Climate Change and "REDD": How the Solomon Islands' forests fit in the global response to climate change

Gillian Duggin, Policy Officer
Environmental Defender's Office, NSW

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Outline: Part 1

Introduction to climate change, forests and climate policy

- What is climate change?
- What will the impacts of climate change be in the Pacific?
- What role does deforestation play?
- Development of international climate change policy
- Growth of ‘REDD’ in international climate change policy

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Outline: Part 2

REDD - Status, options and issues

- Overview of REDD
- Advantages and Disadvantages of REDD
- Current status of REDD
- Voluntary vs compliance market
- Key Issues in REDD for Solomon Islands
- Case studies

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What is climate change?

- Greenhouse gases ('GHGs') trap the sun's radiation in earth's atmosphere
- Increases in concentrations of GHGs, caused by human activities
- Observed changes in surface temperature and sea level
- Predicted impacts:
  - Change in weather patterns: rainfall, temperature
  - Extreme weather events
  - Sea level rise

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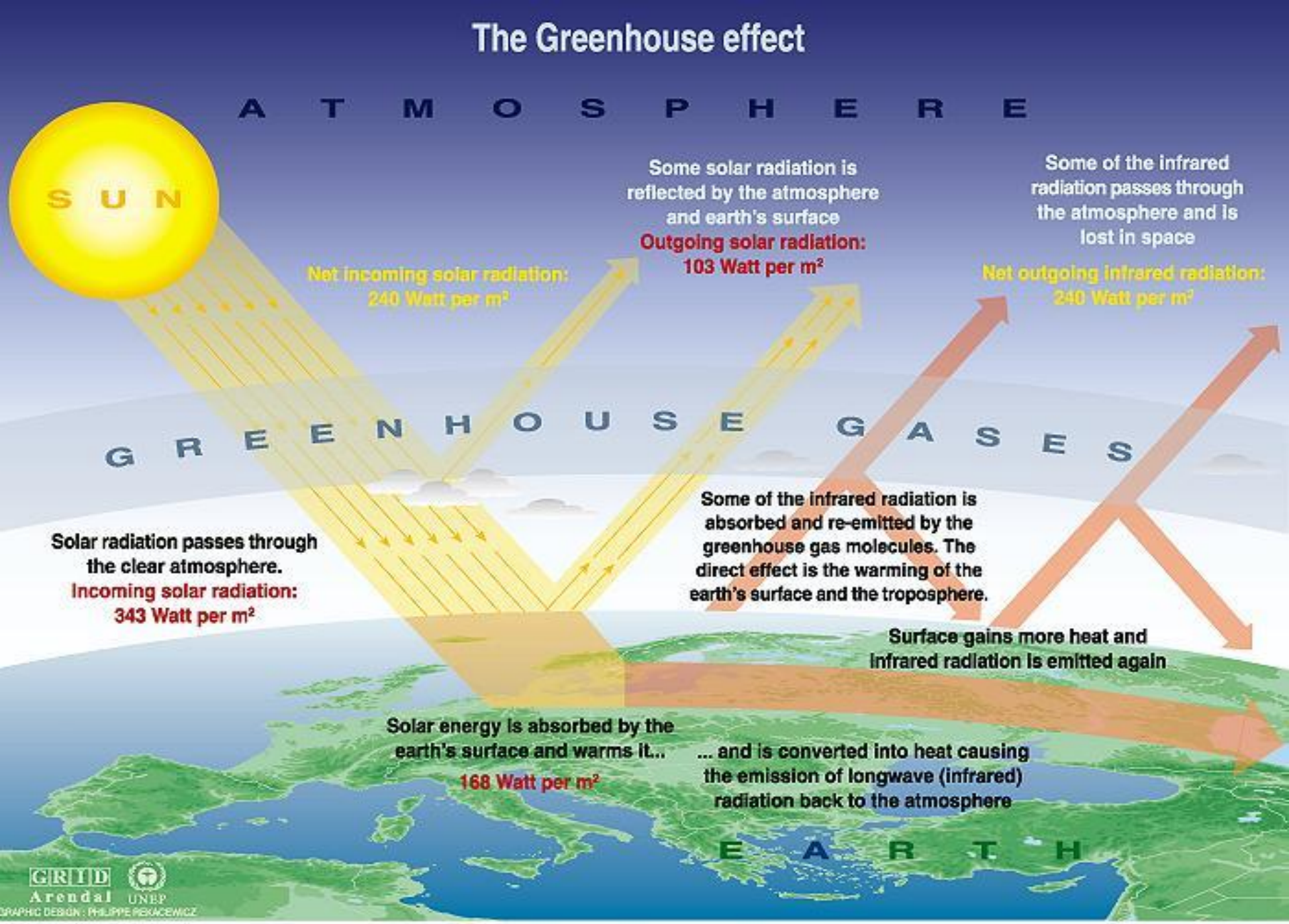
The Greenhouse effect



Sources: Okanagan university college in Canada, Department of geography, University of Oxford, school of geography; United States Environmental Protection Agency (EPA), Washington; Climate change 1995, The science of climate change, contribution of working group 1 to the second assessment report of the intergovernmental panel on climate change, UNEP and WMO, Cambridge university press, 1996.

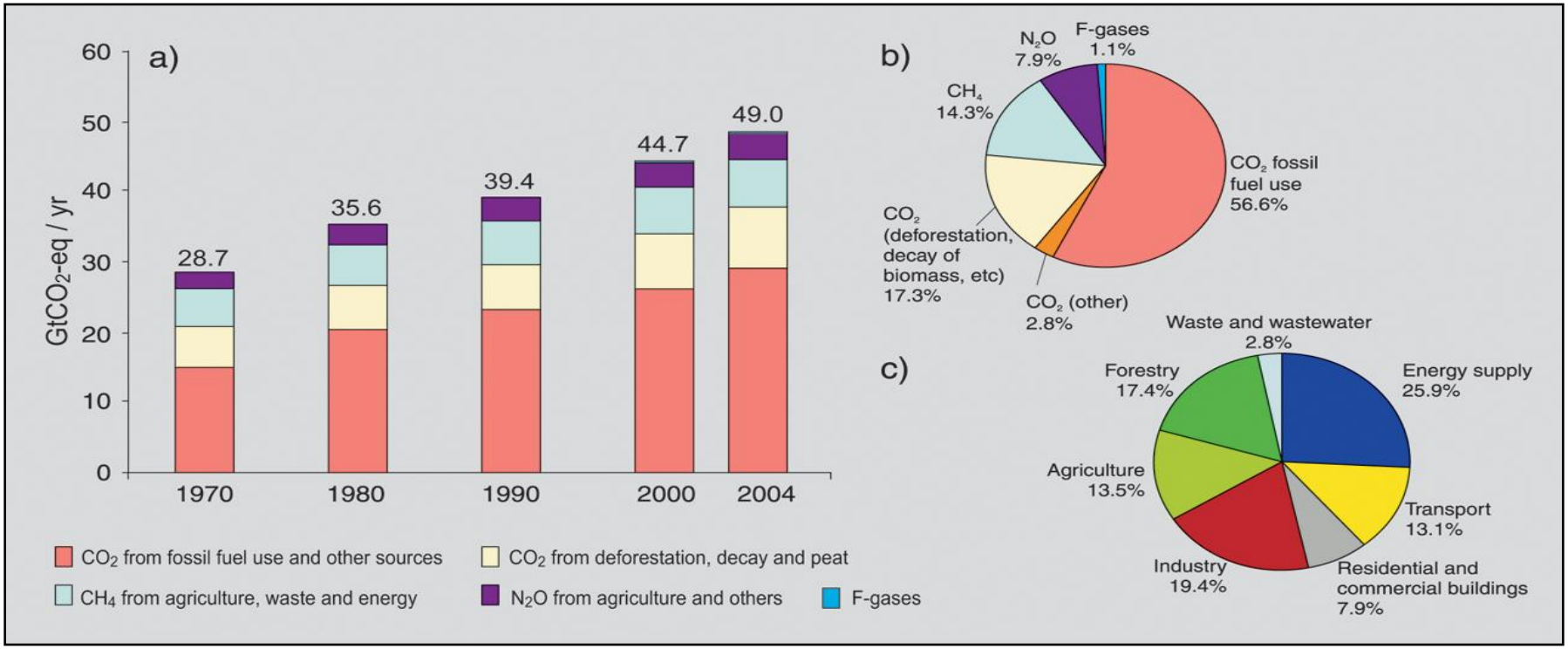
Types of Greenhouse Gases

Carbon dioxide (CO_2)

Methane (CH_4)

Courtesy of USEPA

Emissions of Greenhouse Gases



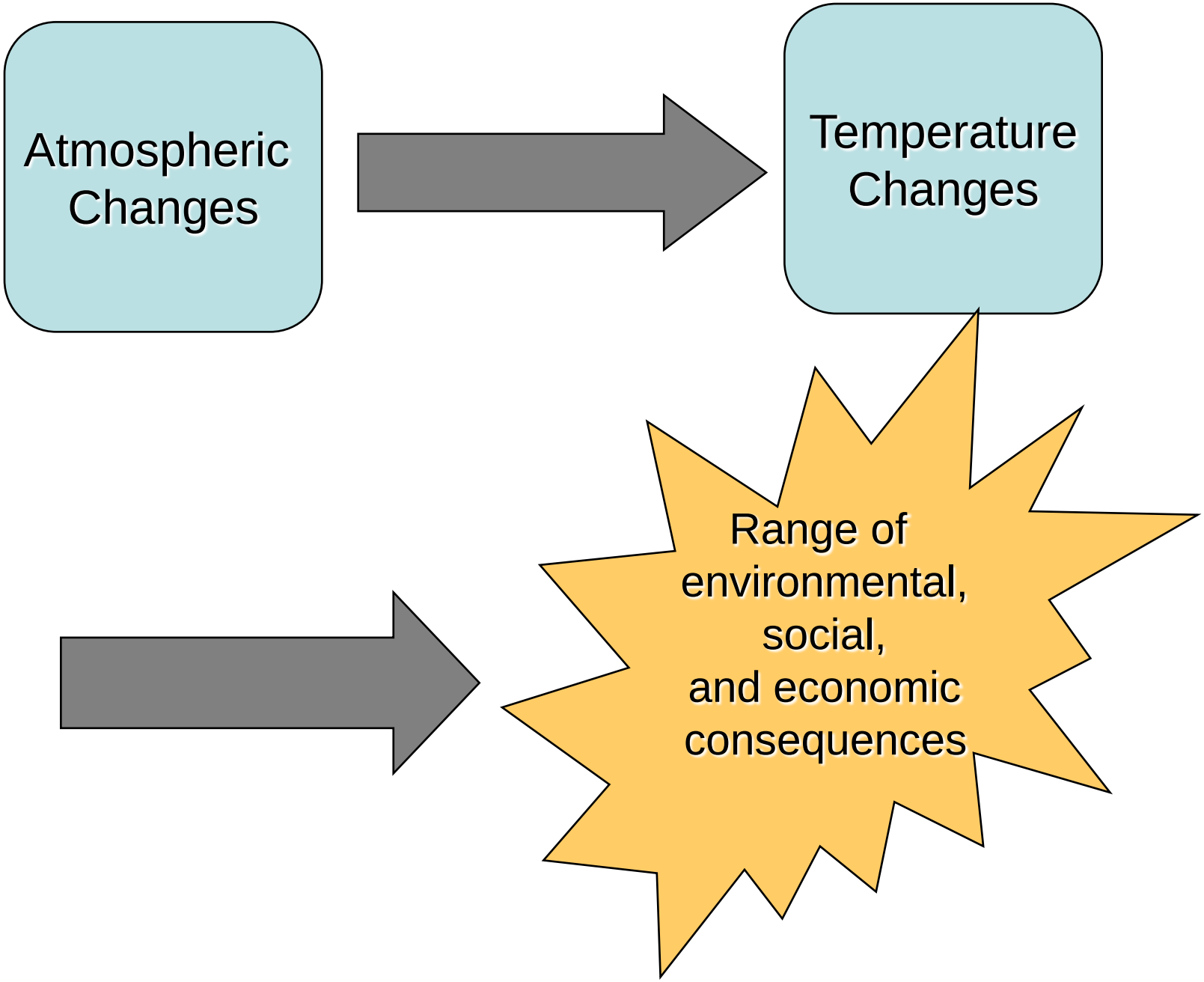
CO_2 = largest contributor to enhanced greenhouse effect






Effects = Ecosystems at Risk




Atmospheric Changes
Temperature Changes
Range of environmental, social, and economic consequences

Impacts in the Pacific

- Primary climate change impacts:
  - Temperature rise
  - Sea level rise
  - Sea surface temperature rise
  - Altered precipitation
  - Increased intensity and frequency of storm events
- Secondary impacts:
  - Increased coastal erosion
  - Saltwater intrusion
  - Damage to coral reefs
  - Damage to coastal wetlands
  - Loss of biodiversity

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Vulnerability of Small Island States

- Small island states have been identified as most vulnerable to adverse impacts of climate change
- Additional vulnerability as most people live on the coast. In Pacific region, over 50% of people live within 1.5km of the shore.
- Impacts on human systems:
  - Health
  - Economies
  - Infrastructure
  - Food security

Why does deforestation matter?

- Forests are carbon sinks = they absorb and store carbon
- Deforestation releases that carbon (C02) into the atmosphere
- 17% of global GHG emissions, with the majority in developing countries
- Illegal logging accounts for 5% of carbon emissions worldwide (estimate)
- Therefore, reducing deforestation = reducing GHG emissions and maintaining carbon sinks

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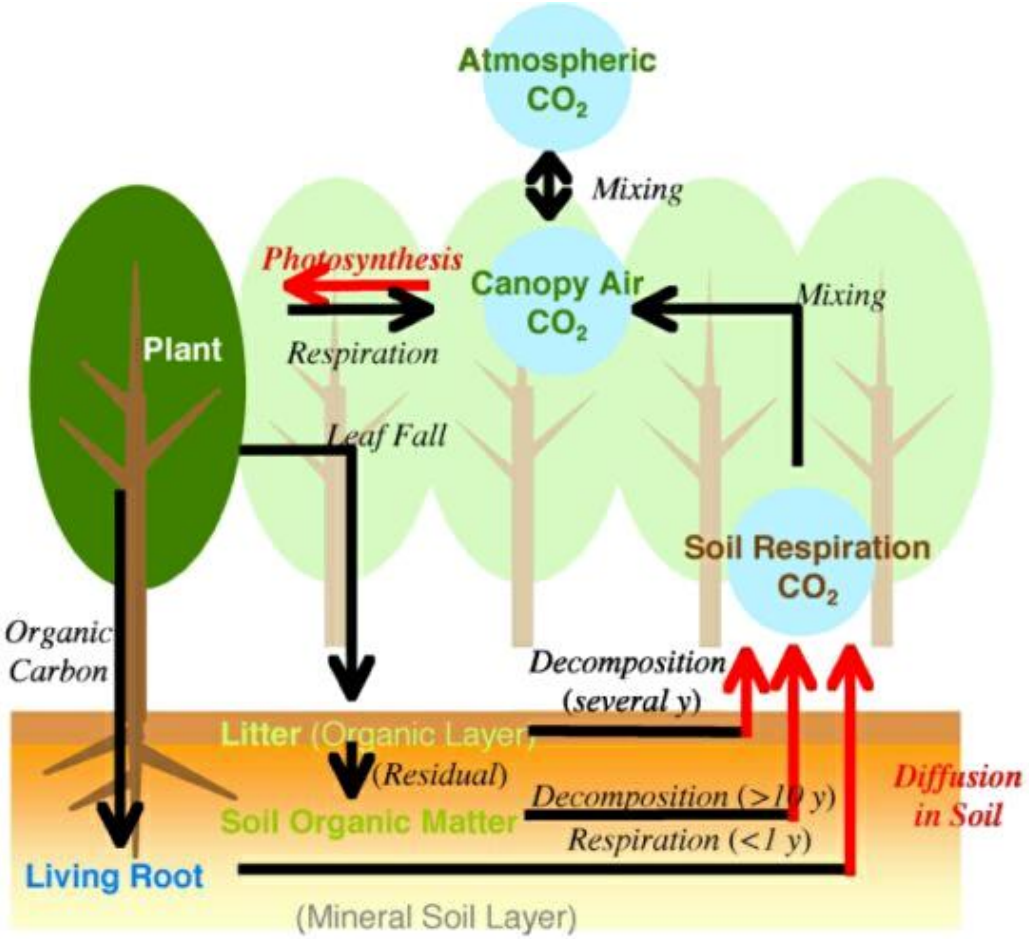
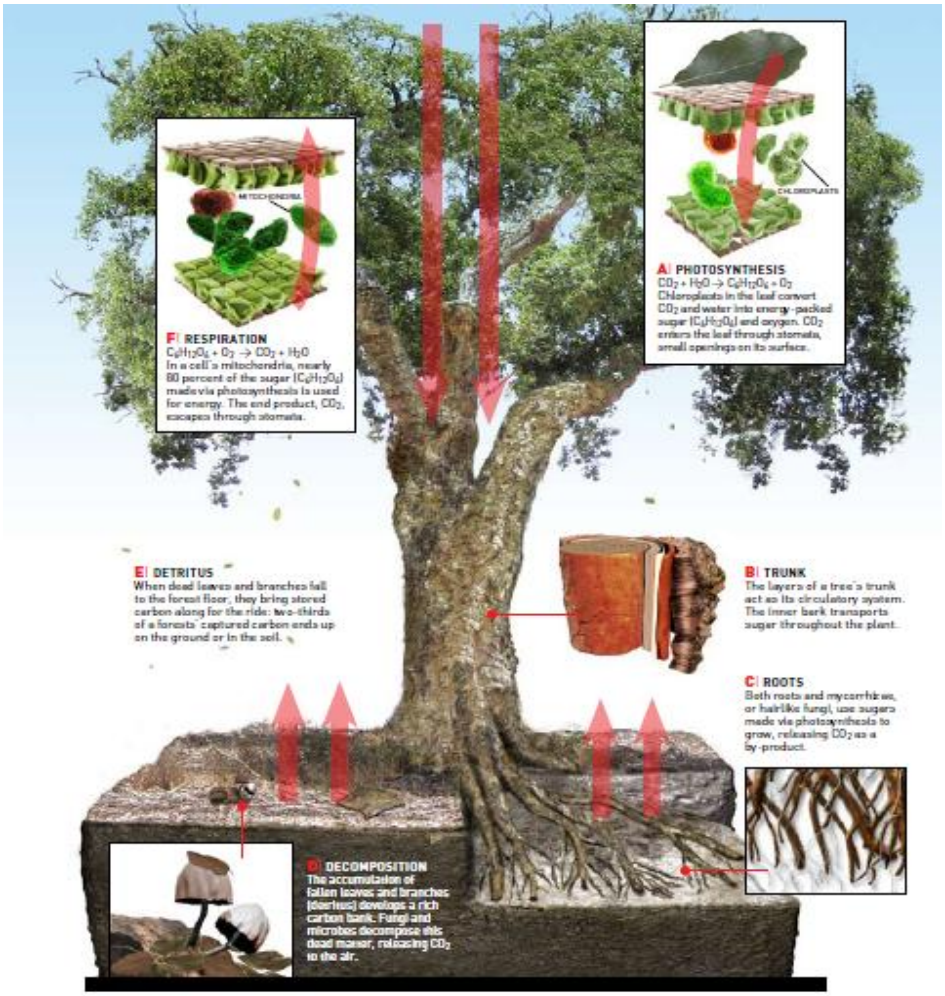
The Carbon Cycle



How forests store carbon



THE CARBON EXCHANGE

IN THE CARBON CYCLE, it's not just about the individual tree—the entire forest plays a role. Leaves take in carbon dioxide, converting it to sugar, which is carbon-based. Some of the sugar is used immediately for energy, converted back to CO_2, and released into the atmosphere. The rest is stored in living wood or dead matter, such as fallen leaves and branches. Old-growth forests, in particular, store vast amounts of carbon while continuing to absorb CO_2. —MOLLY WEBSTER

ILLUSTRATION BY MIEKE ROTH

Co-benefits of forests

- Forests provide ecosystem services:
  - water storage
  - natural buffers against extreme weather
  - protection of soil from erosion
- Protecting forests therefore has biodiversity, social and economic benefits, as well as GHG reductions

Development of international climate change policy

- Development of UNFCCC and Kyoto Protocol
- Approaches to developed and developing countries:
  - UNFCCC
    - Parties, Principles
  - Kyoto Protocol
    - Targets, Flexibility Mechanisms (Emissions trading, CDM, JI)
- Post-Kyoto negotiations
- Growth of ‘REDD’ in this process

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History of ‘REDD’

- **R**educed **E**missions from **D**eforestation and **D**egradation = **REDD**
- **Growing awareness about contribution of deforestation to global GHG emissions**
- Rejected for inclusion in Kyoto Protocol – too complex
- Kyoto commitment period ends 2012
- In **2005** UNFCCC meeting (Montreal) – inclusion of REDD mechanism proposed for post-2012
- PNG and Costa Rica - Coalition for Rainforest Nations (CfRN)
- Idea: to establish an **international finance mechanism** to provide **incentives for developing countries** to reduce emissions from deforestation

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Copenhagen

- Little achieved; ‘Copenhagen Accord’ not binding
- Some movement on REDD: Accord calls for “immediate establishment of a mechanism including REDD-plus, to mobilise financial resources from developed countries”
  - $30 billion USD 2010-2012;
  - $100 billion USD by 2020 for mitigation actions, including REDD-plus
- Technical body adopted a decision on methodological issues
- REDD mechanism yet to be determined

Summary: Part 1

- Climate change is occurring due to increasing GHG emissions, a result of human activities
- UNFCCC recognises ‘common but differentiated responsibilities’ and was widely ratified
- Kyoto Protocol has been more challenging to implement; commitments end 2012
- REDD introduced as potential financial mechanism to provide incentives to reduce deforestation in developing countries
- REDD likely to proceed in the future, but how?

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Part 2: REDD - Status, options and issues

- Overview of REDD
- Advantages and Disadvantages of REDD
- Voluntary vs compliance market
- Current status of REDD
- Key Issues in REDD for Solomon Islands

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Overview of REDD

- **R**educing **E**missions from **D**eforestation and Forest **D**egradation

  Or '**avoided deforestation**'
- Financing mechanism to reduce emissions from developing countries with tropical forests:
  - **significant**
  - **cheap**
  - **quick**
- "win-win"?
- Reality = very complicated
- Serious option for post-2012 agreement**;** outcome from Copenhagen suggests it will happen

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Advantages and Opportunities

- “Win win”
- **Efficiently** and **effectively** reduce global GHG emissions
- **Financial benefit** from participation in international carbon market = funding for sustainable development
- Enhance protection and sustainable management of tropical forests
  - Protect & enhance **livelihoods** for forest dwelling communities, **reduce poverty**
  - Conserve **biodiversity**

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Disadvantages and Risks

- **Discourage developed countries** from making their own fossil fuel emissions reductions
- If designed, implemented, managed incorrectly:
  - **Harm wellbeing** of forest communities, human rights violations
  - Fail to alleviate **rural poverty**
  - Reward persistent **poor governance and corruption**
- Inclusion of REDD mechanism could flood the trading markets with many credits = carbon price would drop
- **Equity**: developed v developing countries

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Voluntary vs compliance market

- No international REDD mechanism permitting trading
- A **voluntary offset market** is developing
- Standards to certify voluntary projects
  - **Voluntary Carbon Standard**
  - **Climate, Community and Biodiversity Standard**
- Both have forest project standards
- Estimates voluntary market worth $335 million in 2007 and $705 million in 2008 (USD)

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Current status of REDD

- Currently:
  - Only voluntary market exists
  - No international compliance market
- Voluntary market is speculative but legitimate, and is anticipating a future compliance market
- Voluntary market may facilitate move to development of compliance market
- If REDD is included in the post Kyoto agreement, international carbon markets may be established and REDD credits could be traded
- After Copenhagen, it seems likely that REDD will eventually proceed , yet uncertainty remains

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Current status of REDD

- World Bank and UN (FAO, UNDP and UNEP) are both funding **capacity building** and **pilot projects** around the world
  - World Bank Forest Carbon Partnership Facility (FCPF)
  - UN-REDD Programme
- Aimed to assist developing countries **prepare for REDD**
- Other international and domestic NGOs are also involved in helping countries around the world

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REDD in the Pacific

- CfRN members include **Fiji, PNG, Solomon Islands, Vanuatu, Samoa**
- **PNG** has been leading the push for REDD:
  - Established an Office of Climate Change and Environmental Sustainability
  - Two “official” pilot projects and many reports of ‘carbon trading’
  - Signed up to UN-REDD ($2.5m) and FCPF
  - Draft framework climate change policy
  - Assistance from Australian government
- **Vanuatu** also signed up to FCPF

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Solomon Islands

- With current rates of harvesting, the natural forest resource could be exhausted by 2015
- Significant impacts include:
  - Loss of forest estate and biodiversity, and forest conservation opportunities
  - Social impacts for forest dependent communities (loss of forest cover and traditional produces and uses)
  - Loss of rural employment and reduced revenue opportunities for rural landowners
  - Loss of foreign earnings
  - Loss of government revenue

Source: National Forest Resource Assessment Update, AusAID 2006

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Could REDD provide an alternative?

Some key issues

- Carbon accounting
- Land tenure
- Carbon rights
- Benefit sharing
- Co benefits
- Consultation and participation

Carbon accounting

- **Definitions** – what is ‘forest’? What is ‘forest degradation’?
- How to **monitor, report and verify** emission reductions
  - Technically difficult
  - Eg. Satellite monitoring, with ground truthing?
- **Baselines** – a reference scenario is critical for effectiveness
  - Eg. Historical deforestation data vs projected trends
  - Equity issues
- **Leakage**

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Land tenure

- Laws governing **resource and land tenure** are critical
- Secure tenure to ensure forest communities are not vulnerable to **dispossession**, and to give **ability to negotiate**
- Tenure reform likely to be required
- Arrangements tailored to **local needs**
- **Community participation** and **dispute resolution mechanisms** necessary to avoid conflict
- Problem of ‘paper’ vs reality

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Carbon rights

- Who owns the **right to carbon**?
  - Separate from **land** and **trees**?
  - News laws may be necessary to ensure position is clear
  - **Secure**, and established over **long time frames**: permanence
  - Example: NSW ‘proft a prendre’ carbon sequestration right
    - Separate from land ownership
    - Can be bought, sold, mortgaged etc
    - Subsequent landowners bound

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Benefit sharing

- How should financial benefits from REDD be allocated?
- Concern that indigenous people/forest communities may lose out
- Must be **clear** how benefits will be distributed
- Must be **equitable**
- Payment to State for distribution vs direct payment to communities
- Mechanisms for **transparent and accountable financial transfers** critical

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Co-benefits

- REDD offers **environmental co-benefits** (biodiversity protection; soil and water quality and availability; resilience to impacts of climate change)
- REDD must be '**pro poor**'
- REDD must provide **human rights protection** and **improvements in forest governance**
- To ensure these co-benefits, drivers of illegal deforestation must be addressed, and positive incentives provided for stronger forest management

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Participation and consultation

- Human rights issue
- REDD is complex
- **Free and prior informed consent**
  - Access to information and education
  - Capacity building and technical assistance
- **Full and effective participation** by local communities at all stages of decision making
  - policies/strategies, at local, national and international levels
  - about benefit sharing, land tenure, co-benefits
  - in projects
- **Dispute/conflict resolution mechanisms essential**

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Future directions

- **REDD mechanism in post Kyoto agreement under negotiation**
- **Many issues to be resolved:**
  - **How will “forests” and “forest degradation” be defined?**
  - **How will REDD affect indigenous and forest dependent people?**
  - **Institutional arrangements**
  - **Government accountability**
  - **How will REDD be funded?**
  - **Land tenure arrangements**
  - **Dispute resolution mechanisms**
  - **Ownership rights to carbon**
- **Pilot projects under development for voluntary market**
- **REDD credits from current projects could be used for a future international compliance market**

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Further information and assistance

- To follow progress on REDD:
  http://www.redd-net.org/
- LALSU can assist in advising communities
- Honiara – Jacob Kinai (28406)
- Gizo – Elaine Johnson, Brian Hiele (60682)
- LALSU works with lawyers at Environmental Defender's Office, Sydney

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Thank you!

Questions?

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