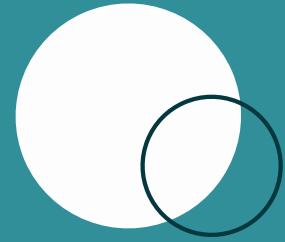


NUFYP C15 TEAM PROJECT PRESENTATION

# Plastics

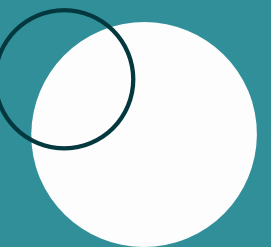
Made by Taikozha Turdyakyn, Adil Leiman, Zhansaya  
Chembayeva and Bekbarys Aidaraliyev





What are the current effects of plastics during disposal on the environment and what can we do to change this?

TEAM PROJECT'S TITLE





# OUTLINE

## MAIN POINTS RELATED TO THE TOPIC

The urgency of the problem: Benefits and Drawbacks

Pros and cons of different methods of disposal

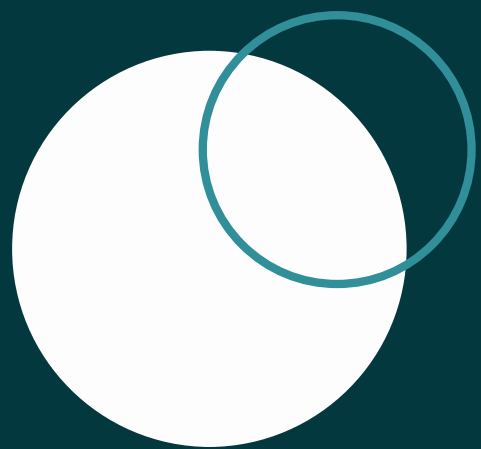
Effect on environment

Possible solutions



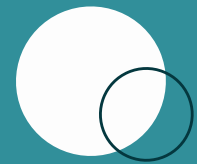
# URGENCY

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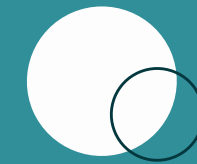
WHY IT IS SO IMPORTANT?

# Benefits



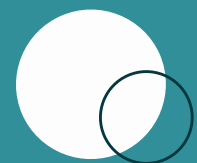
## **IRREPLACEABLE TOOL**

most common and popular tool because of its features



## **FLEXIBILITY TO USE**

variety of sizes and shapes



## **USE IN VARIOUS FIELDS**

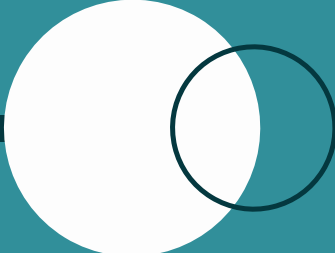
automotive, agricultural, health, construction/building, packaging, and textiles



## **USE IN DAILY LIFE**

to store food, water, and household tools

TOXIC TO THE ENVIRONMENT  
AND TO HUMANITY



MOST COMMON POLLUTANT



50%

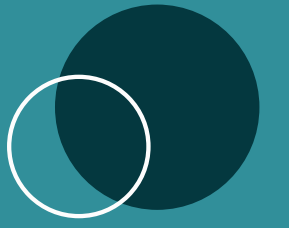
OF PLASTIC HAS BEEN PRODUCED IN THE  
PAST 15 YEARS

---

2 MM TO 381 MM

INCREASE IN PLASTIC PRODUCTION FROM 1950 AND  
2015, WHICH PREDICTED TO DOUBLE BY 2050





# Methods of disposal

## PROS AND CONS

There are three methods of disposal.





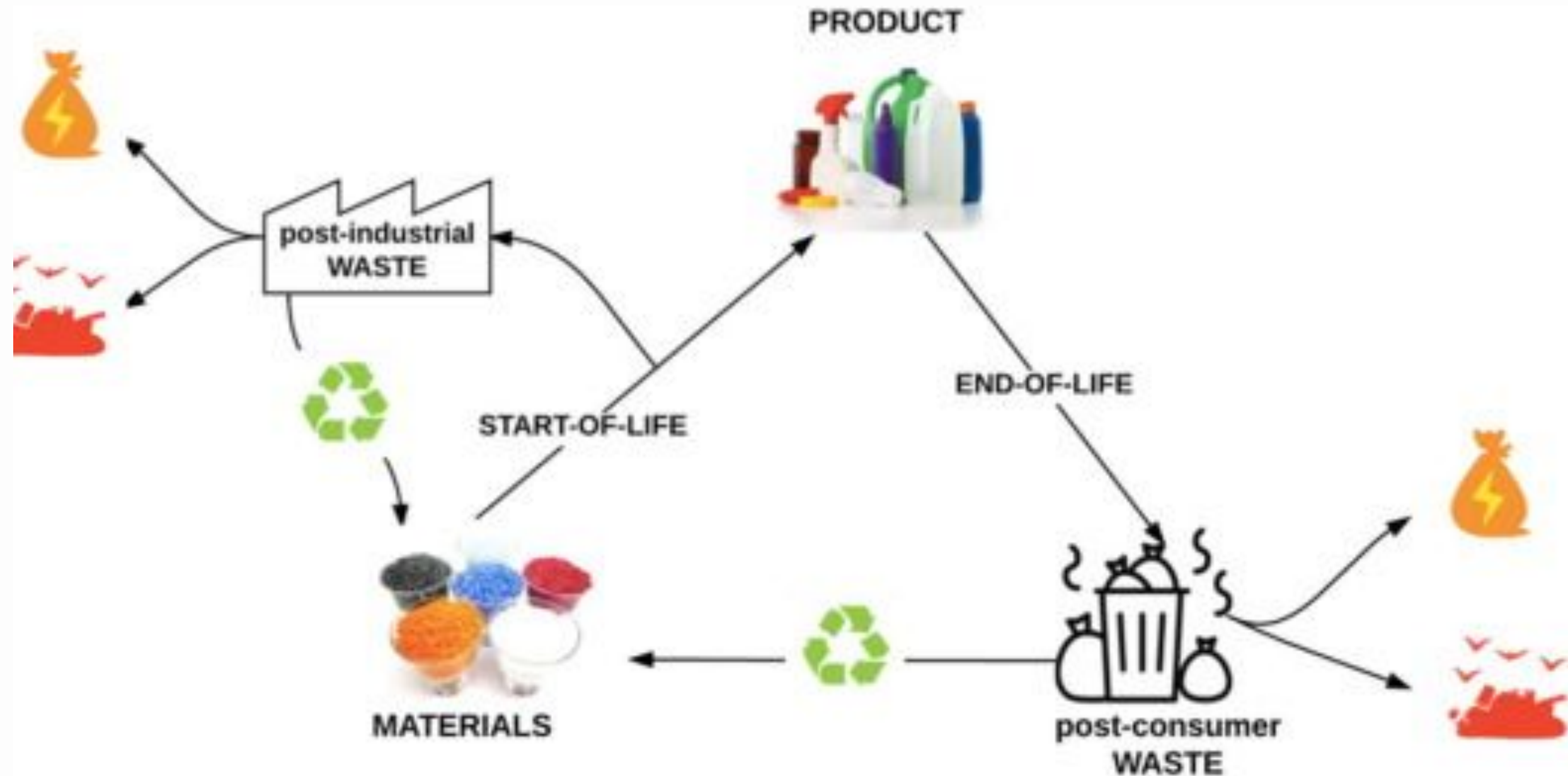
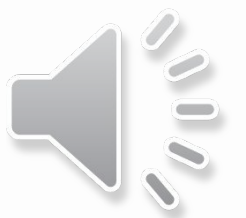


FIGURE 1. LIFECYCLE OF POLYMER MATERIALS.

SOURCE: (RAGAERT ET AL., 2017)





# 3 different methods



Figure 2. Discarding.

Source: (Interesting Engineering, 2018)

## DISCARDING

Most common

Too much place

Affects the environment

Economically unprofitable



Figure 3. Incineration.

Source: (IPEN, 2019)

## INCINERATION

Release of toxic substances

Released heat can be used



Figure 4. Recycling.

Source:  
(Advanced Waste Solutions, 2019)

## RECYCLING

Most beneficial

Reusing

Non-incineration method should be used

# Effect on environment

GREENHOUSE  
EFFECT

EFFECT ON  
SURROUNDING  
AREAS

EFFECT ON  
PLANTS

EFFECT ON  
ANIMALS



# POSSIBLE SOLUTIONS



## REDUCING PLASTIC CONSUMPTION IN DAILY LIFE

- Keeping out of unnecessary packaging
- Eco-friendly alternatives

## USING BIODEGRADABLE POLYMERS

- Ability to decompose
- Renewable biogenic carbon contained
- C-14 product signature as a indicator of biogenic carbon's proportion
- Should be economically obtainable and suitable in use



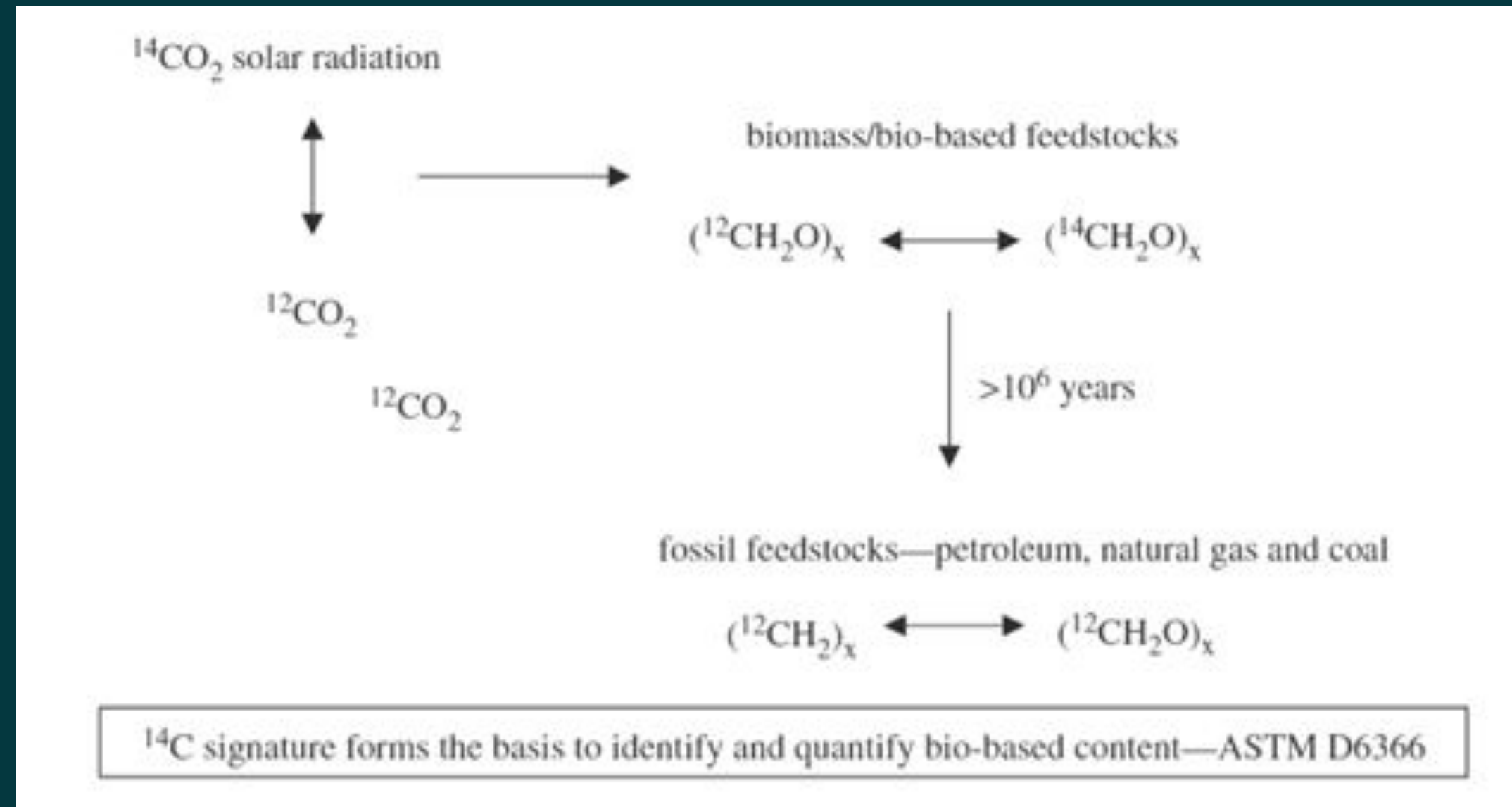


FIGURE 5. CARBON-14 SIGNATURE OF BIO- AND PETROCHEMICAL POLYMERS. SOURCE: (SONG ET AL., 2009)



# Conclusion

- Disposable tableware, bags, packaging, bottles, and various containers are in daily usage today.
- All of them harm the environment.
- Recycling, incineration, and discarding are different types of disposal.
- Only 5% is recycled.
- Reduce production and use of plastic is the best solution
- Popularization of other alternatives
- Preventing environmental disaster





# Q&A SECTION

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- [https://ipen.org/sites/default/files/styles/large/public/screen\\_shot\\_2019-08-13\\_at\\_12.50.36\\_pm.png?itok=EDfmVuvM](https://ipen.org/sites/default/files/styles/large/public/screen_shot_2019-08-13_at_12.50.36_pm.png?itok=EDfmVuvM)
- <https://advancedwastesolutions.ca/wp-content/uploads/2019/05/recycle.jpg>

THANK YOU FOR ATTENTION