

**13** CLIMATE ACTION



# Fighting Against GHG Emissions for a Cleaner Future

Combating climate change through reducing greenhouse gas emissions



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# Contents

01

**The Source**



Greenhouse Gas Emissions

02

**The Impact**



Climate Change

03

**The Solution**



Renewable Energy  
& Trees



# ASEAN Are at Risk of Climate Change Catastrophes

**4 out of 10**

ASEAN Countries are in the 10 most  
**IMPACTED** by Climate Change

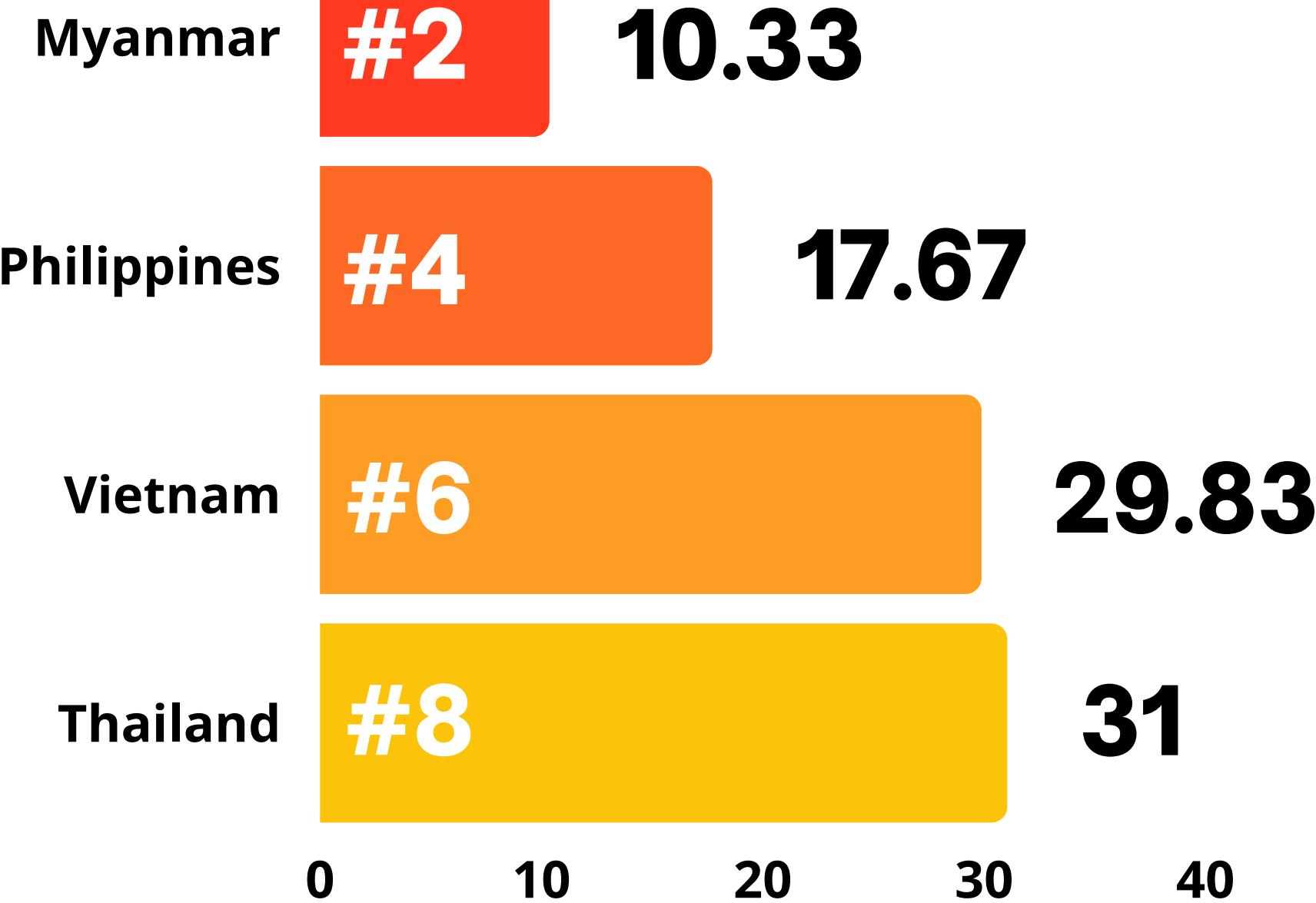
**745**

Total catastrophic events from 1999-2018 in  
these 4 countries alone

**14,531.57**

Total Losses in Million US\$ PPP from 1999-  
2018 in these 4 countries alone

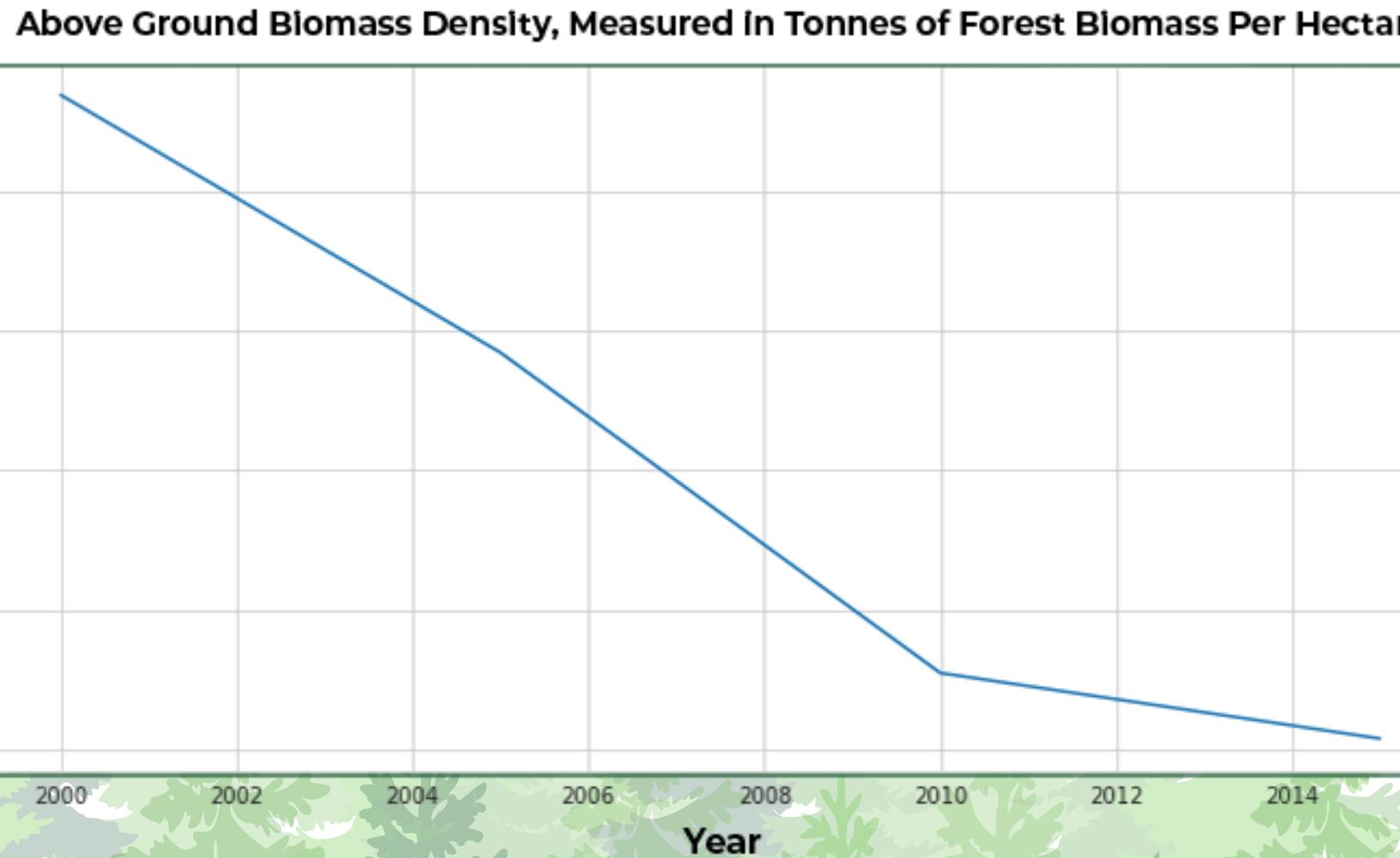
CRI Score (1999-2018)



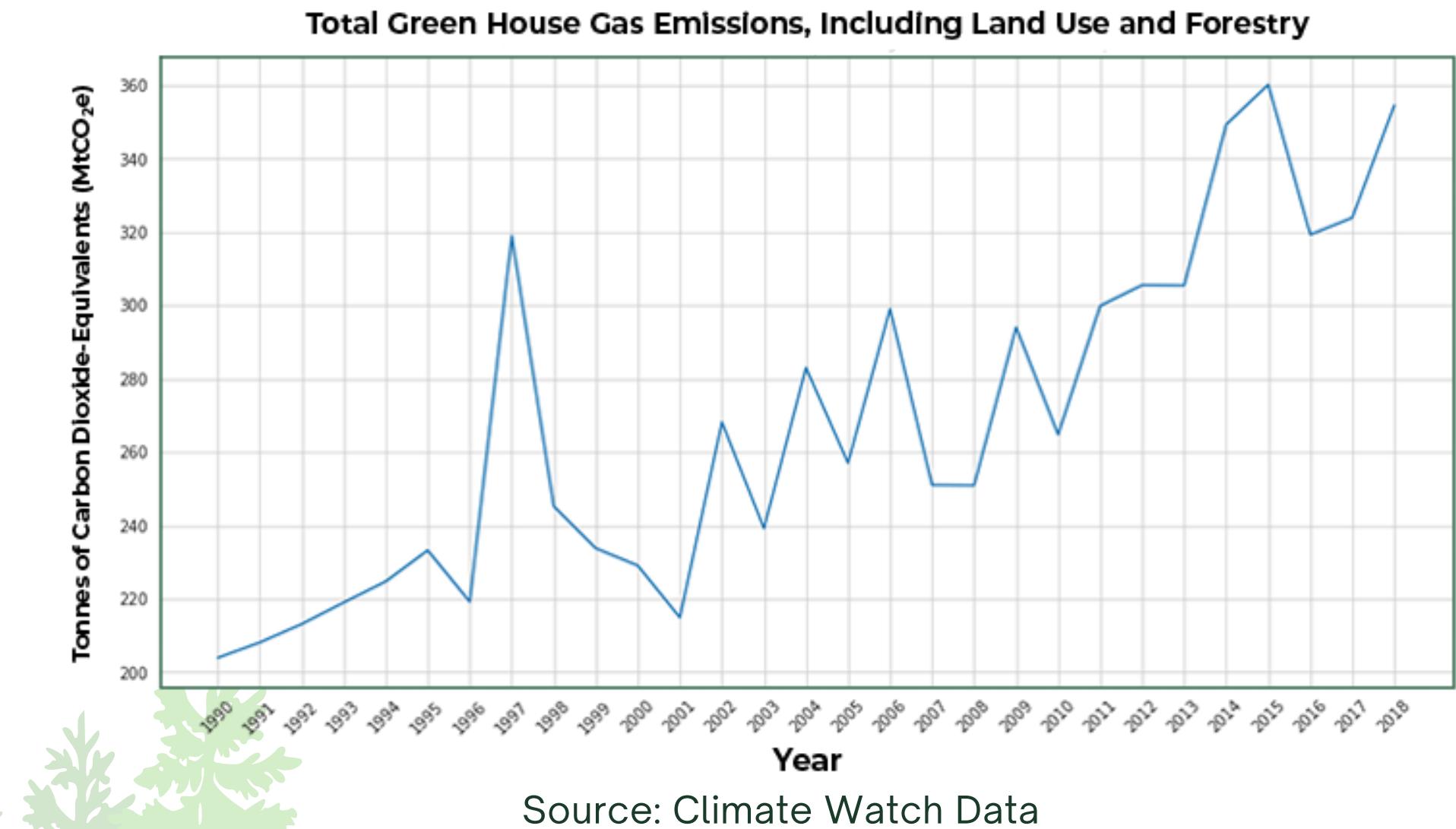
Note: A low climate risk index (CRI) indicates that particular country is at risk of either frequent or rare-but-extraordinary catastrophe

# Forest Areas in ASEAN Continuously Decreases While a Tremendous Amount of Carbon Emissions Increases

## ASEAN's Biomass Density



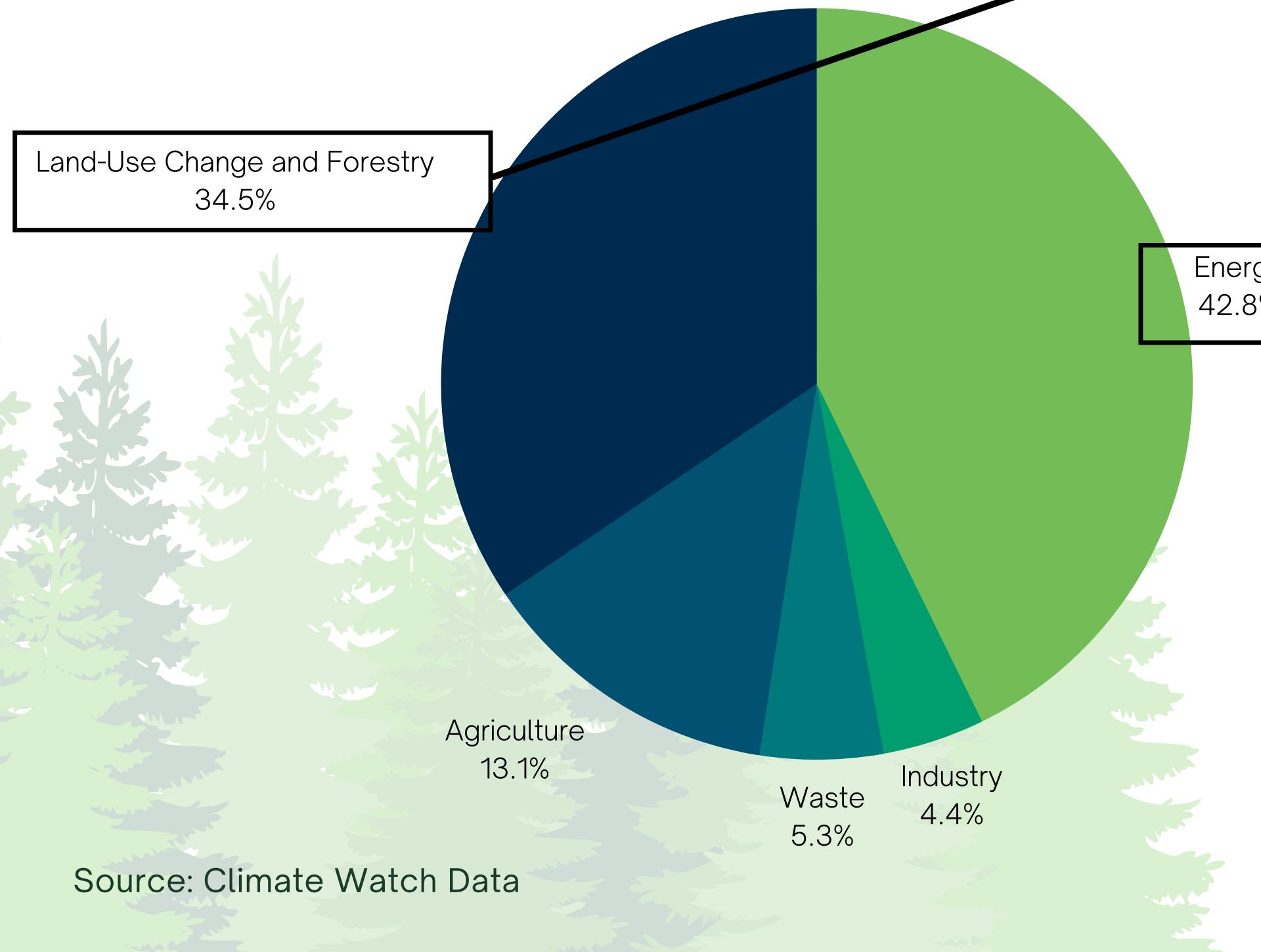
## ASEAN's GHG Emissions



The decreasing forest areas creates a tremendous amount of greenhouse gas emission as there are less plants to absorb carbon dioxide

# Main Causes of Green House Gasses Emissions in ASEAN Countries

Greenhouse Gas Emissions by Sector in 2016



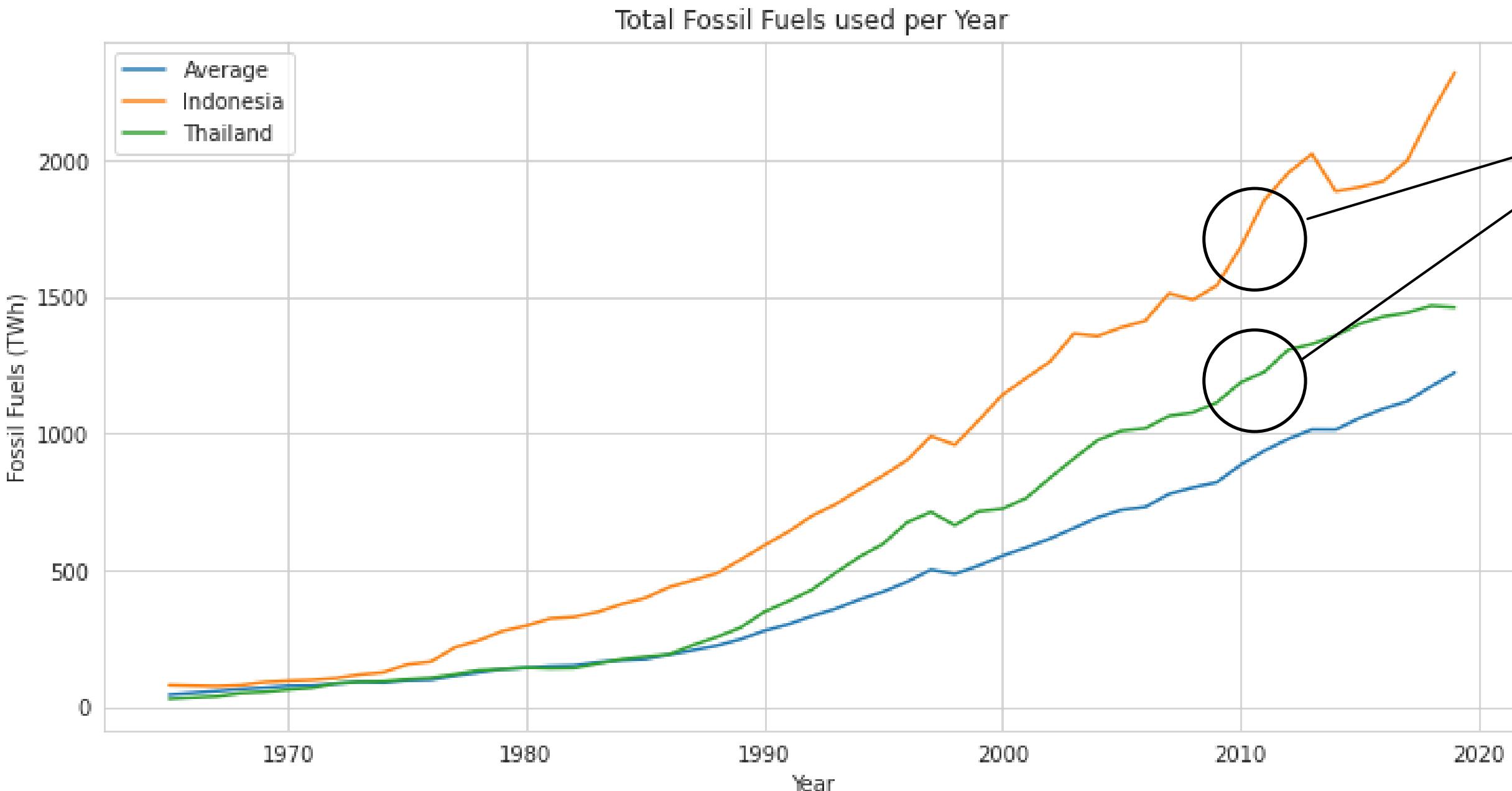
## Land-Use Change and Forestry

This sector includes all land-use change and forestry that had been degraded and is the 2nd biggest cause of GHG emissions out of all the sectors.

## Energy

This sector includes all forms of energy from fossil fuels combustions such as but is not limited to electricity, heat and transport and is the biggest cause of GHG emissions out of all the sectors

# A Rising Trend of Fossil Fuels Usage in ASEAN

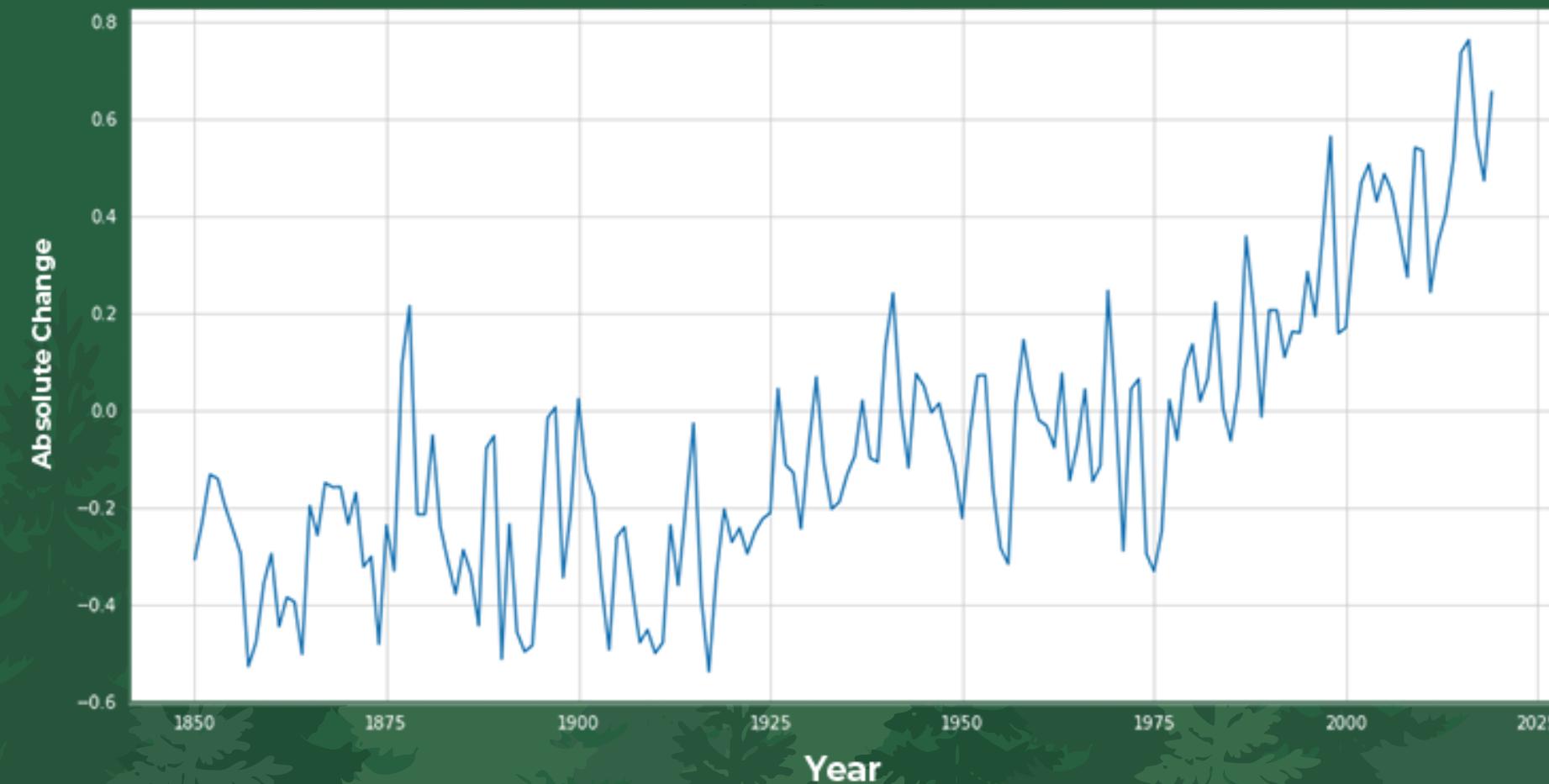


**2 out of 6**  
Documented ASEAN Countries  
Creates more Than Average  
Fossil Fuel Usage

There's a **possibility**  
that fossil fuels usage  
will continuously  
increase

# The Impact of GHG Emissions Will Lead Into a Grim Future

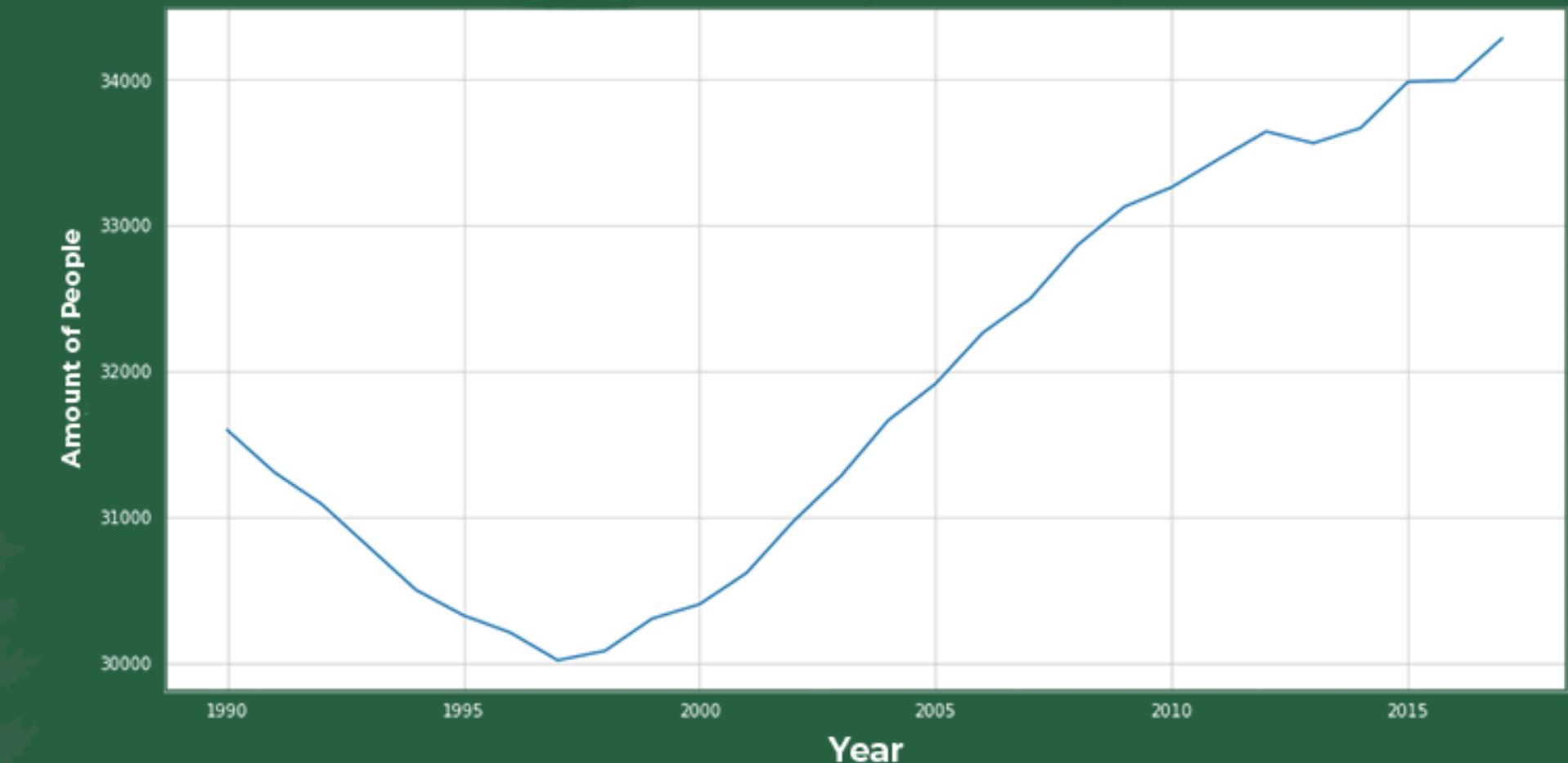
Average Temperature Anomaly



A Rising Trend of Temperature Anomaly is Directly Caused by Higher GHG Emissions Rates

Source: Met Office Hadley Centre observations datasets

Number of Deaths From Air Pollution



The Increasing Rate of GHG Emissions causes an Increasing Trend of **Death** from Air Pollution

Source: Global Health Data

Both of these rising trends are a direct result from the increasing **GHG emissions**. If nothing is done with our GHG emissions, these trends will continue to rise and create a grim future.

# Solution #1

## More Trees to Absorb the Abundance of Carbon Dioxide

### Strategies towards our better future



1

**Have planting and caring for trees be a mandatory school subject**

2

**Design more eco-friendly architectures and plant more trees in urban areas**

3

**Reforestation**

### Why is it important to take care of forests?



They enrich the soil with nutrients through their roots and the leaves that fall from the treetops



They are Earth's biggest carbon sinks, absorbing carbon dioxide, and releasing oxygen



They are a source of both basic and supplementary food and income for millions of people



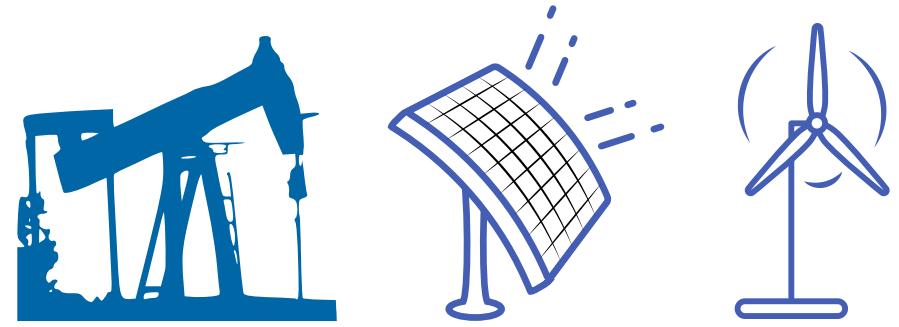
They are like natural aqueducts that redistribute up to 95% of the water they absorb



They are home to 80% of the world's biodiversity (animals, plants and insects)

# Solution #2

## Replace Fossil Fuels with Renewable Energy to Decrease GHG Emissions Output



There are **three** main categories of energy sources: fossil fuel, alternative, and renewable.

"Fossil fuels are often called **dirty energy** sources because Carbon emissions these fuels release into the atmosphere. Meanwhile, Renewable and alternative energy sources are often categorized as **clean energy** because they produce significantly less carbon emissions. "

There are **5** main renewable and alternative fuels :

### Wind Power



### Solar Power



### Biofuels



### Hydropower



### Nuclear Energy



# The Future of ASEAN We Want to Achieve With Our Solutions



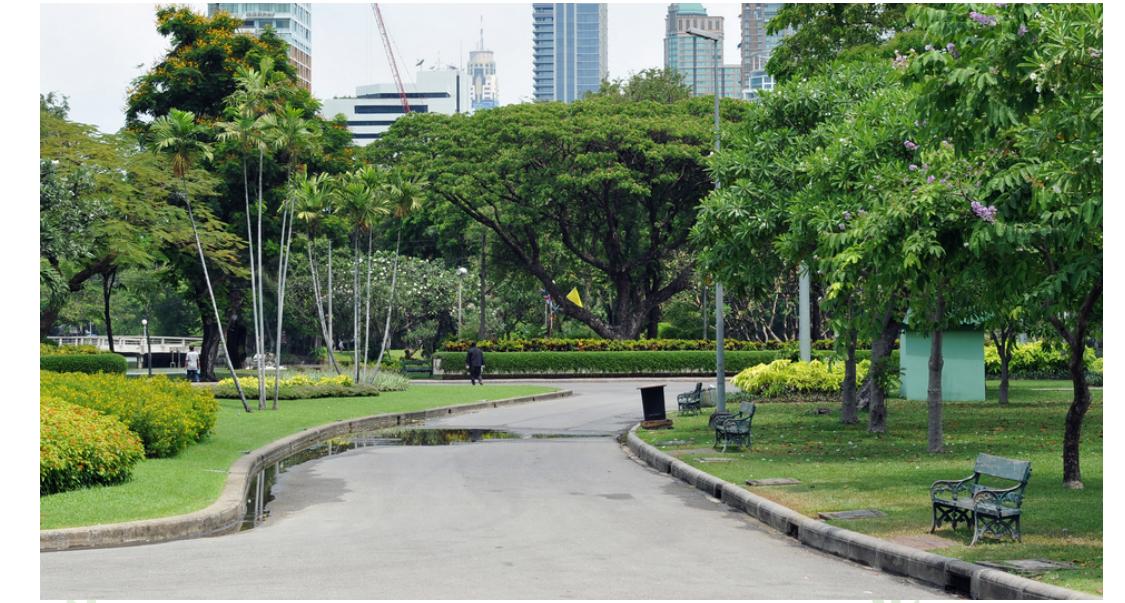
Preserving ASEAN's  
Biodiversity and forests



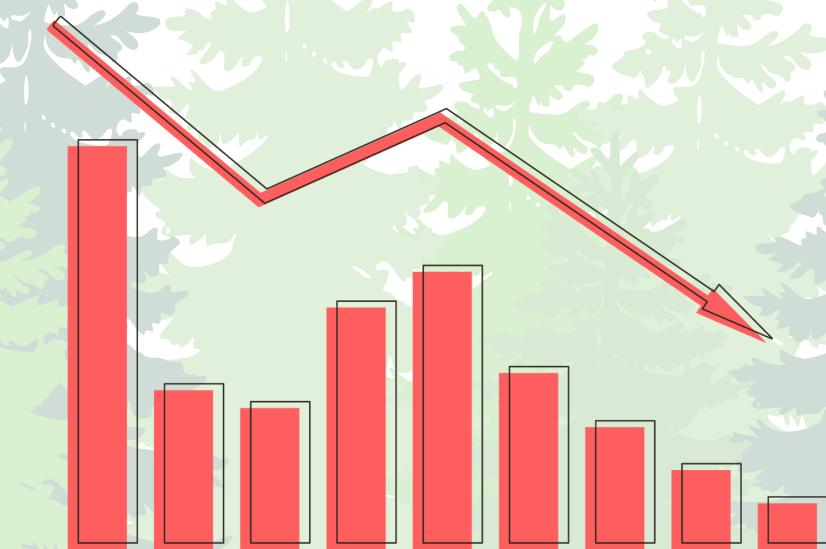
half of ASEAN's energy usage are from  
renewable resources



increase employment rate for the  
renewable energy industry



improving green spaces qualities  
in urban places



Decreases GHG Emissions

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