey analysis based on multiple sources

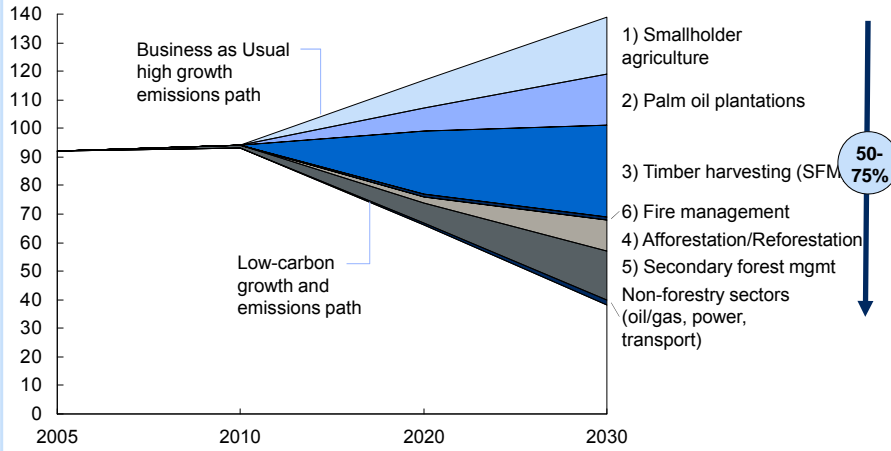
| 13

**This will allow emissions to be reduced by 50-75% by 2030 under a best case scenario**

PRELIMINARY

**Emissions from all sectors under maximum abatement scenario**

Mt of CO<sub>2</sub>e/ year; 2005-2030



SOURCE: REDD+ working group and McKinsey analysis

| 14

**Contents**



- 1 Business as usual
- 2 REDD+ initiatives
- 3 Next steps

| 15



## The technical working groups are now helping take this strategy and roadmap forward towards implementation

### Initial strategy work identified focus areas for climate-compatible development

- **Mitigation:** developed emissions forecasts and opportunities for abatement, using a cost curve approach
- **Adaptation:** identified climate change related hazards identified, quantified impact, assessed costs and benefits of counter-measures
- **Low-carbon growth:** developed scenarios for growth of all economic sectors and opportunities to decarbonise them



### Now we are working to complete the strategy/roadmap and begin implementation

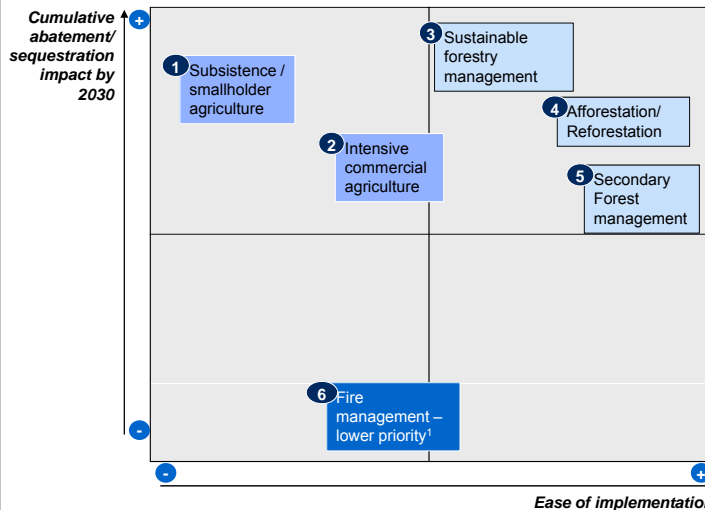
- A Climate-Compatible Development**
  - Refining analysis with technical working groups
  - Integrating with Vision 2050, LTDS, MTDP
- B Program design**
  - Working groups identify pilot & programs to test / scale up approaches
  - Preparing donor requests
- C Institution and capability building**
  - Strengthening and recreating climate change institutions
- D Stakeholder engagement**
  - Communication with government and select stakeholders in Pt Moresby
  - Broader national outreach planned

SOURCE: DEC working groups

| 16

## The REDD+ working group is pursuing five programmes as a matter of high priority

PRELIMINARY



**Five major programmes should be prioritized to achieve the maximum benefit, based on impact and ease of implementation**

- 1 Subsistence/ smallholder agriculture
- 2) Intensive commercial agriculture (e.g. palm oil)
- 3) Sustainable forestry management (SFM)
- 4) Afforestation / Reforestation
- 5) Secondary forest management

### Ease of implementation

- Number of ministries involved
- Number of stakeholders involved (civil society, private sector)
- Geographical dispersion

<sup>1</sup> Fire management was considered a lower priority, given its low level of abatement relative to the effort involved

SOURCE: Team analysis, REDD+ working group meeting (15 January 2010)

| 17

## Barriers for successful scale-up determine the approach to be taken

### Barriers

Do we know the solution?	Do we have stakeholder buy in?	Do we have enough capacity?
✓		
✓	✓	
✓	✓	✓

### Approach & rationale

Approach	Purpose	Example
<b>Explorative pilot</b>	Understand how to solve the problem	Rural electrification operating model
<b>Demonstration project</b>	Ensure stakeholder buy-in	Coastal defenses – build seawall in Wewak
<b>Scale-up initiative</b>	Build capacity	Medium-sized hydro-power for Lae & NCD
<b>Program</b>	Get maximum impact	Roll back Malaria with GF support