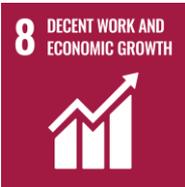




Recycle Center is the solution for waste management

Objective: To reduce municipal solid waste in urban areas.

UN-SDGs address:



Team: Sprinkle
Member: Suy Chakriya & Reasey Serei Neath



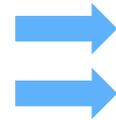
0.74 kg/day



**489.5 millions
kg/day**

661.5 millions

489,510 tons/day



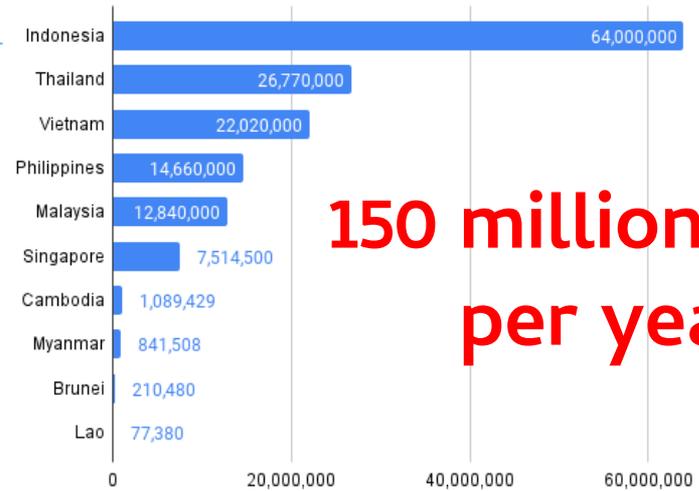
**About 5.9
million tons
per day**

7.9 billions

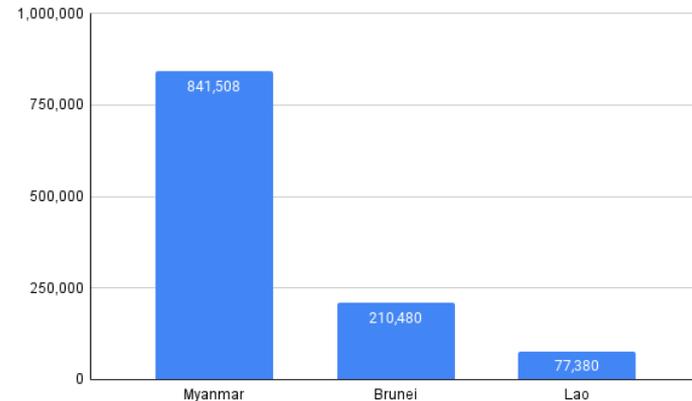
Source: UN environment waste management report (2016)
Source: ourworldindata.org

The rapid growth of amount of MSW generated in ASEAN

Annually MSW generate in ASEAN countries in 2016

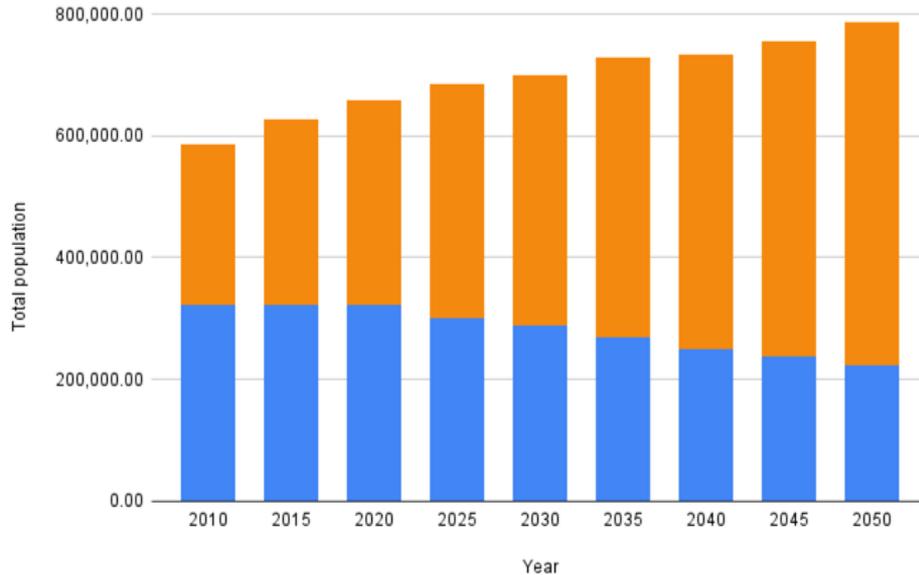


150 million tons per year



The rapidly growth of ASEAN urbanization, which half of Total population

ASEAN population vs %Urban population (2010-2050)



692↑

million people of the population of ASEAN is projected by 2025

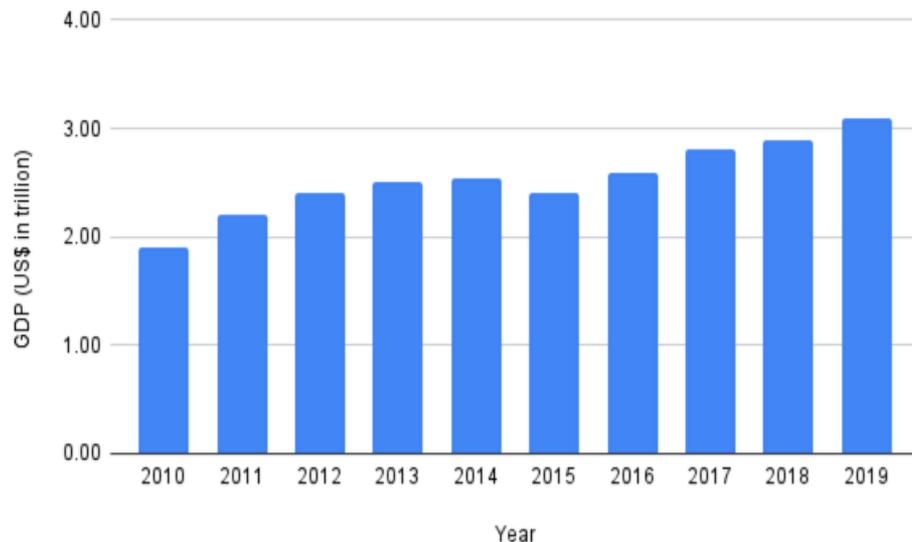
70%

of ASEAN population is expected to live in urban area in 2050

Source: Department of Economic and Social Affairs of the United Nations Secretariat (2018)

The rapid economic growth and Gross domestic product (GDP) of the ASEAN countries

ASEAN GDP (US\$ trillion) and GDP per capita (US\$), 2010-2019



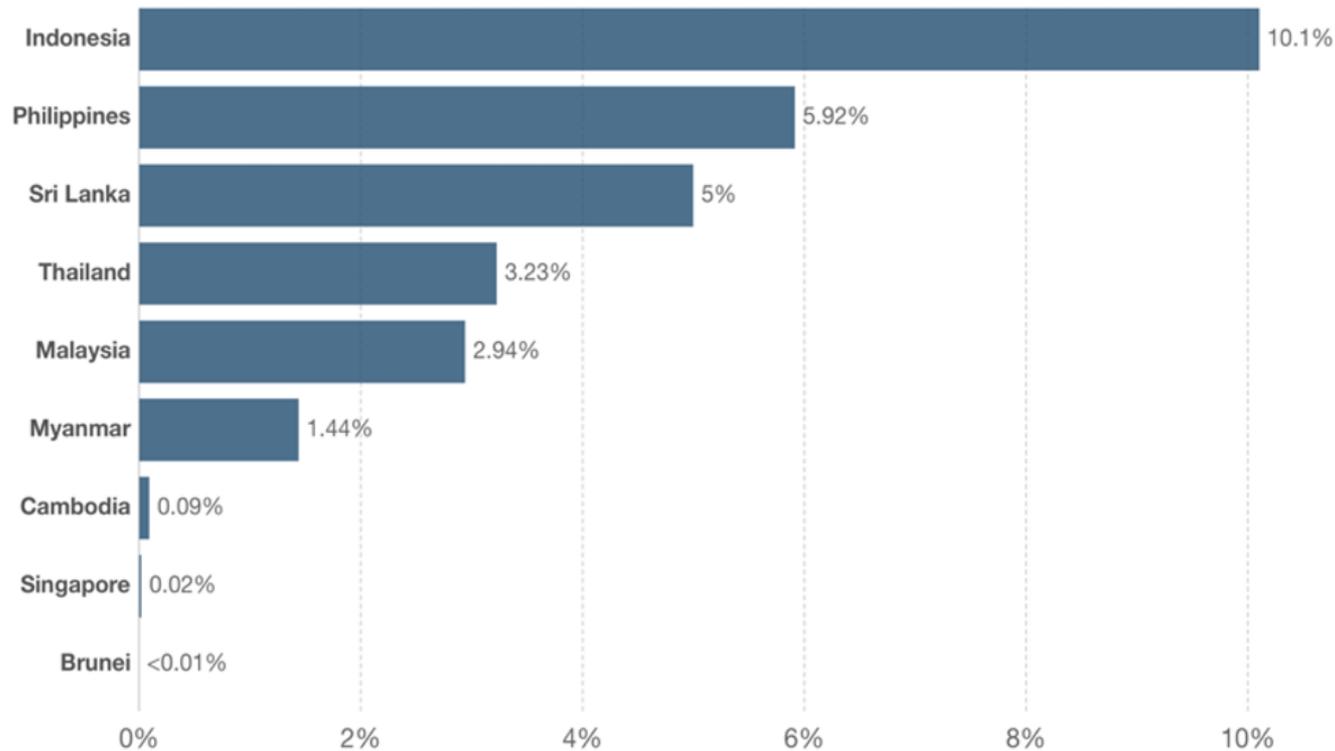
2x

Times increase of the ASEAN's GDP per capita from 2010 to 2019

Source: The World Bank., GDP per capita (2019)

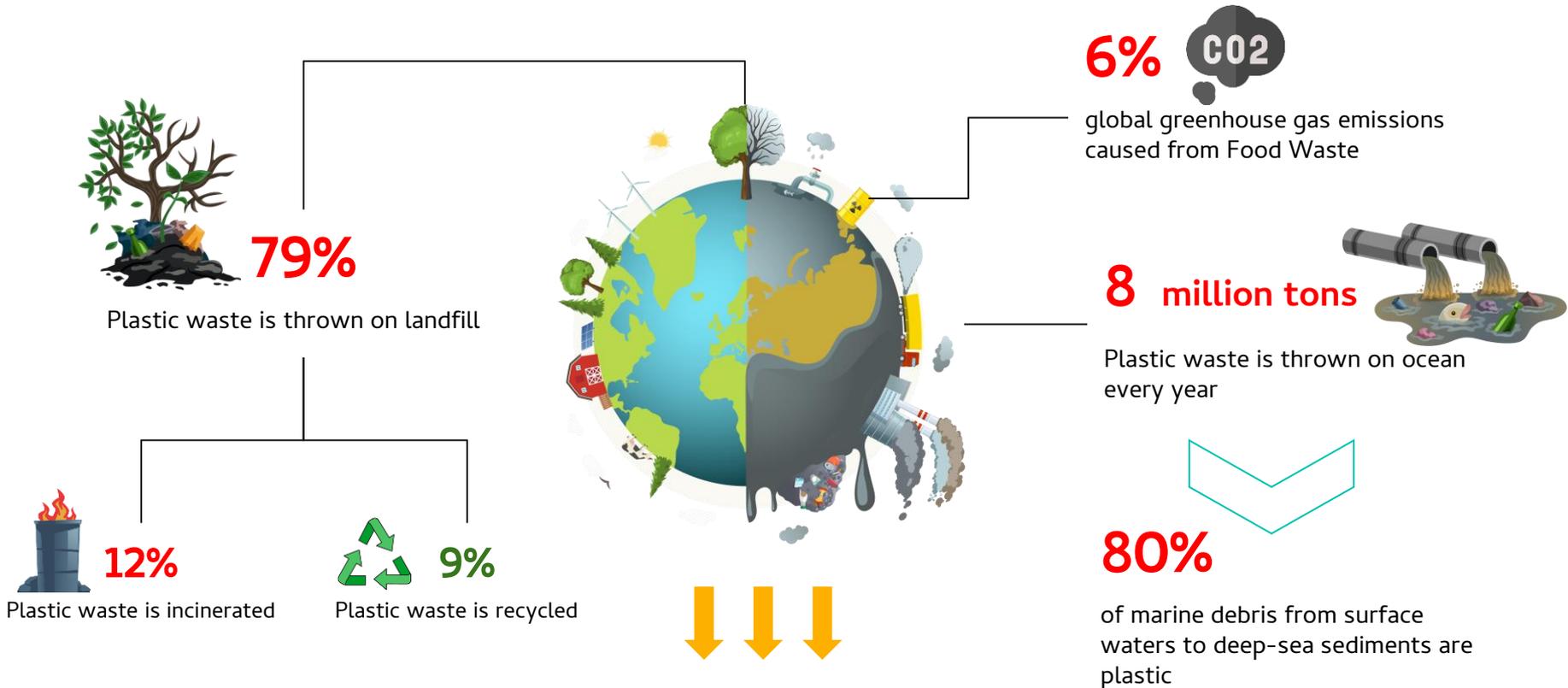
Analysis: We can conclude that during these 2 decade ASEAN GDP grows in positive direction and expect to increase

Mismanaged Plastic Waste Countries in ASEAN in 2015



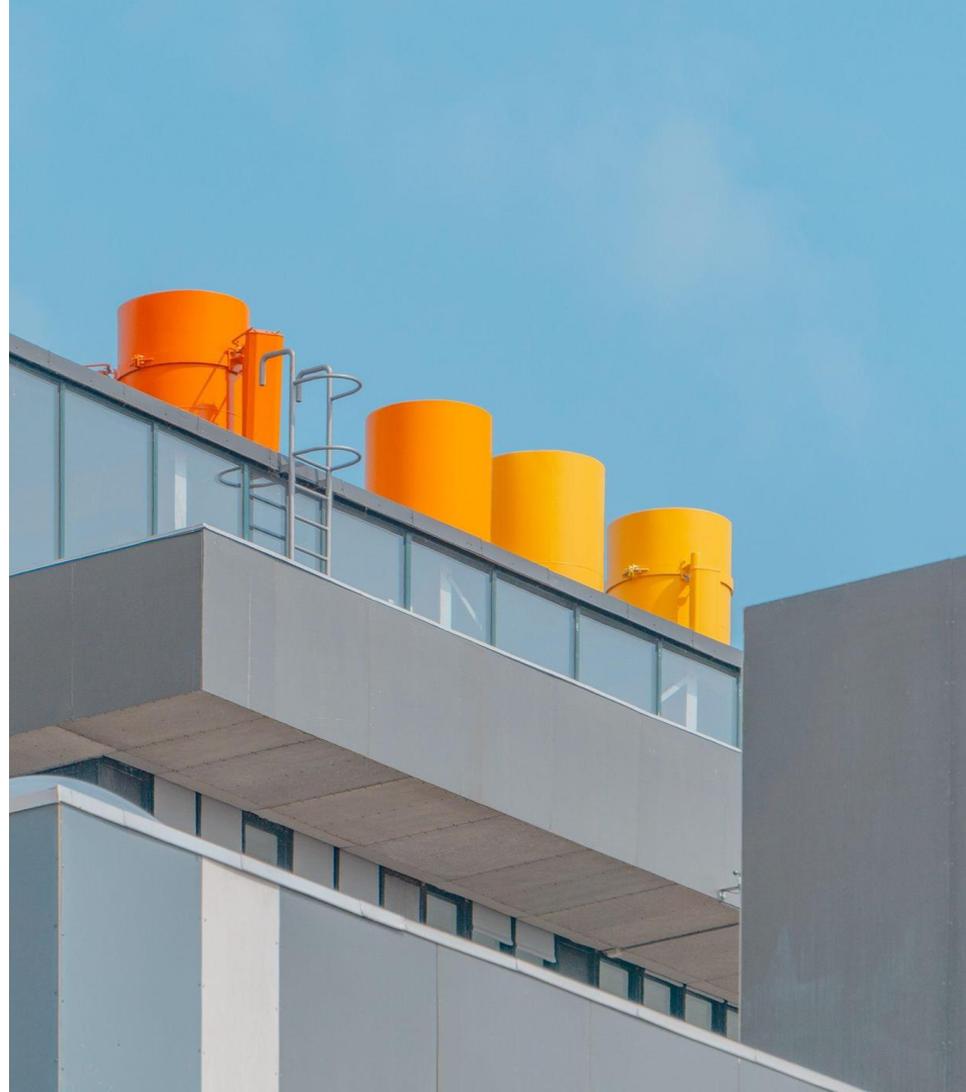
1.4-3.54 million

Metric tonnes of waste ASEAN accounted for out of 8-12 million MT globally per year.



Plastic pollution threatens **food safety** and **quality**, **human health**, **coastal tourism**, and contributes to **climate change**.

What is E.cynergy?



Overview Process

Household/Public place Collecting



Smart Bin
Earn profit

Centre transform
Waste to Resource



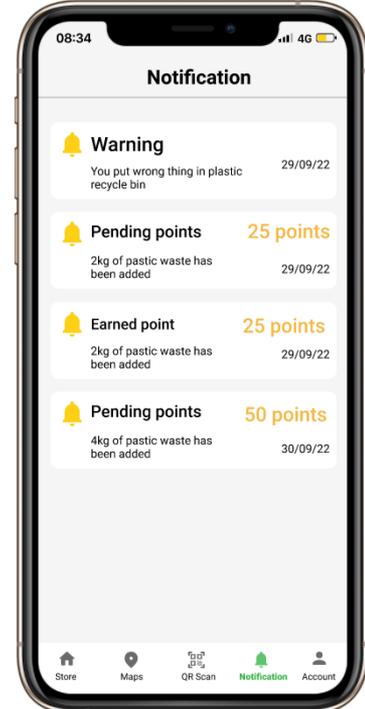
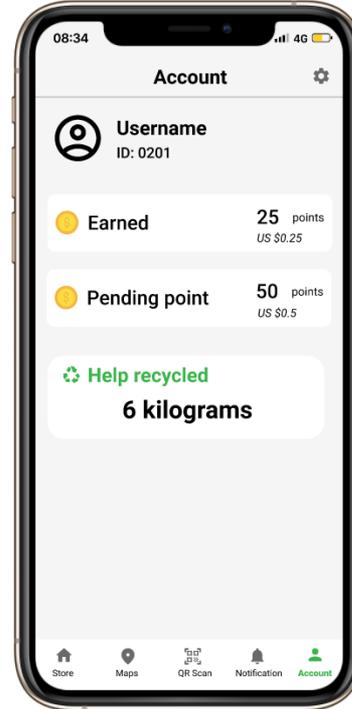
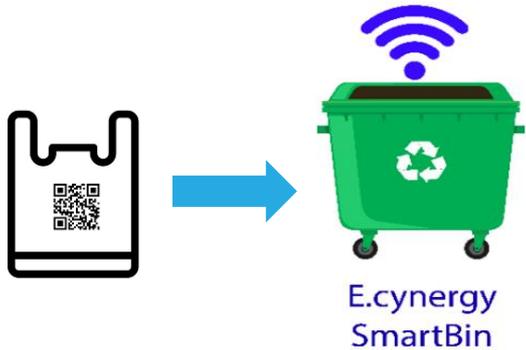
Recycle
centre(E.cynergy)

E-commerce
Industrial

Community



How does E.cynergy collect waste from Households/Public places?



E-commerce Website

Recycle Market



Search for recycle items

Login

Cart 0

Explore with amazing Recycled Products



Accessories



Clothes



Home decoration

Buying Options:

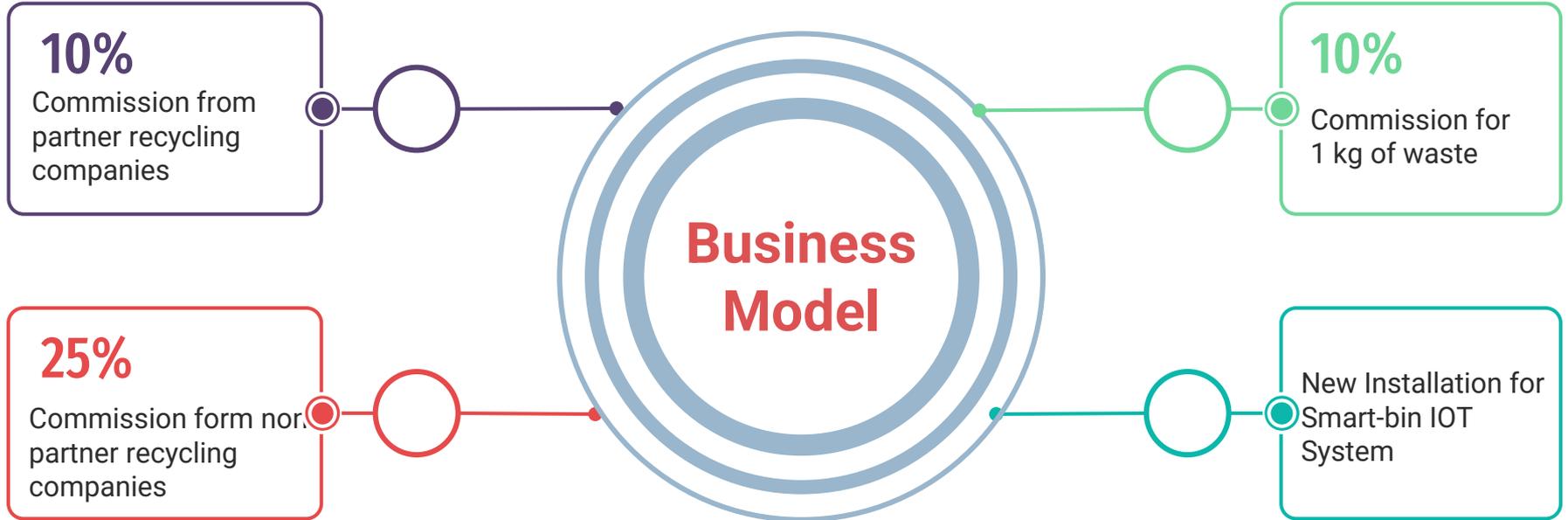
Use points

Use e-money

Popular recycled items



Business Strategy





**How people get
benefit from
E.cynergy?**

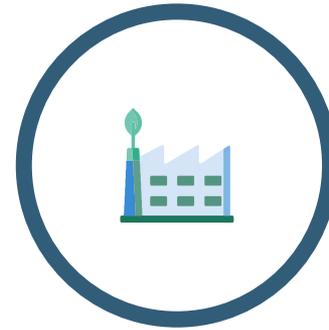
E.cynergy impact



Users



**Waste Management
companies**



Recycling Center

Cooperation



Government



NGOs



SAP Analytics



ASEAN

Why we believe it works?



NSW recycling success story

4.86 billion

= 73% containers

has been collection

86% of NSW

adults support
Return and Earn

59% of NSW

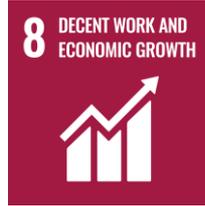
adults have used
the scheme.

ASEAN E.cynergy recycle centre

Address UN-SDG



Aligned with



Section A.1-ASCC

Engaged Stakeholders in ASEAN processes

Section A.2-ASCC

Empowered People and Strengthened Institutions

Section B.2-AEC

Consumer Protection

Section C.2-AEC

ICT is recognised as a key driver in ASEAN's economic and social transformation

Section C.1-ASCC

Conservation and Sustainable Management of Biodiversity and Natural Resources

Section C.2-ASCC

Environmentally Sustainable Cities

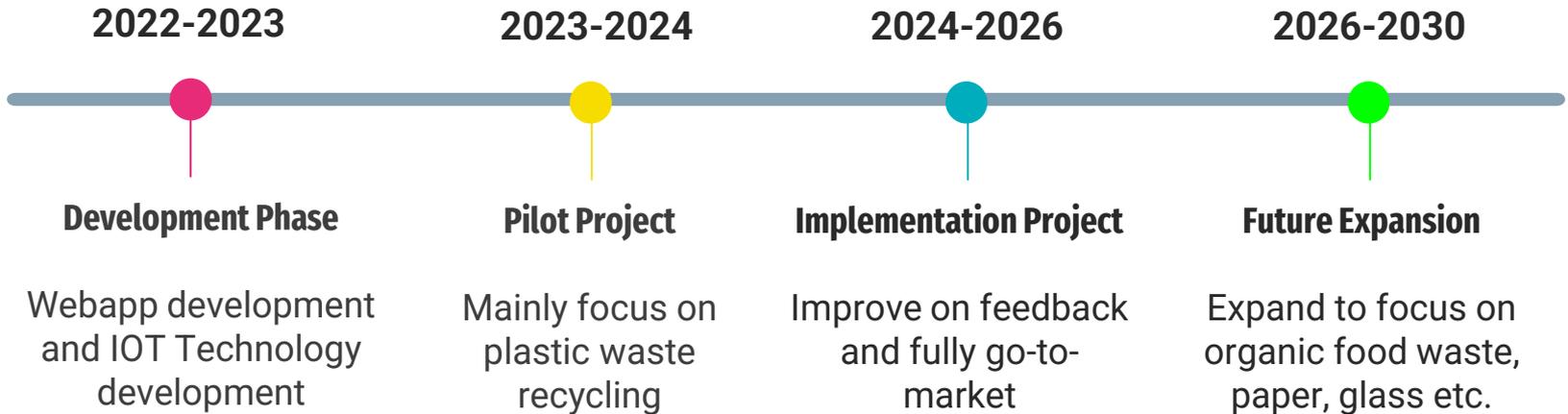
Section B.8-AEC

Sustainable Economic Development

Section C.3-AEC

E-Commerce, these potential contributions support regional economic integration in ASEAN

Timeline



E.cynergy

Transform Waste to Hidden Treasure





Goal 11: SUSTAINABLE CITIES AND COMMUNITIES



Target 11.3

By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries



Target 11.6

By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management



Goal 8: DECENT WORK AND ECONOMIC GROWTH



Target 8.2

Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors



Target 8.3

Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services



Reference



UN World Urbanization Prospects (2018).

https://population.un.org/wup/Download/Files/WUP2018-F01-Total_Urban_Rural.xls

UN Waste management in asean countries (2016)

<https://environment.asean.org/wp-content/uploads/2020/03/Summary-Report-Waste-Management-in-ASEAN-Countries-UNEP.pdf>

Asean sustainable urbanisation strategy (2018)

<https://asean.org/storage/2018/11/ASEAN-Sustainable-Urbanisation-Strategy-ASUS.pdf>

United Nations. Sustainable Development Goals.

<https://www.un.org/sustainabledevelopment/>

ASEAN Cooperation on Chemicals and Waste

<https://environment.asean.org/awgcw/>

The World Bank. (n.d). GDP per capita (current US\$)

<https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations>

ASEAN+6 Population Forecast: Global Share, Aging and Dependency Ratio

https://www.miti.gov.my/miti/resources/fileupload/ASEAN_Population%20Forecast.pdf

UN Department of Economic and Social Affairs, World Urbanization prospects 2018

<https://population.un.org/wup/Download/>

Energy interconnection in ASEAN for sustainable and resilient societies

https://www.unescap.org/sites/default/d8files/knowledge-products/Final_publication_PEI_ASEAN_WEB%20%282%29.pdf

https://ourworldindata.org/food-waste-emissions?fbclid=IwAR1H7r7y_2dV_ciTs10GVbI_Pw4YfLLau91mlh4PLpv4c_7AoiFLbQFyAj0

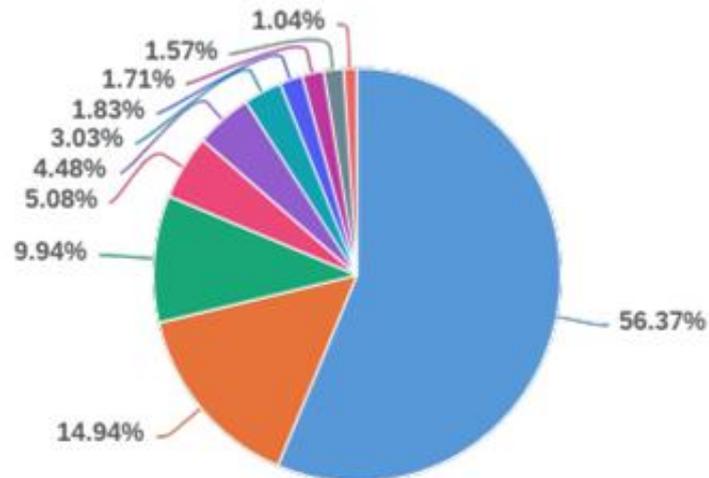
https://www.voicesofyouth.org/blog/plastic-and-suffering-earth?fbclid=IwAR3kjlaz2NdgUkjtTTz-OtPWNFmBmX9B6LmeUitxReZMAu5_qiwh7n18Wc7c



<https://theconversation.com/why-collaboration-in-the-asean-region-is-vital-to-tackle-plastic-waste-in-the-oceans-151849>

https://www.exchangeforchange.com.au/_cache_51b2/content/653197000008035.pdf

MSW composition in ASEAN countries in 2016



56.37%

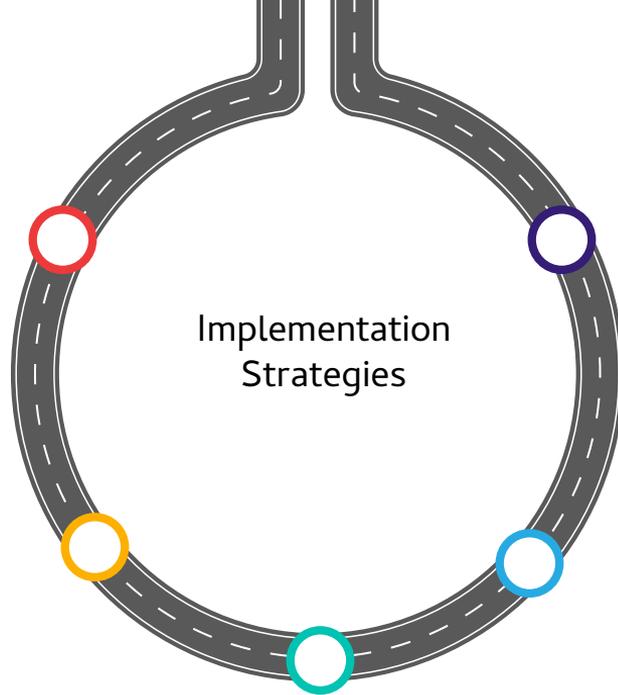
Food//Organic waste of % MSW
Composition of ASEAN in 2016

14.94%

Plastic waste of % MSW
Composition of ASEAN in 2016

9.94%

Paper of % MSW Composition of
ASEAN in 2016



Waste management awareness

- Workshop to promote waste management
- Implementation small project to community
- Spreading awareness of waste issue
- Educate and outreach to community



Recycle Waste to resource

- Distribute smart-bin to community
- Collect necessary waste for recycling
- Research on new method to transfer non-recycle waste to resource



Investment

- Government should find investor for this project.
- Government encourage investors to invest in this project.



Adopt new technologies

- Implement new technology
- Teach related people to adopt to new technology such as smart-bin



Collaboration

- Recycle centre should collaborate with Government, NGO or related organizations
- Recycle centre should collaborate with each other in ASEAN, so that the final product can be traded throughout ASEAN.

Case Study



Coconut School at Kirirom

Student need to bring plastics recyclable as fee for studying



កែច្នៃសំណល់ប្លាស្ទិកទៅជាឥដ្ឋអេកូ
Convert plastic waste to Eco-bricks



Eco-bricks Start-up

Company buys plastic waste to convert to Eco-bricks

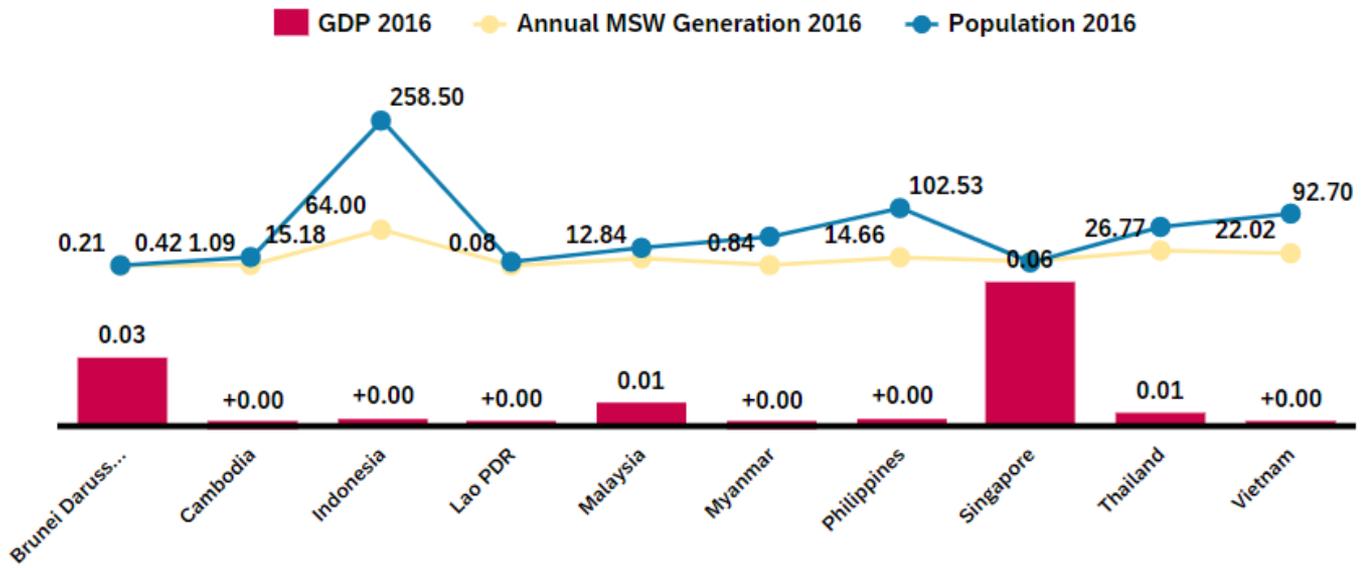
Transforming plastic to Accessories by 3D printing



Source: RepRapable Recyclebot(2018)

Comparison between GDP, Annual MSW Generation and Population in 2016

in Million | 🌐

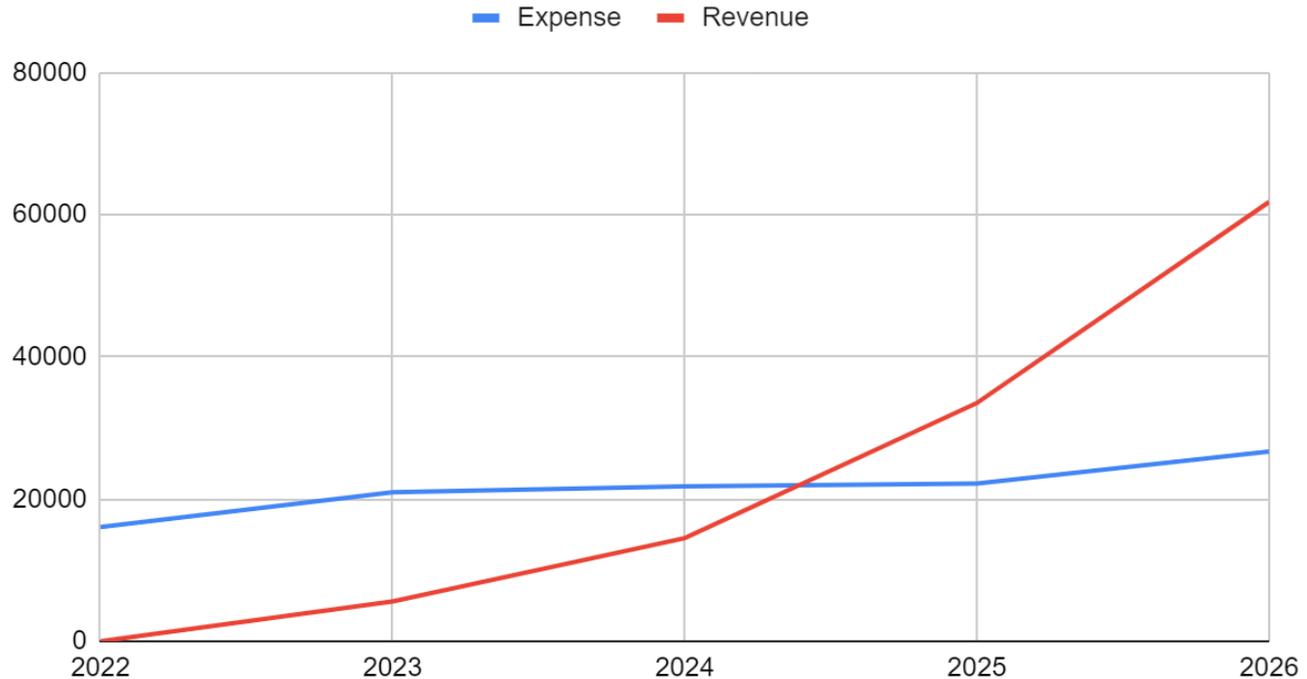


Source: UN environment waste management report(2016)

Analysis: If the a country has high population and GDP, that country also produce more MSW. Therefore, MSW Generation is according to the total population and GDP in each country.

Financial Projections in 5 years

Expense and Revenue

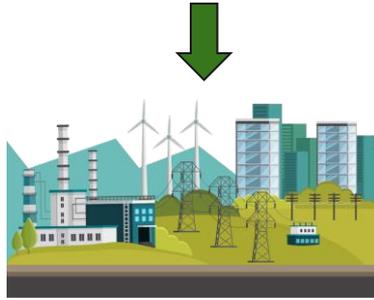
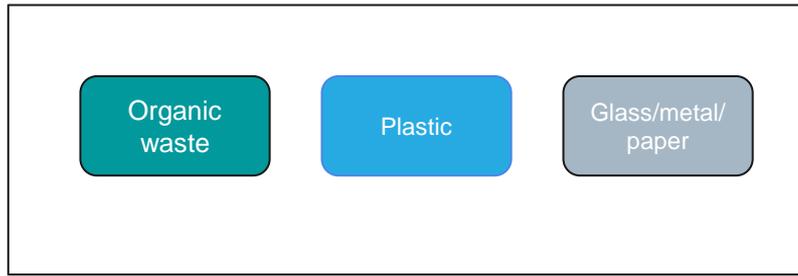


E.cynergy

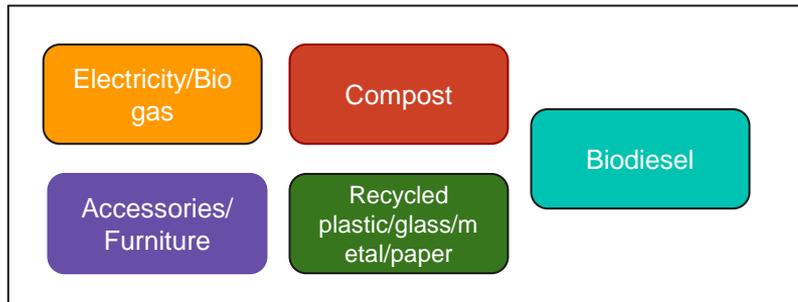
	2022	2023	2024	2025	2026
Expense					
Office Supply	200	200	250	250	300
Mobile application development	500	600	700	800	1000
Website development	500	600	700	800	1000
Smart-bin Development	1000	1500	2000	2200	2500
Fix cost					
Rent	3000	3000	3000	3000	3000
Salary	9600	13200	13200	13200	16800
Utility Expense	900	900	950	950	1000
Appstore	100	100	100	100	100
Play Store	25	0	0		0
Variable Cost					
Marketing	0	600	600	600	700
Tax	250	270	270	270	300
TOTAL	16075	20970	21770	22170	26700

E.cynergy

	2022	2023	2024	2025	2026
Revenue stream					
Commission with partnership		10%	10%	10%	10%
Commission without partnership		25%	25%	25%	25%
Maintenance		2400	2400	2400	2400
Waste management companies		2	5	10	20
Users from partner companies	0	500	1500	5000	7000
Users from non-partner companies	0	300	1000	4500	6800
Maintenance Cost of each waste management companies	0	4800	12000	24000	48000
TOTAL	0	5600	14500	33500	61800
Year Profit/Loss	-16075	-15370	-7270	11330	35100



Recycle Centre



Community