

Colombia 2050 Calculator Natural and Planted Forests

Rodrigo Suárez Castaño

Climate Change Director

Ministry of Environment and Sustainable Development

Taiwan, February 11, 2015

Why forests?

- **52.5%** of Colombia's territory
- Annual deforestation rate: **0.48%**
- Emissions caused by deforestation (2010):
69,815,000 tons CO₂e – **32% of total**

Leavers

I. Reducing deforestation

II. Commercial and Protective reforestation



I. Reducing deforestation

Assumptions

- Emissions from aerial biomass only
- Land use change emissions **not** included

Forest areas

1. Amazonian
2. Andean
3. Caribbean
4. Pacific
5. Orinoquia



Driver Tree

**TOTAL
FOREST
AREA
(Ha)**

=

**5
FOREST
AREAS**

X

**DE-
FORESTATION
RATE
(Ha/Yr)**

=

**DE-
FORESTED
AREA
(Ha)**

X

**CARBON
CONTENT
OF EACH
FOREST
AREA
(Ton C /Ha)**

X

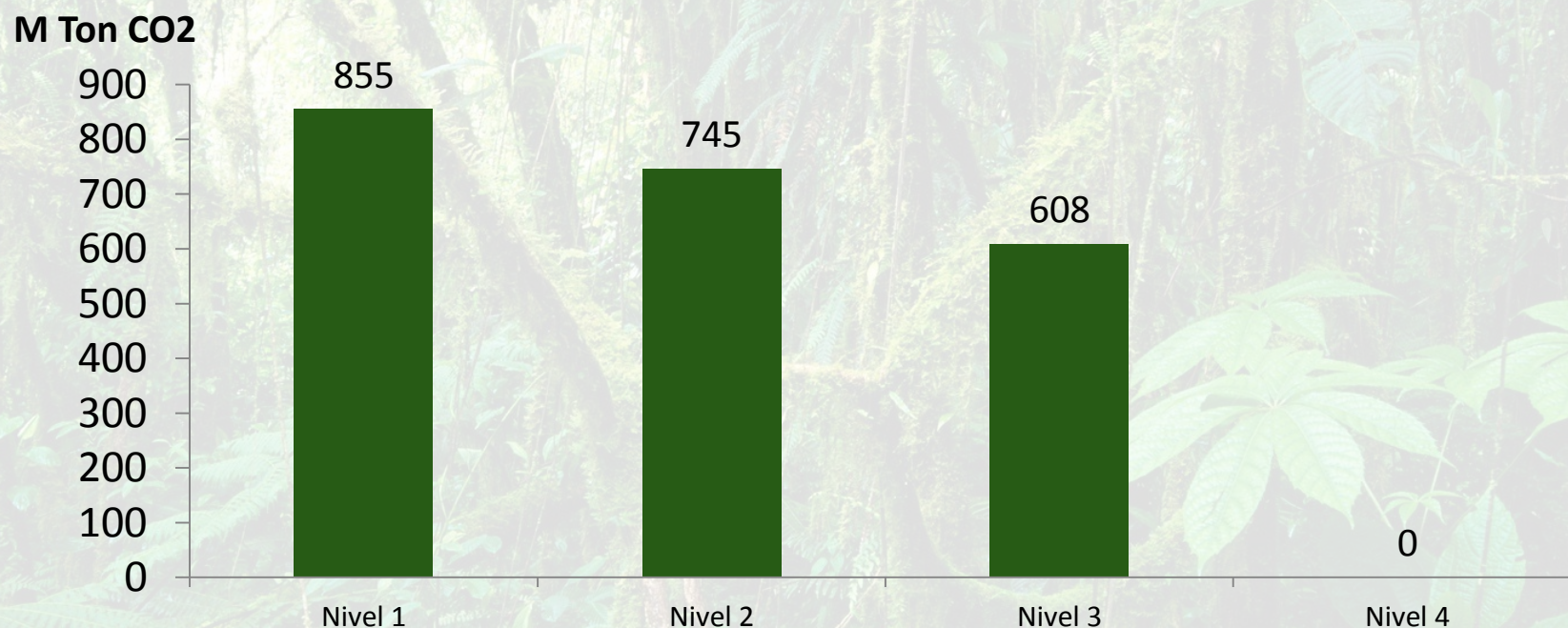
**FACTOR
(Ton
CO2)**

=

**EMISSIONS
(Ton CO2)**

Accumulated ambition levels

Emissions





II. Commercial and Protective Reforestation

Assumptions

- Land use change emissions **not** included
- Information available only on **certain tree species** in the country
- Capture rates are **fixed in time**, they do not change according to diameter increases over the years
- Capture rates are effective from **year 5** until year **20**, then zero

Tree species

Commercial

1. Eucalyptus (*Grandis- Globulus*)
2. Pine (*Pátula-Oocarpa-Caribaea*)
3. Ceiba (*Bombacopsis*)
4. Teak (*Tectona grandis*)
5. Melina (*Gmelina arborea*)
6. Tabebuia (*Tabebuia rosea*)
7. Guadua bamboo (*Bambusa guadua*)

Protective

1. Hopbush (*Dodonaea viscosa*)
2. Duraznillo (*Abatia parviflora*)
3. Tibar (*Escallonia paniculata*)
4. Ciro (*Baccharis macrantha*)
5. Andean Oak (*Quecus humboldtii*)

Capture discounts

Commercial Reforestation	Management and Use	Permanence	Total
	20%	30%	50%
Protective Reforestation	Management	Permanence	Total
	10%	20%	30%

Driver Tree

**TYPE OF
TREE**

X

**PLANTED
AREA
(Ha)**

X

**CAPTURE
RATE
(Ton
CO₂/Ha)**

=

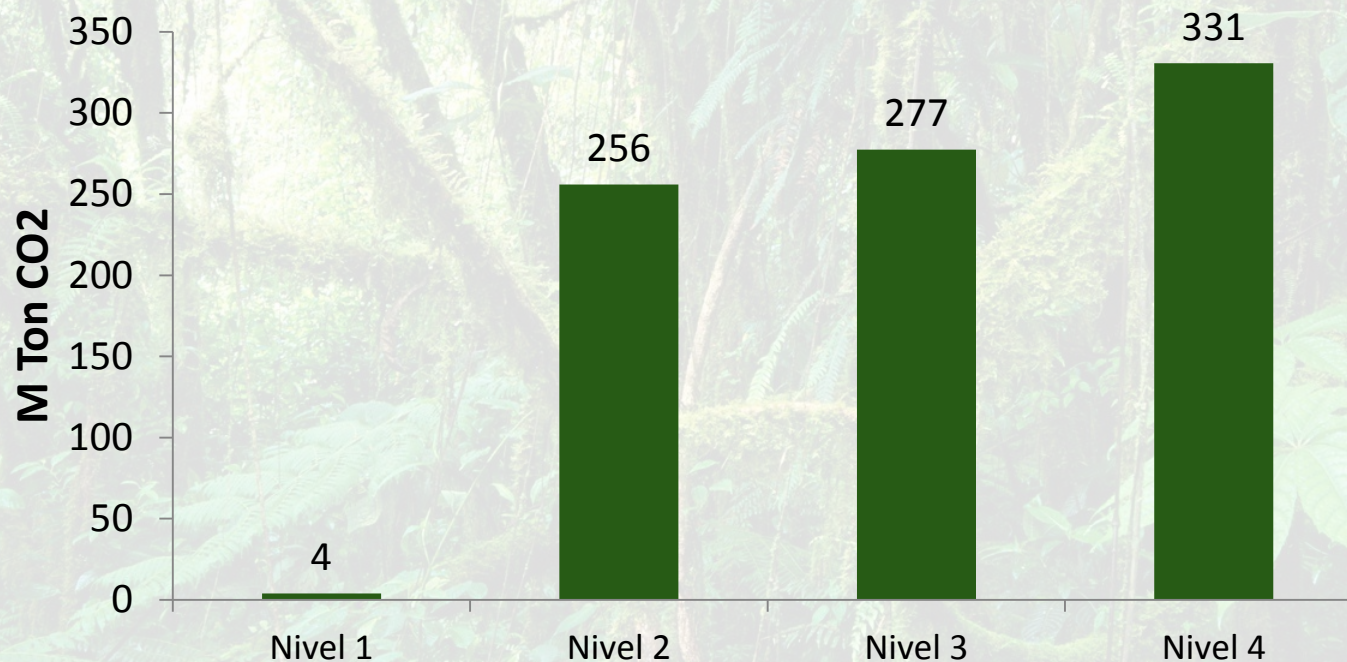
**CARBON
CAPTURED
IN
REFORESTED
AREAS**

-

**CAPTURE
DISCOUNTS
(%)**

Accumulated ambition levels

Carbon capture



Challenges

- New sector, starting from zero
 - Designing calculations
 - Availability of information
 - Stakeholder agreement

Thank you

rsuarez@minambiente.gov.co

johanna.zilliacus@undp.org