



**Wildlife
Conservation
Society**



Science Talk

Introduction to Carbon Credits

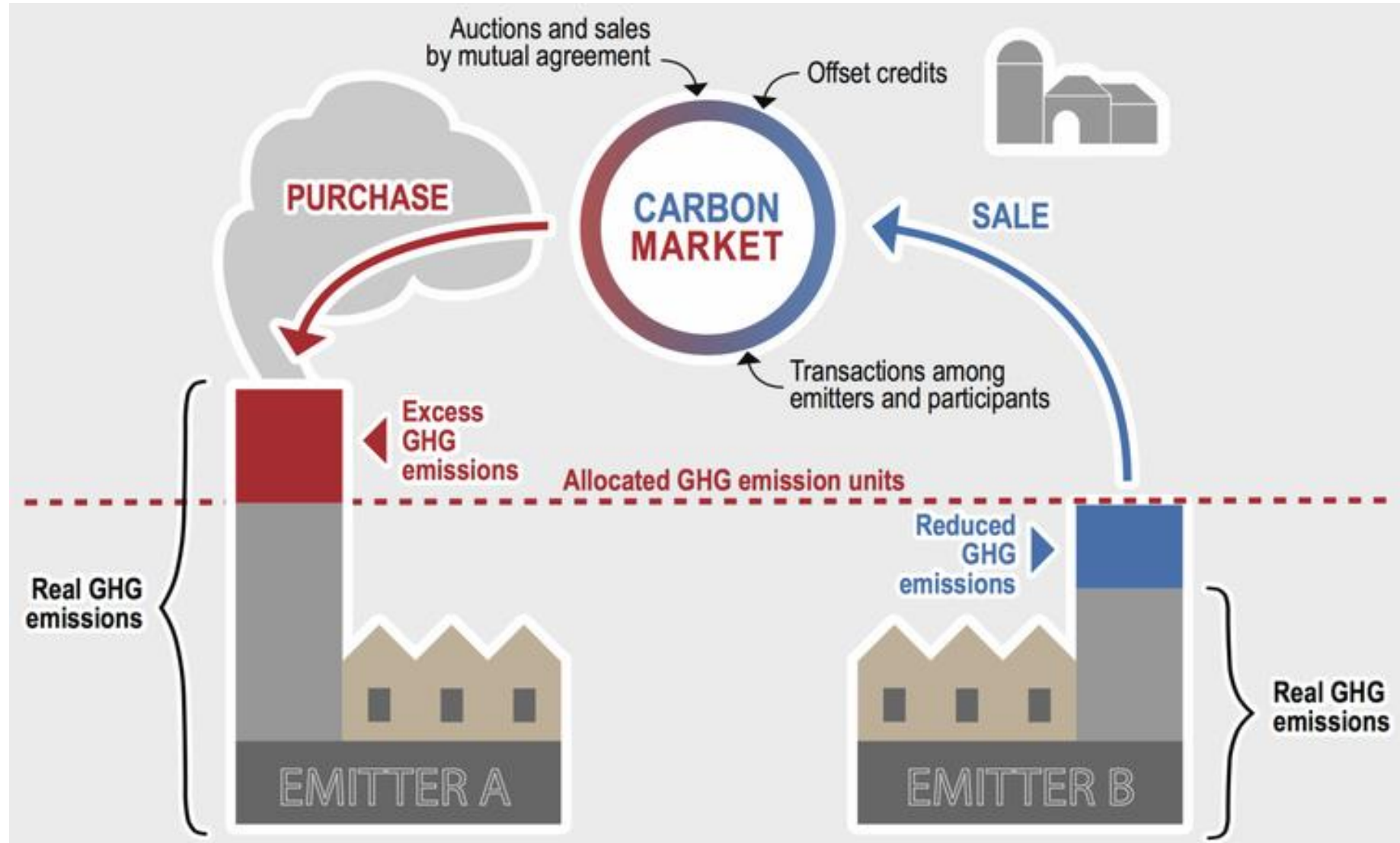
05 January 2023

Olly Griffin

Forestry Carbon Technical Advisor

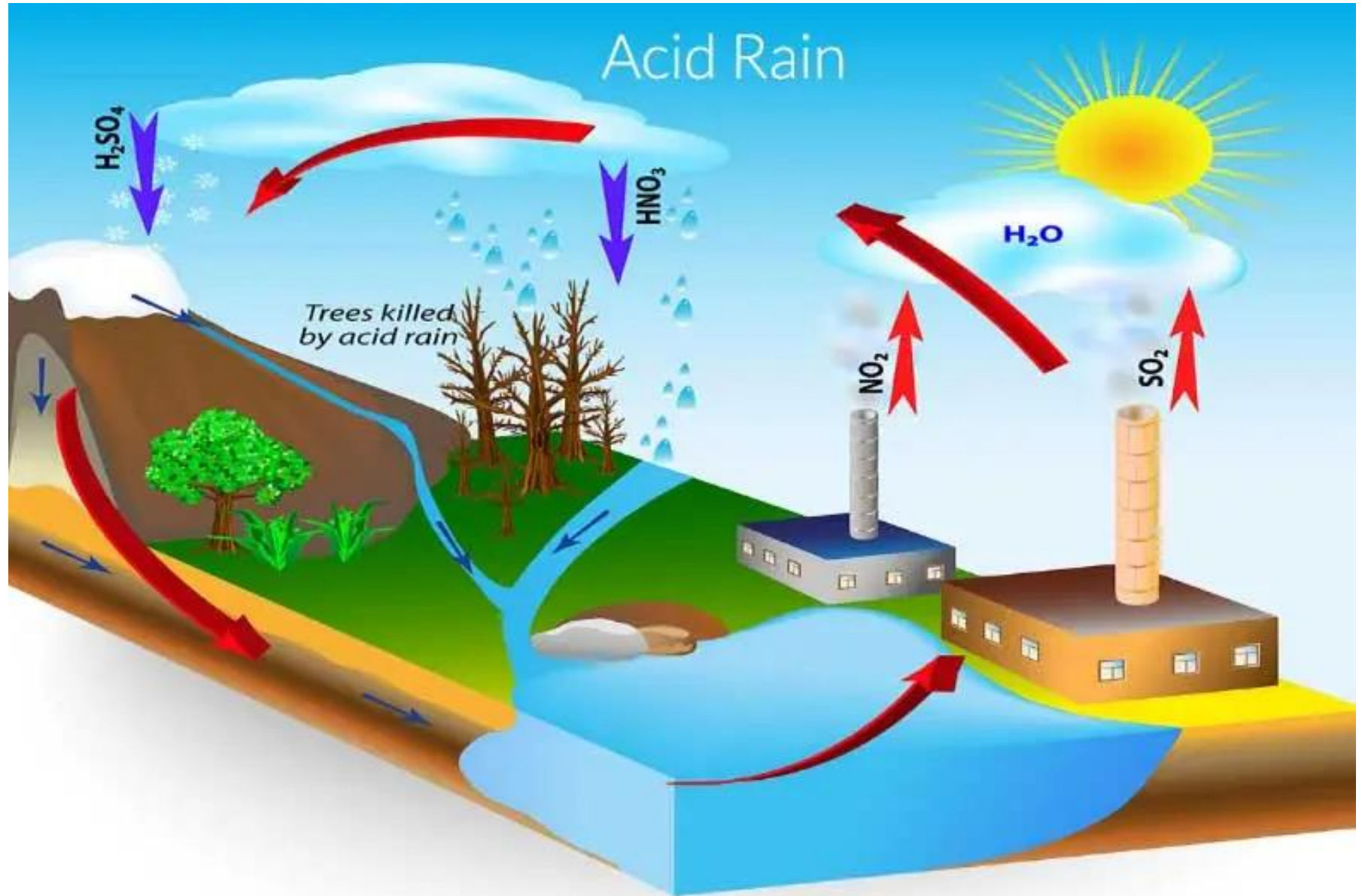
OFFSETS

- Gives all emitters incentive to reduce emissions as much as possible
- Allows economic reductions to be made by some emitters over more time
- Carbon credit – an agreement that represents the reduction in emissions of 1 tonne of CO₂



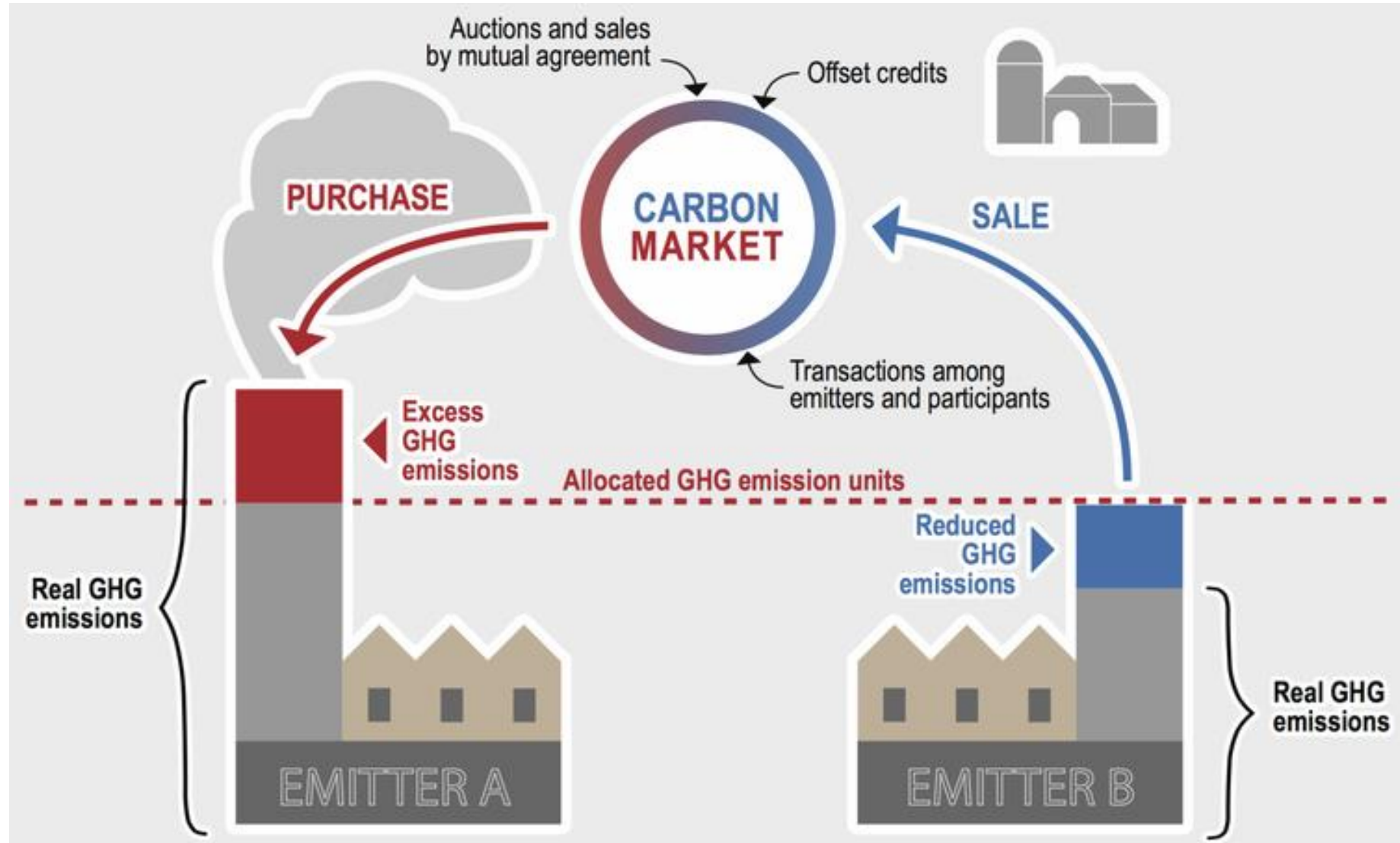
ACID RAIN

- Worked well for acid rain
- In 1990s, big problem in US, UK, Europe
- Now, no longer a problem



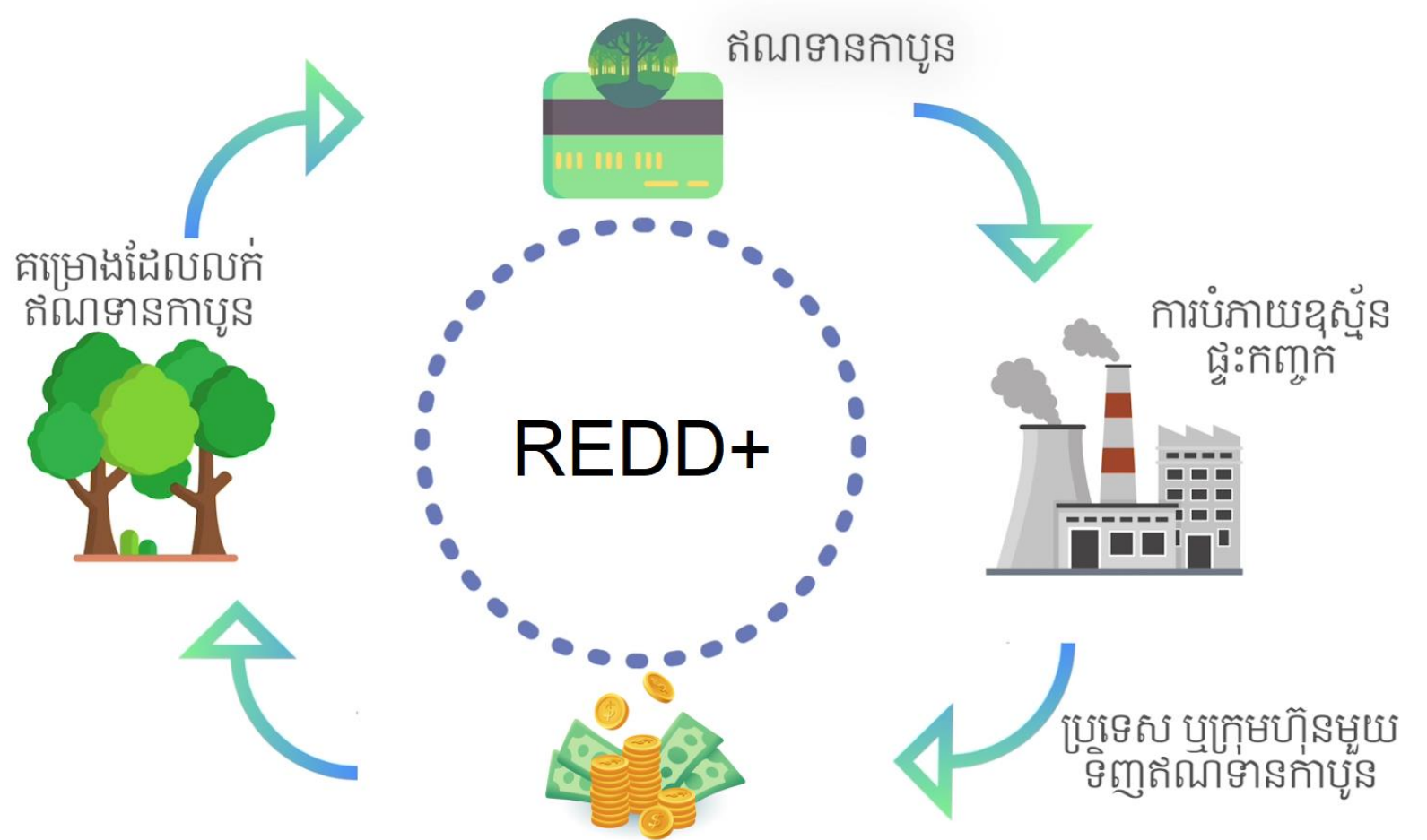
CARBON EMISSIONS

- *Could work for carbon emissions too*
- *BUT ONLY PART OF THE SOLUTION*
- *STILL NEED TO REDUCE EMISSIONS, ESPECIALLY FROM FOSSIL FUELS!!*



អ្វីទៅជា របេងបូក?

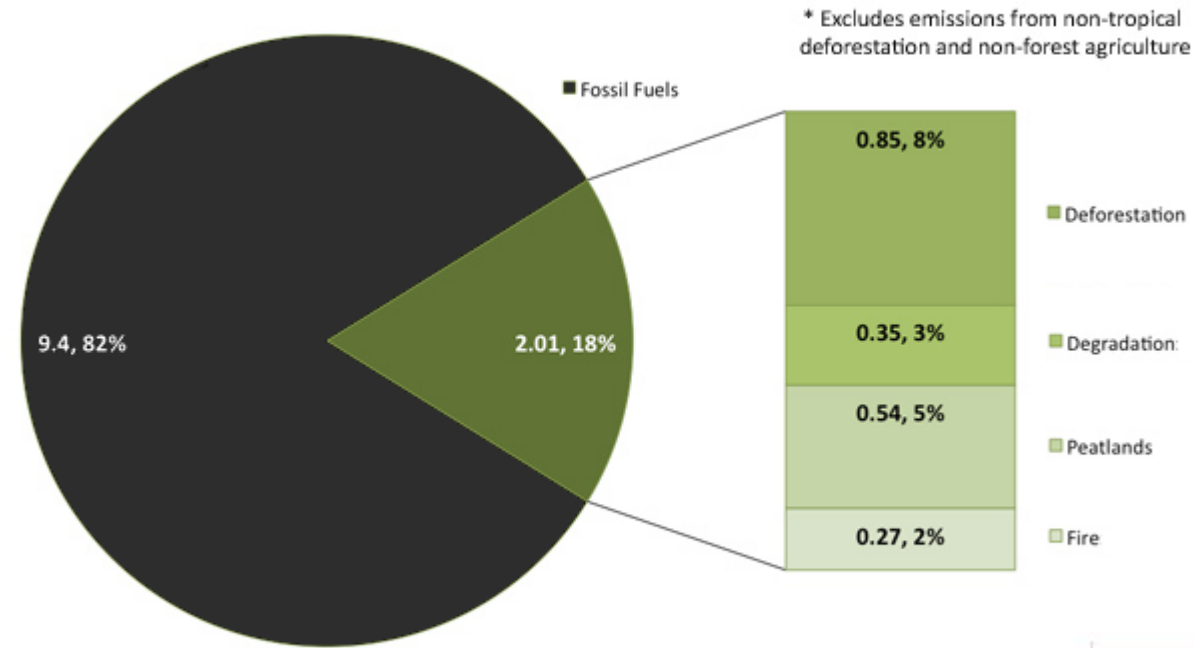
- “ការកាត់បន្ថយការបំភាយឧស្ម័នផ្ទះកញ្ចក់ដែលបណ្តាលមកពីការបាត់បង់ និងវេចរើសព្រៃឈើ”
- យន្តការ ផ្តល់មូលនិធិសកល ដើម្បីគាំទ្រការ អភិរក្សព្រៃឈើ
- អត្ថប្រយោជន៍រួម៖ ការអភិវឌ្ឍប្រកបដោយចីរភាពសម្រាប់សហគមន៍មូលដ្ឋាន, ការការពារជីវៈចម្រុះ



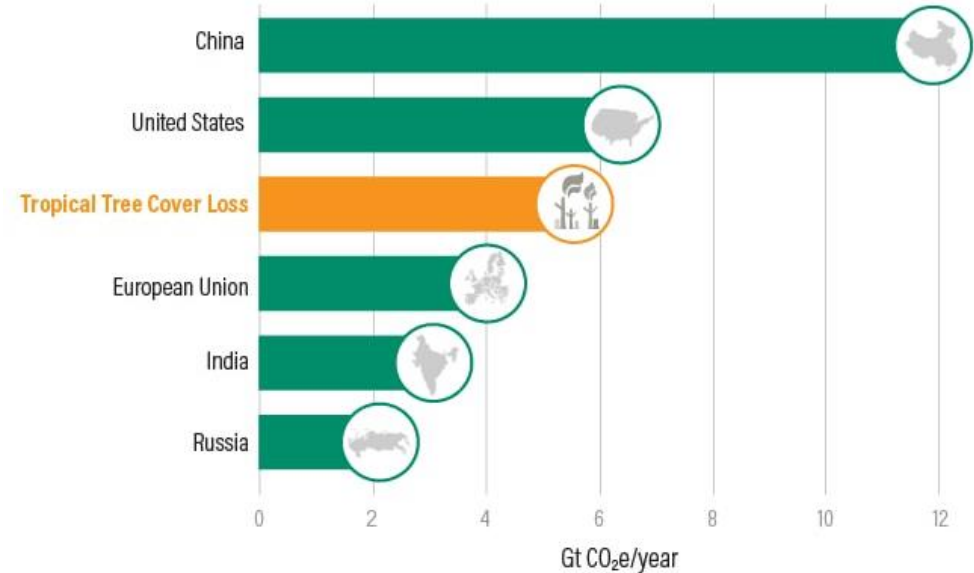
ការប្រែប្រួលអាកាសធាតុ

- ជាបញ្ហាសកល
- ការបំភាយឧស្ម័នកាបូនពីការបាត់បង់ព្រៃឈើត្រួតពិច និង ការរិចរិលព្រៃឈើ ~20% នៃការបញ្ចេញឧស្ម័នសរុប
- ការដាំព្រៃឈើ ឡើងវិញ និង ការស្តារព្រៃឈើឡើងវិញ ក៏អាចស្តុក ឧស្ម័នកាបូនរហូតដល់ ~ 33 % នៃការបំភាយឧស្ម័នសរុប

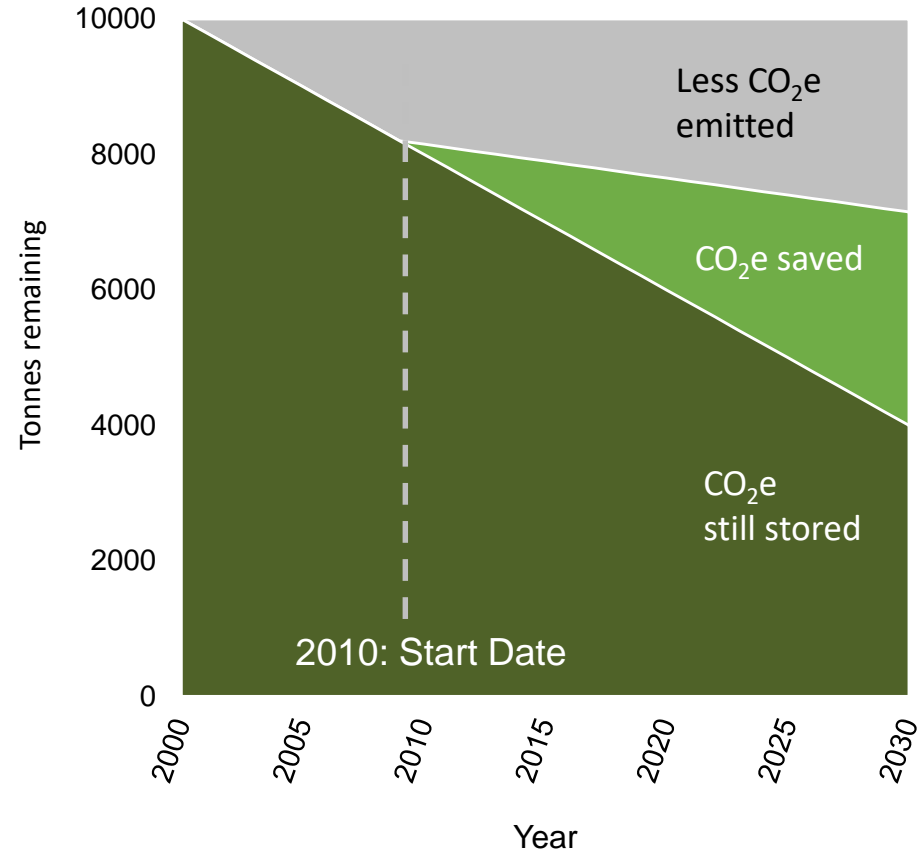
Carbon emissions associated with human activity
[Billion metric tons carbon/yr, share of total emissions]



MONGABAY.COM
using data from Grace et al 2014 and EDGAR



- Reduce rate of deforestation
- Use reductions for carbon credits
- Make money to fund more forest protection
- ... And support local communities and wildlife



Emissions reductions

These emissions reductions can be credited

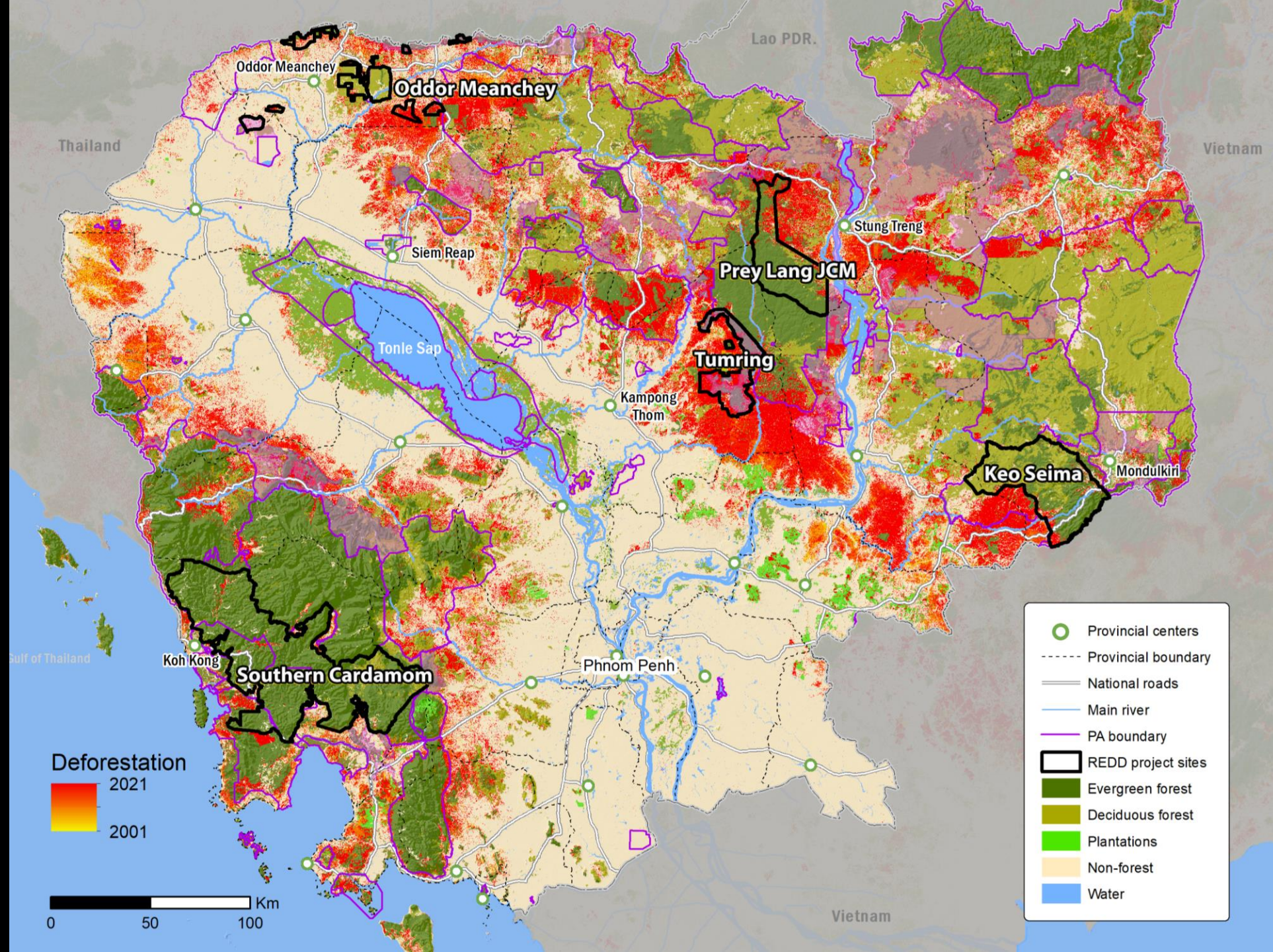
PROJECTS IN CAMBODIA

5 active projects:

- *Keo Seima Wildlife Sanctuary REDD+*
- *Tumring REDD+*
- *Oddor Meanchay REDD+*
- *Southern Cardamoms REDD+*
- *Prey Lang Stung Treng REDD+ (under JCM)*

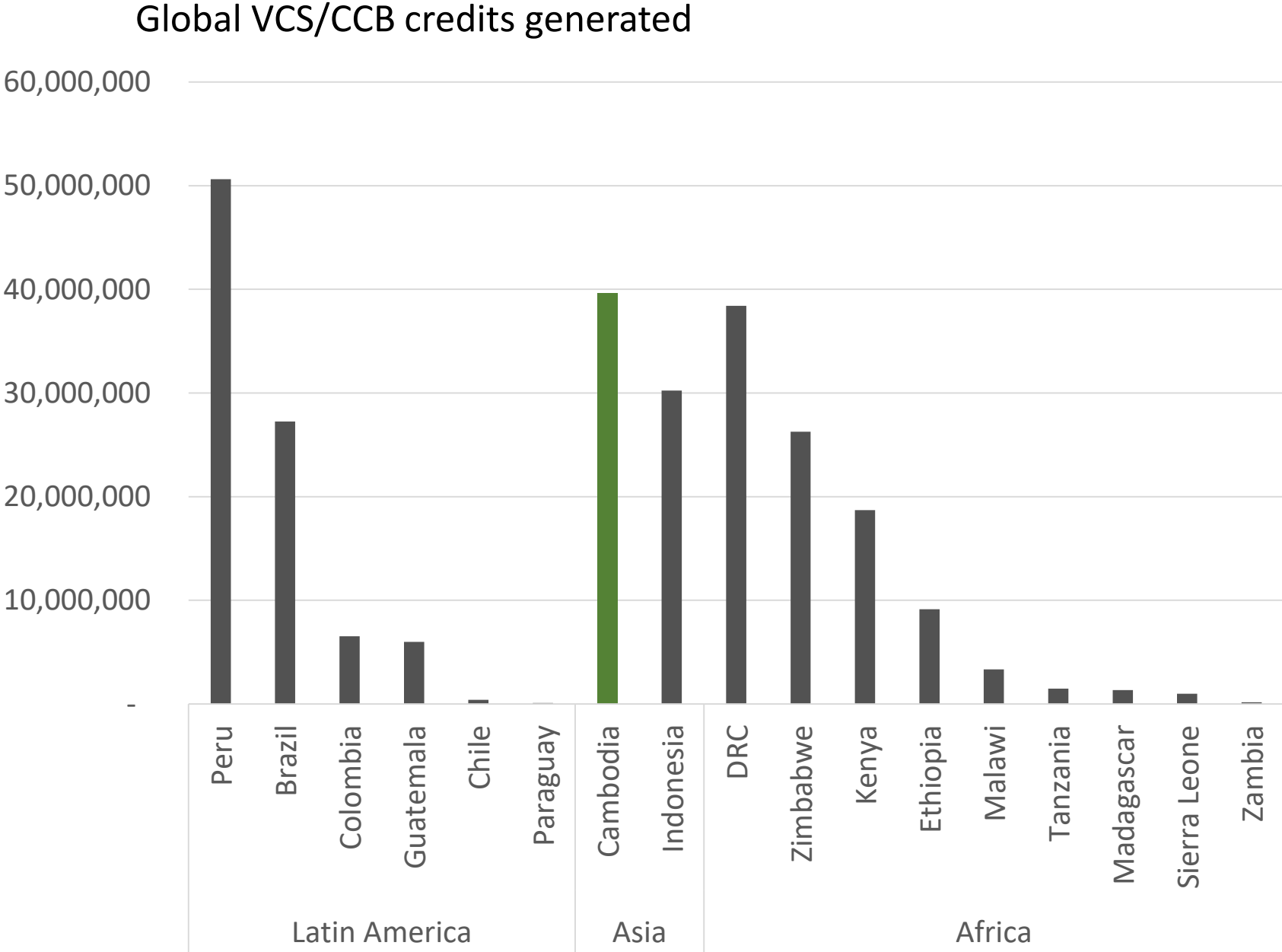
5+ projects under development:

- *Northern Plains Landscape*
- *Central Cardamoms*
- *Virachey NP*
- *Lomphat WS*
- *Phnom Thnot*



PROJECTS IN CAMBODIA

- *Projects across South American, Africa, and Asia*
- *Cambodia 2nd highest producer globally*
- *Highest in South East Asia*



HOW TO MAKE A REDD+ PROJECT?

Need to know the answer to many questions:

- Have to know how much forest there is
- How much forest there WOULD be, if no change in protection
- How much carbon is stored in forest (per hectare)
- How much CO₂ would be released if 1 hectare cut down



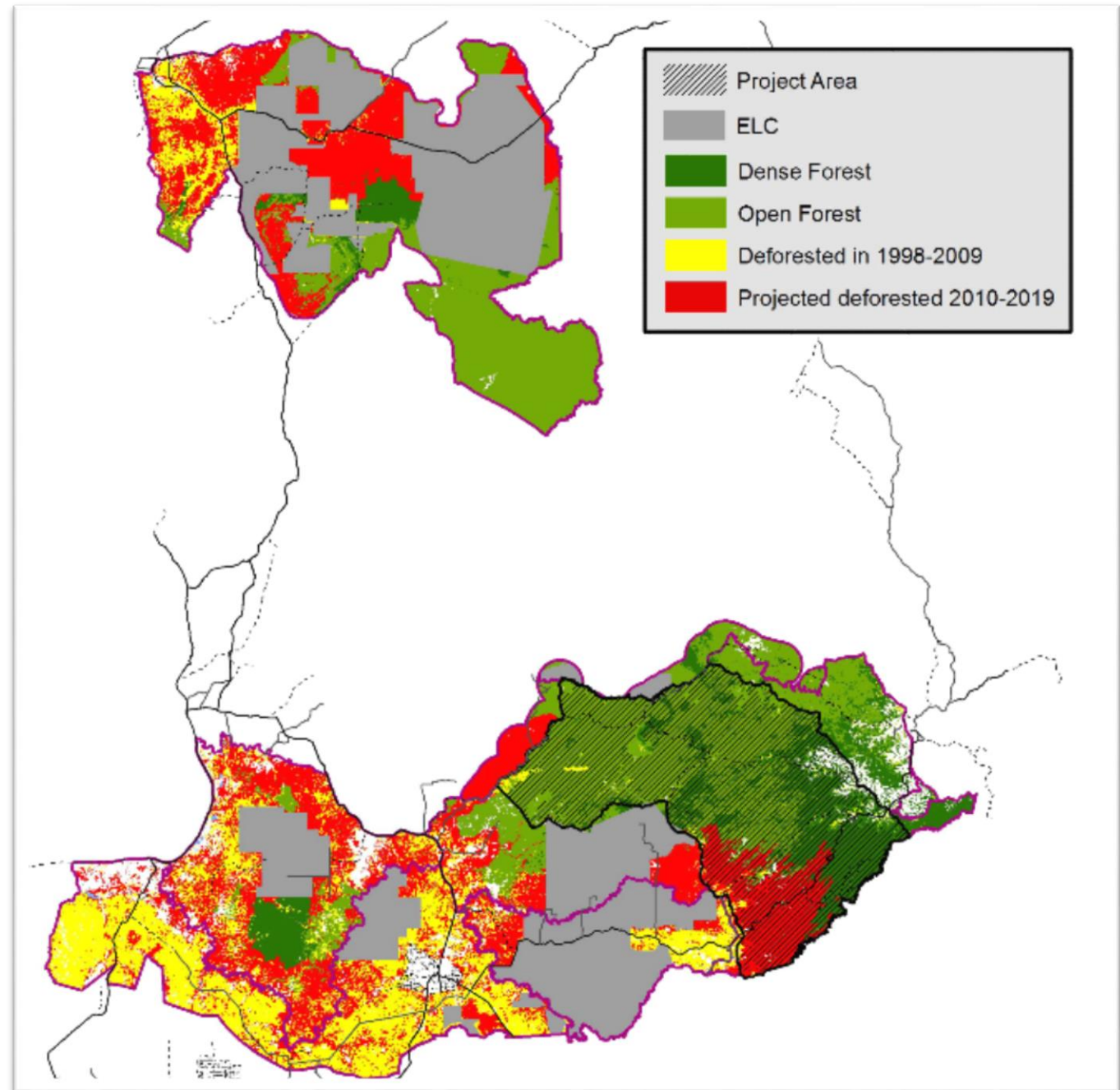
Need to know the answer
to many questions:

- Have to know how
much forest there is



Need to know the answer to many questions:

- How much forest there WOULD be, if no change in protection
 - Historical deforestation
 - Statistical models



Need to know the answer to many questions:

- How much carbon is stored in forest (per hectare)
- How much CO₂ would be released if 1 hectare cut down



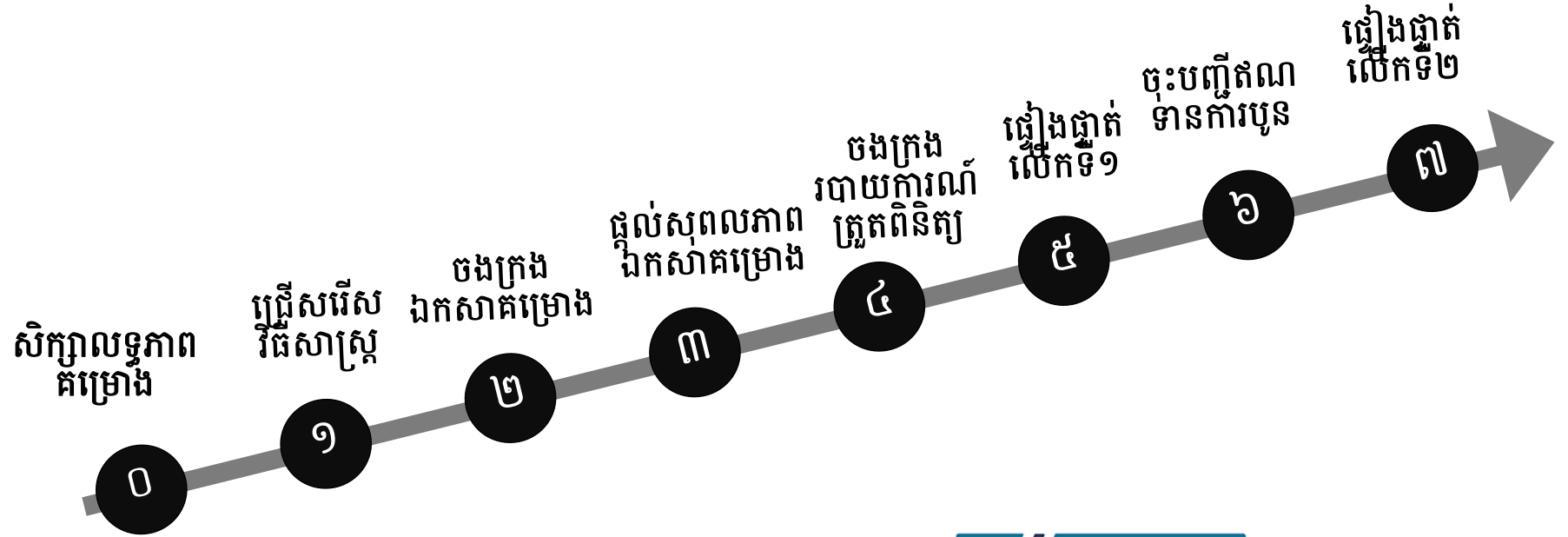
How do we know if people are doing all of this correctly?

- Complicated process
- Need to have a set of agreed rules and standards
- International, governmental agreements
 - Paris Agreement
 - UN
- Voluntary market
 - Quicker
 - Private sector



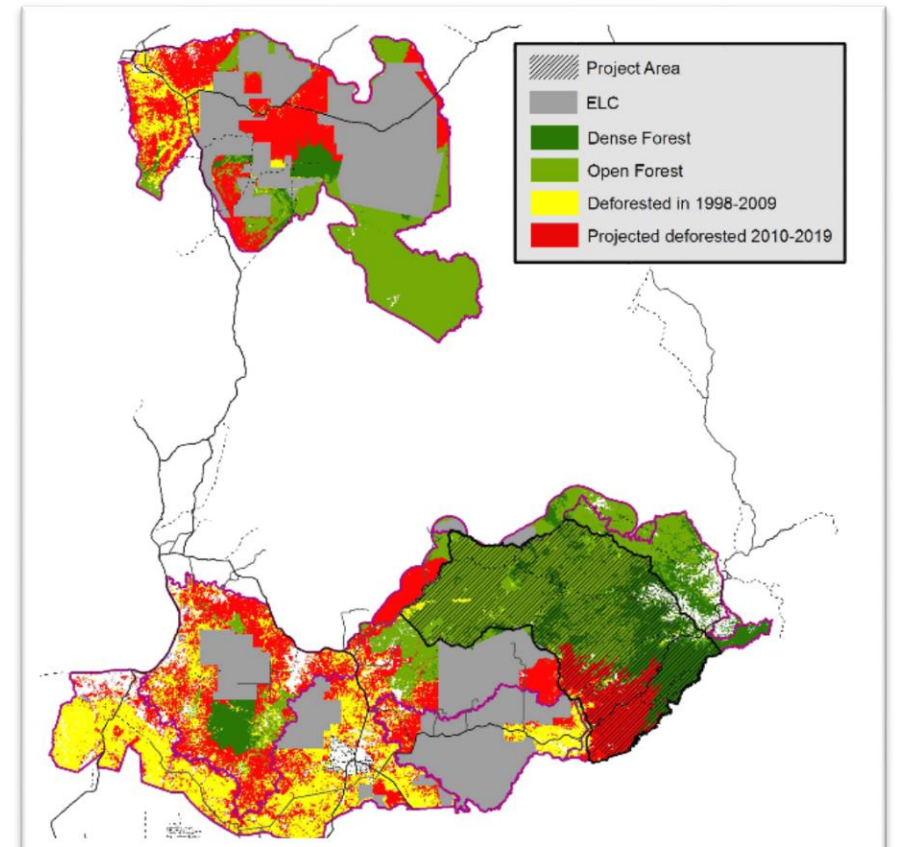
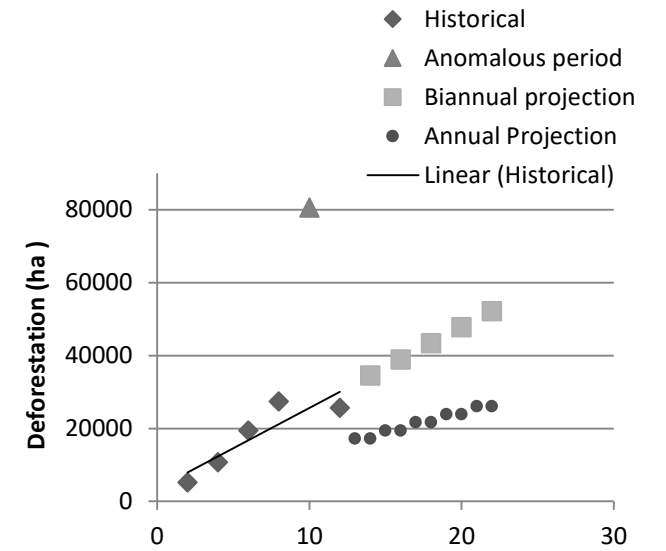
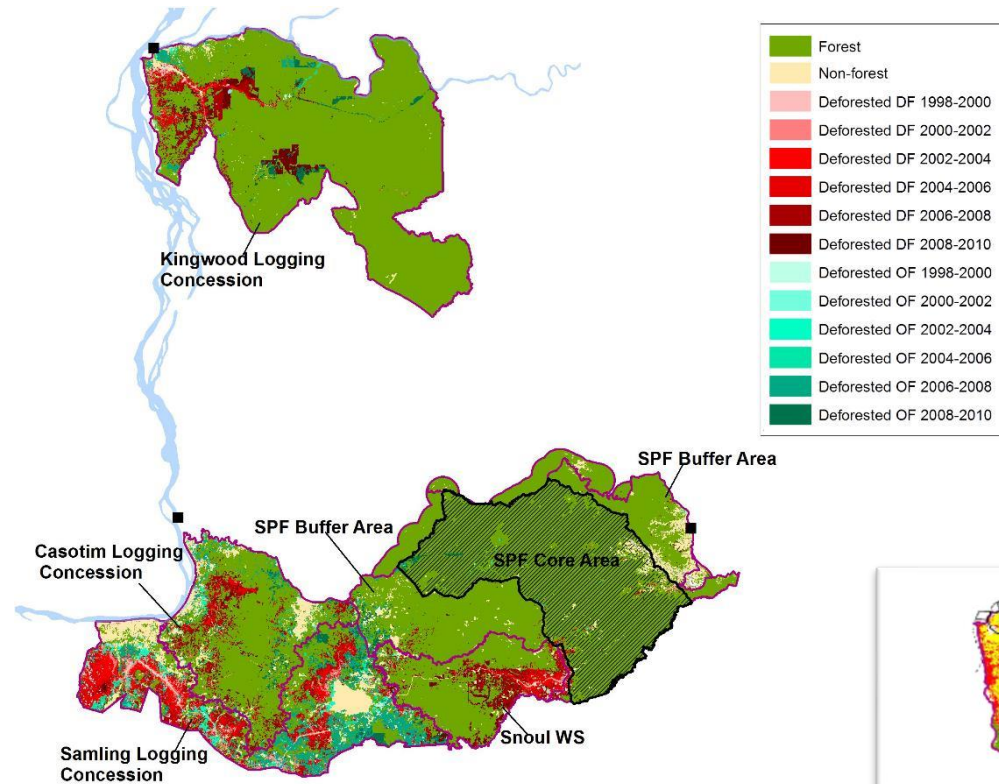
វដ្តនៃគម្រោង

- គម្រោងត្រូវតែអនុវត្តទៅតាមស្តង់ដារអន្តរជាតិដែលបានកំណត់
- ការធ្វើសវនកម្មឯករាជ្យដោយភាគីទី៣ដើម្បីធានាថាបានអនុលោមតាមស្តង់ដារដែលបានកំណត់
- បទដ្ឋានស្តង់ដារធានានូវការគោរពសិទ្ធិសហគមន៍ ការការពារជីវៈចម្រុះ និងទិន្នន័យបច្ចេកទេសដែលមានគុណភាពខ្ពស់

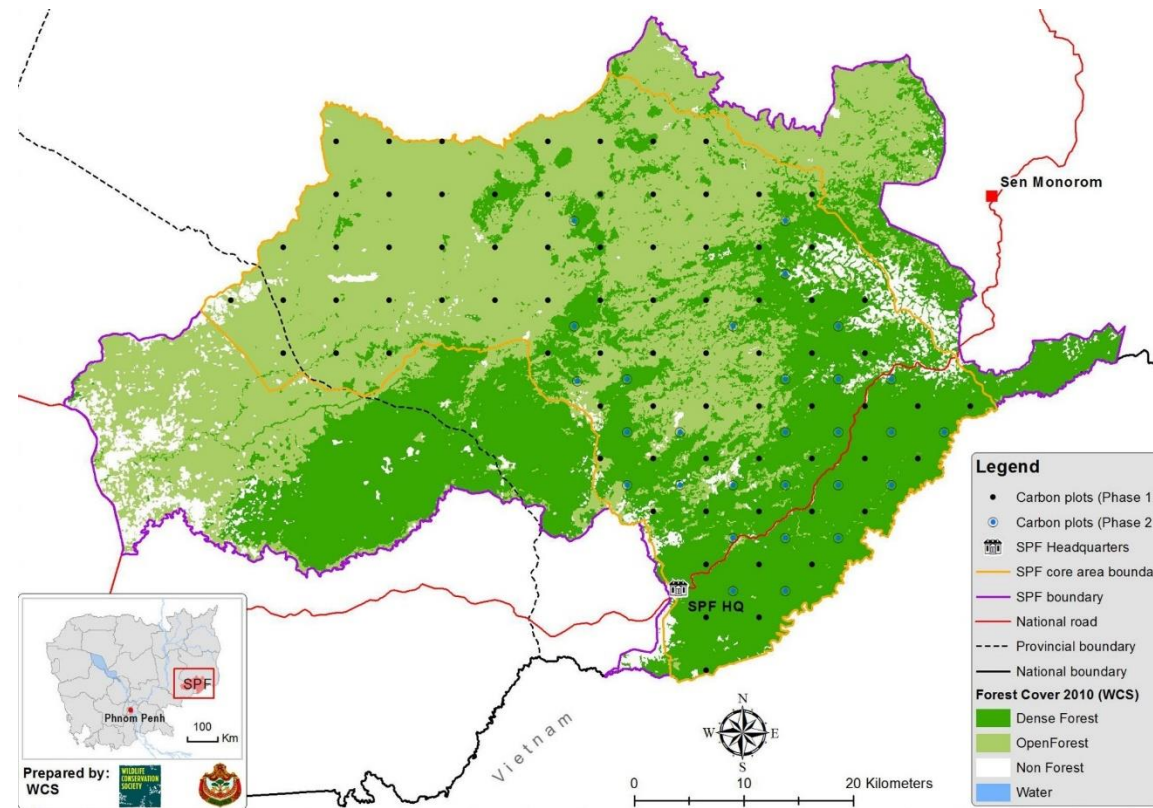


ANSWER QUESTIONS

- Have to know how much forest there is
- How much forest there WOULD be, if no change in protection



- How much carbon is stored in forest (per hectare)
- How much CO₂ would be released if 1 hectare cut down



Stratum	Above & below ground C stock tC/ha (95% CI)	tCO ₂ e/ha
Dense forest: evergreen, semi-evergreen, bamboo (n=63)	270 (+/- 25)	992
Open forest: mixed deciduous, dry dipterocarp and woodland (n=41)	156 (+/- 21)	573

KSWS REDD+

Ministry of Environment
& WCS

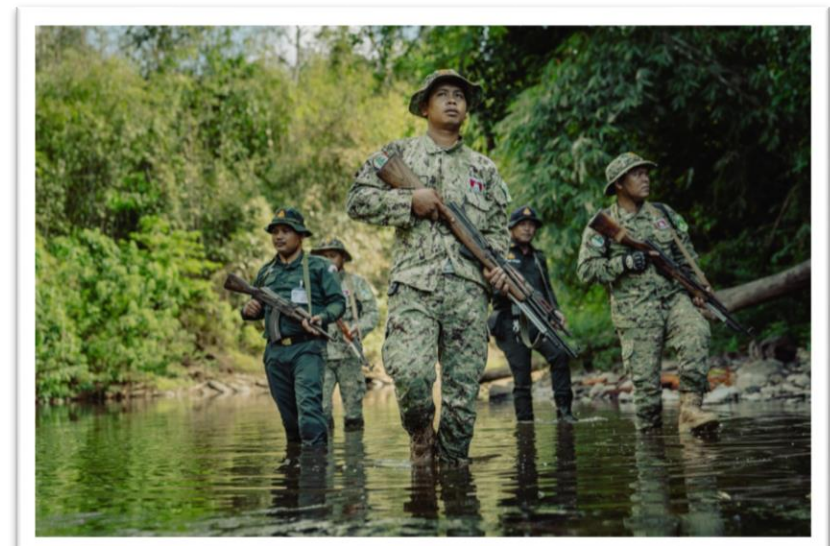
- Start date: 2010
- 167,000 hectares

Activities include:

- Securing community land tenure and rights
- Law enforcement
- Alternative livelihoods and income generation
- Biodiversity monitoring
- Facilitating Cash for Communities distribution and spending



KSWS
REDD+



VERIFICATION

- *Prove we have done what we say we have done*
- *Independent audit*
- *External review*
- *Extensive documentation*
- *Once complete: can generate credits*

Keo Seima Wildlife Sanctuary REDD+ 2020–2021



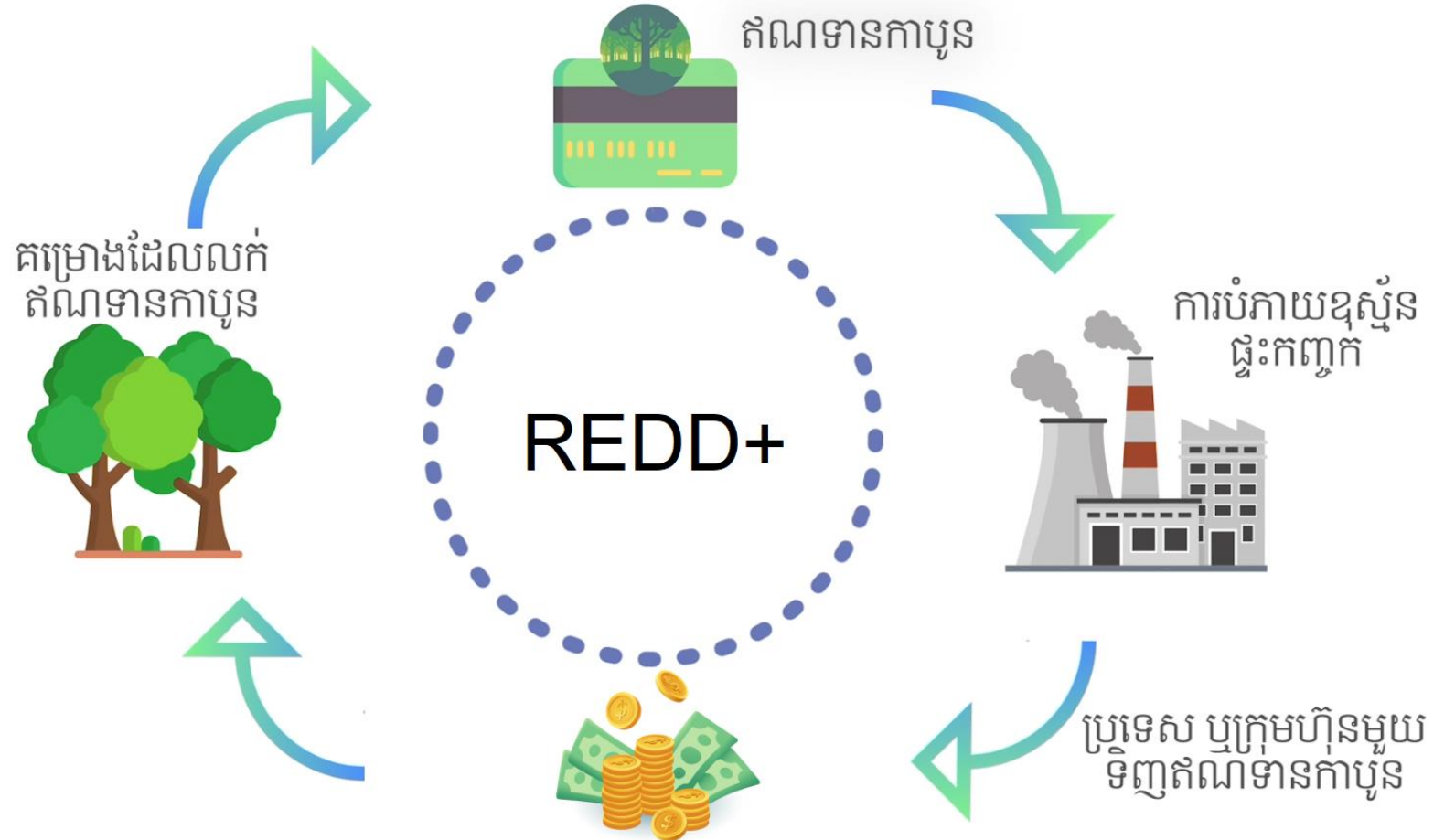
Document Prepared by the Wildlife Conservation Society

Project Title	Reduced Emissions from Deforestation and Degradation in Keo Seima Wildlife Sanctuary
Project ID	1650
Version	1.4
Report ID	
Date of Issue	23 rd December 2022
Project Location	Cambodia, Mondulkiri Province
Project Proponent(s)	H.E. Dr. Paris Choup, Under Secretary of State, Ministry of Environment, Royal Government of Cambodia +855 23 213 908, paris.nogg@gmail.com
Prepared By	Dr. Ken Sereyrotha, Country Director, Wildlife Conservation Society, Cambodia, +855 23 219 443 / 217 205, sken@wcs.org
Validation/Verification Body	Shawn McMahon, Vice President, Aster Global Environmental Solution Inc, +1 330-833-9941, smcmahon@AsterGlobal.com
GHG Accounting/Crediting Period	01 January 2010 to 31 December 2089; 60 years
Monitoring Period of this Report	01 January 2020–31 December 2021; 2-year total period
History of CCB Status	Validation Issuance: 16 November 2015, First Verification Issuance: 04 April 2017 (Revised 26 May 2017), Second Verification Issuance: 26 November 2018, Third Verification Issuance: 16 November 2020
Gold Level Criteria	The KSWS REDD+ Project qualifies for CCB Biodiversity Gold for the following criteria: Vulnerability: at least 84 confirmed Globally Threatened species occur in the Project Zone. Irreplaceability: the Project Zone holds significant populations of at least three restricted-range species and large proportions of the world's population of at least five other species. Project supports law enforcement action against poaching, snare removal, and economic livelihood alternatives to poaching.



PRODUCE CREDITS

- A standards organization (like a bank) adds those credits to your account.
- You can then sell those credits to someone
- And the “bank” moves those credits into that persons account.



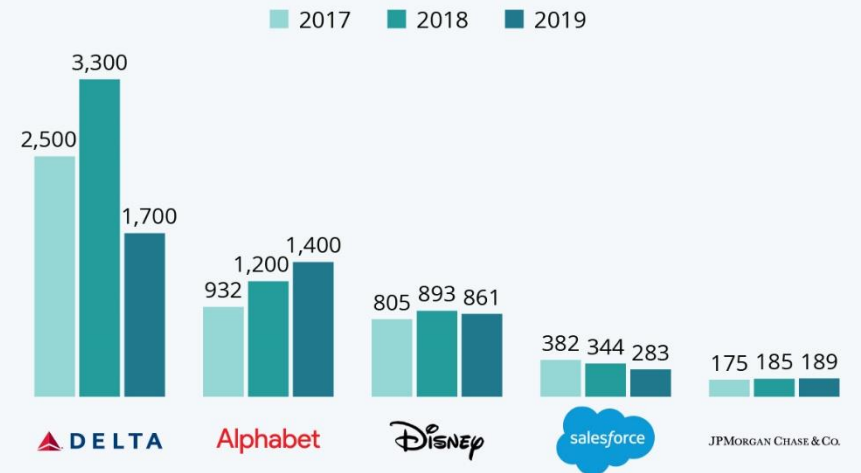
WHO BUYS?

- Organization that cares about environment
- Or wants to look like they care!
- Or wants to avoid climate change because expensive for them!
- Individuals who want to offset their emissions (flights, etc)
- Future: countries under Paris Agreement



Trend in Carbon Offset Purchases

Carbon offsets purchased by select companies, 2017-2019
(in thousand metric tons of CO₂ equivalent)



Sources: Company filings, Bloomberg



HOW TO BUY?

- Normally through a “middle man”
- Organizations buy large volumes
- But can also buy as an individual through websites, e.g. standfortrees.org
- How much?
- Price depends on volume, project, buyer
- Between \$10 and \$15 at the moment

The screenshot shows a web browser window with the URL <https://standfortrees.org>. The page displays a grid of five forest project cards. Each card features a representative image, a title, a quantity selector (set to 0.5 Tonnes), a price of \$10.00, and an 'Add to cart' button. The projects are:

- GOLA RAINFOREST**: Image of a woman in a field. Price: \$10.00.
- GUATEMALA CONSERVATION COAST (RETURNING SOON)**: Image of a coastal forest. Status: Out of stock.
- BRAZILIAN ROSEWOOD**: Image of a wooden house on a path. Price: \$10.00.
- RIMBA RAYA ORANGUTAN**: Image of an orangutan. Price: \$10.00.

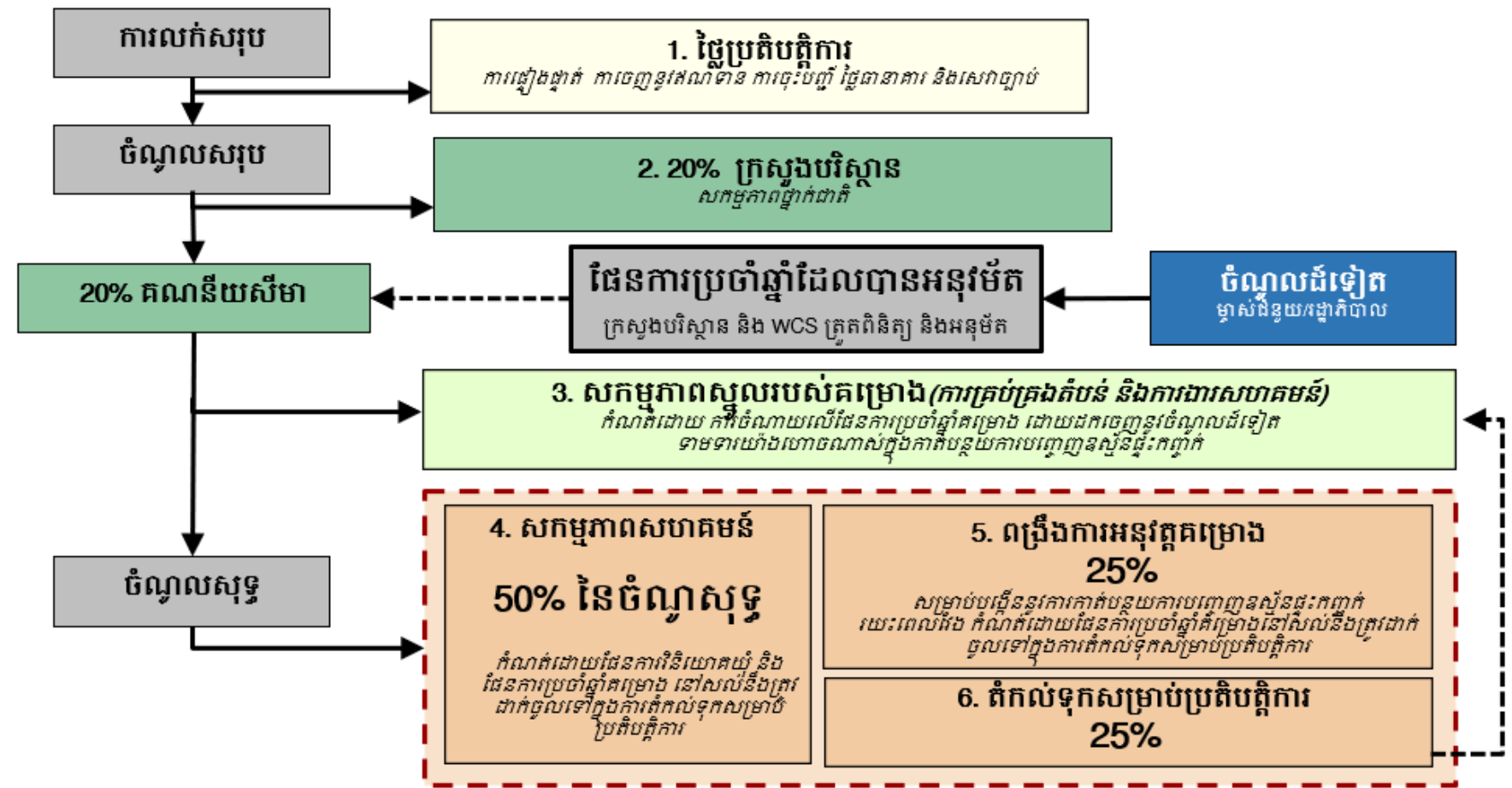
Below the grid is a link: [All our forests here](#) with a right-pointing arrow. At the bottom, the text **HOW IT WORKS** is visible above a series of curved lines representing a process flow.

HOW IS THE MONEY SHARED?

2010-2021

Has avoided:

- 25,000 hectares of deforestation
- 21 million tCO₂e emissions
- Equivalent to 50 million barrels of oil
- 18 million carbon credits generated

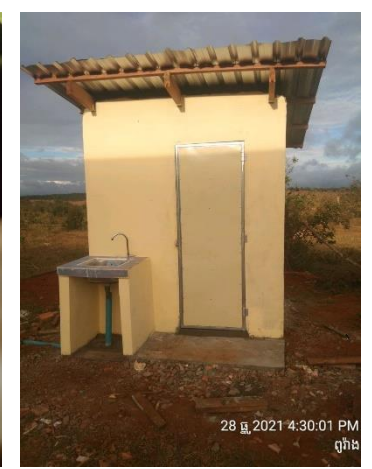


COMMUNITY BENEFIT SHARING

- \$400,000 distributed to date
- Distribution of \$600,000 more planned by the end of this year

Used by communities for:

- Roads, bridges
- Water
- Healthcare
- Education
- Protection of land titles





New projects under development



High forest and biodiversity values



Local Khmer and indigenous communities

COMMUNITY BENEFIT SHARING

- *Is the project “high quality”?*
- *Is it really reducing deforestation?*
- *Does it really benefit local communities?*
 - *Does it impact them negatively?*
- *Does it really benefit wildlife?*
- *Will it be protected for a long time?*
 - *Or just a quick “cash-grab”?*



We Stand for Wildlife™

