



WHERE DOES IT COME FROM?
WHERE DOES IT GO?

2017.02.17



MUNICIPAL WASTE

HOUSEHOLD WASTE, COMMERCIAL WASTE, AND DEMOLITION WASTE

HAZARDOUS WASTE

INDUSTRIAL WASTE

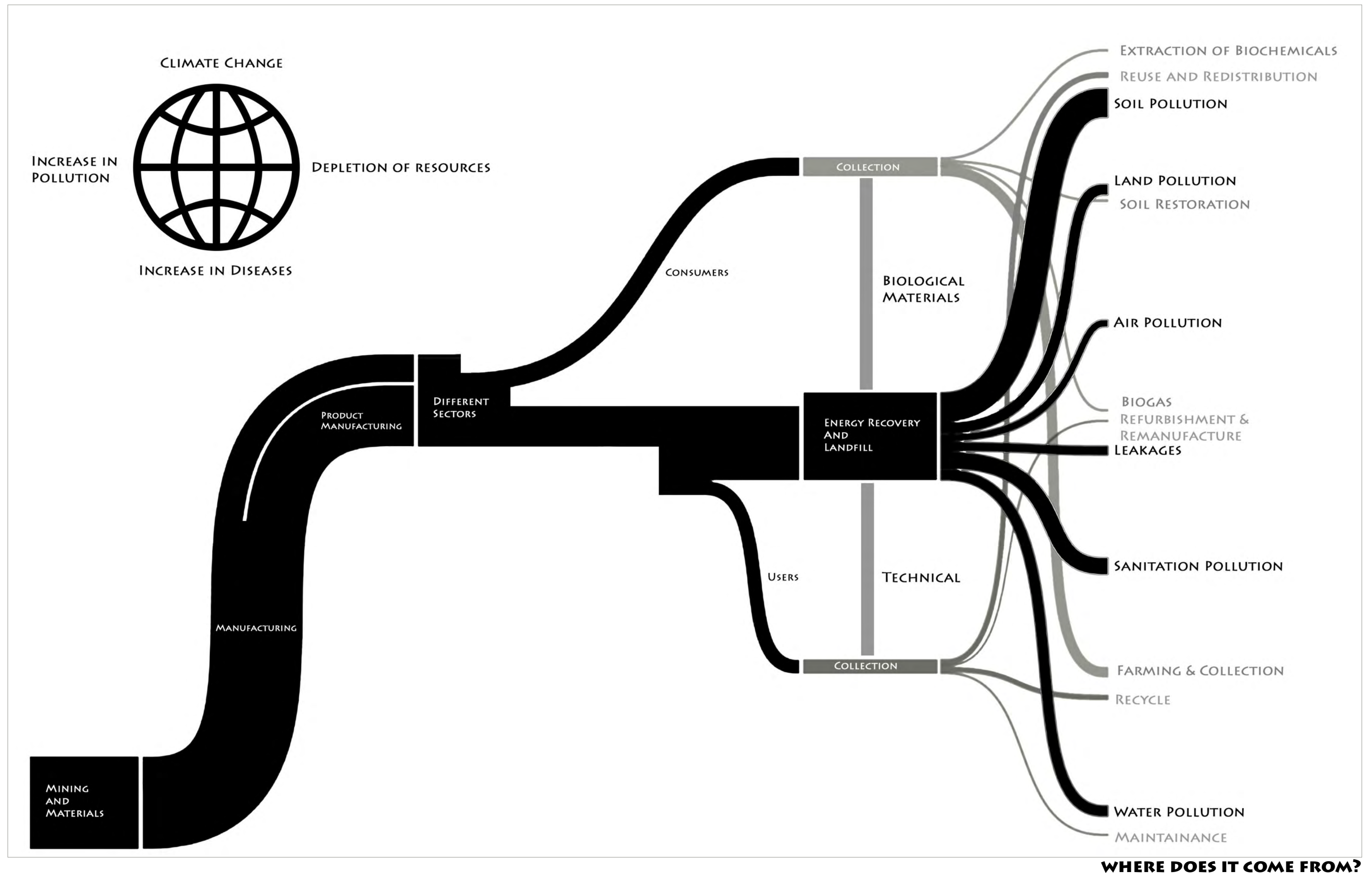
BIOMEDICAL WASTE

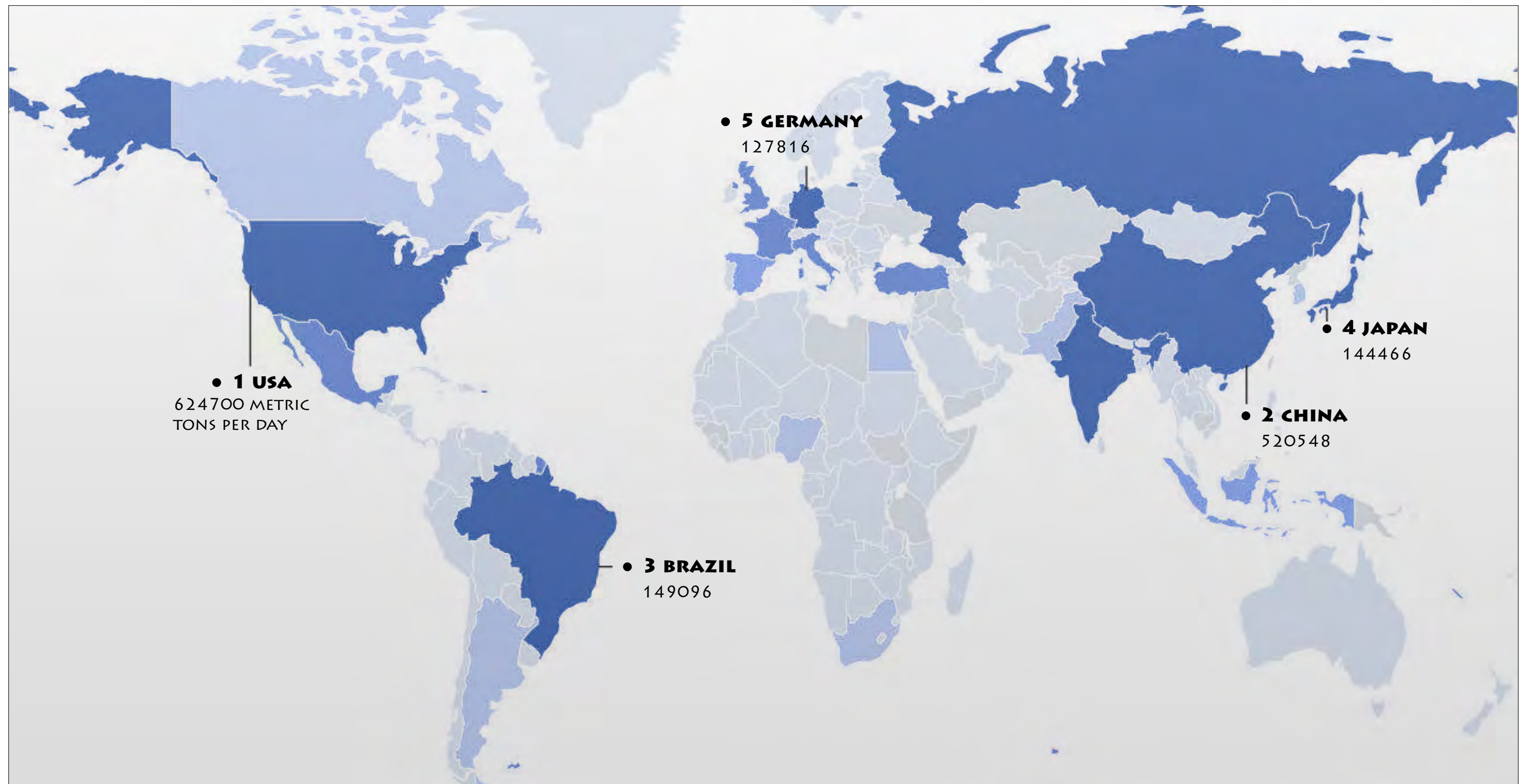
CLINICAL WASTE, CHEMICAL WASTE

SPECIAL WASTE

RADIOACTIVE WASTE, EXPLOSIVE WASTE, AND ELECTRONIC WASTE

TYPE OF THE WASTE





<40
 40-60
 60-80
 80-100
 >100

WHERE DOES IT COME FROM?
 METRIC TONS OF SOLID WASTE GENERATED EACH DAY (IN THOUSANDS)
 SOURCE: WORLD BANK (2011)



LANDFILL

- THE MOST COMMON WAY NOW



RECYCLE



INCINERATOR

WASTE TO ENERGY

- MORE BENEFITS
- MORE COST



DUMP

- THE OLDEST WAY
- GREAT HARM GRADUALLY ABANDONED
- STILL USING IN MANY LOW-INCOME COUNTRIES

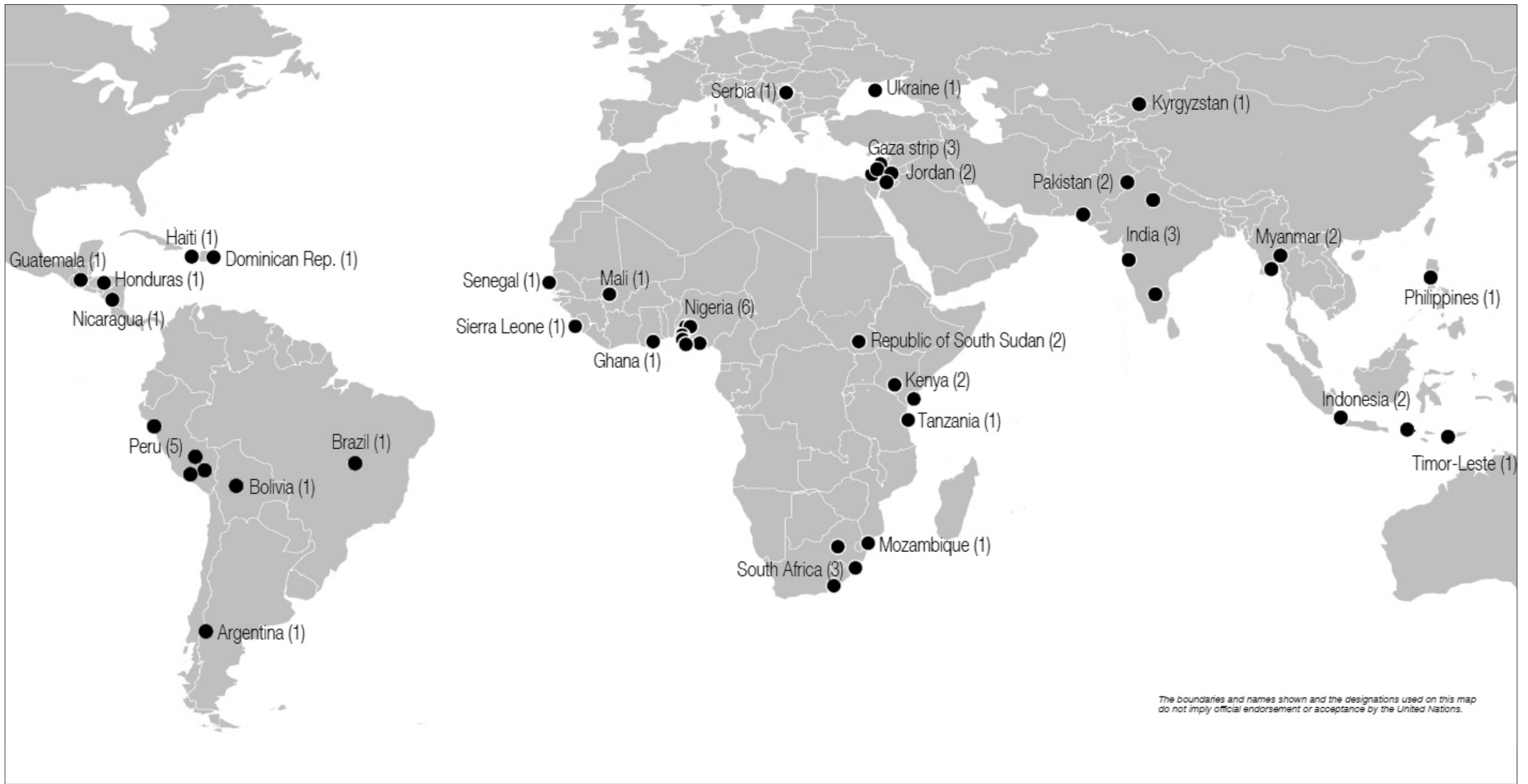


COMPOST

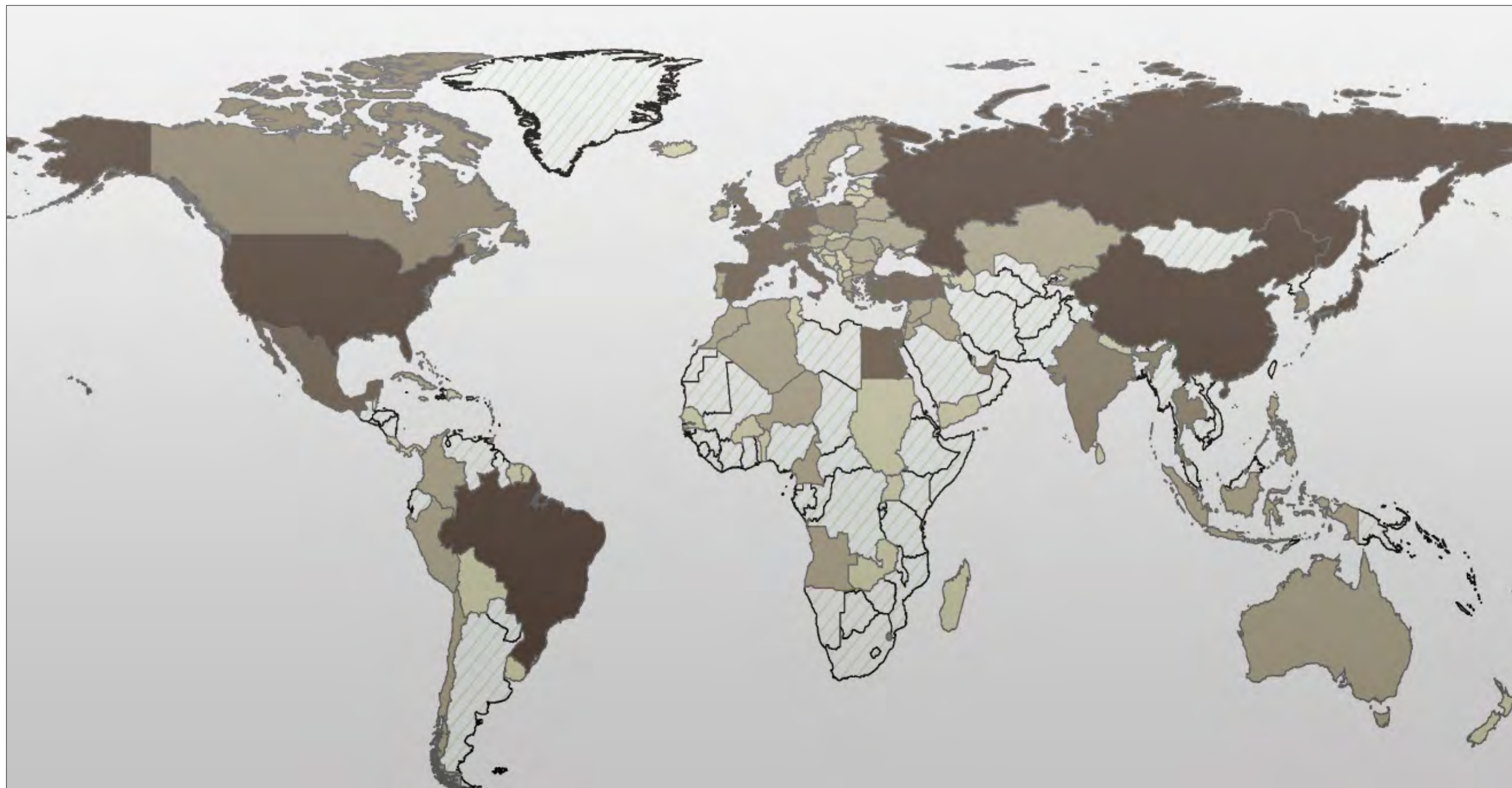
- INEXPENSIVE WAY
- NATURAL PROCESS
- USED IN SPECIFIC WASTE NEED LONG TIME

WHERE IS IT GOING?

GLOBAL MUNICIPAL WASTE DISPOSAL METHODOLOGY
SOURCE: WORLD BANK (2012)

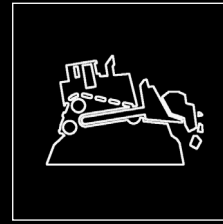


GLOBAL DUMPING MAP
 THE WORLD'S 50 BIGGEST DUMPSITES
 SOURCE: WASTE ATLAS (2014)

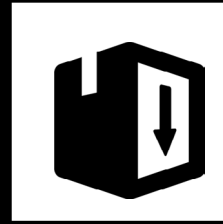


<2000
 2000-10000
 10000-25000
 25000-50000
 >50000

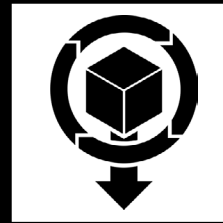
GLOBAL COLLECTION MAP
 MUNICIPAL WASTE COLLECTED (IN 1000 TONNES)
 SOURCE: UNSD (2011)



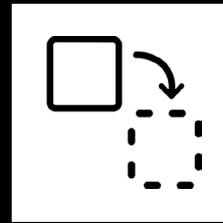
SPAIN STILL MAINTAINS VERY HIGH RATES OF LANDFILLING, SURPASSING 50% OF MSW GENERATED IN 2010.



PACKING: REDUCE WASTE TONNAGE BY 4% BY 2012 COMPARED WITH 2006



INCREASE THE RESUE OF GLASS PACKAGING FOR CERTAIN LIQUIDS, USED IN INDUSTRIAL AND COMMERCIAL PACKAGING FROM 2011: WATER BOTTLES 60%, SOFT DRINKS 80%, BEER 80% AND WINE 50%



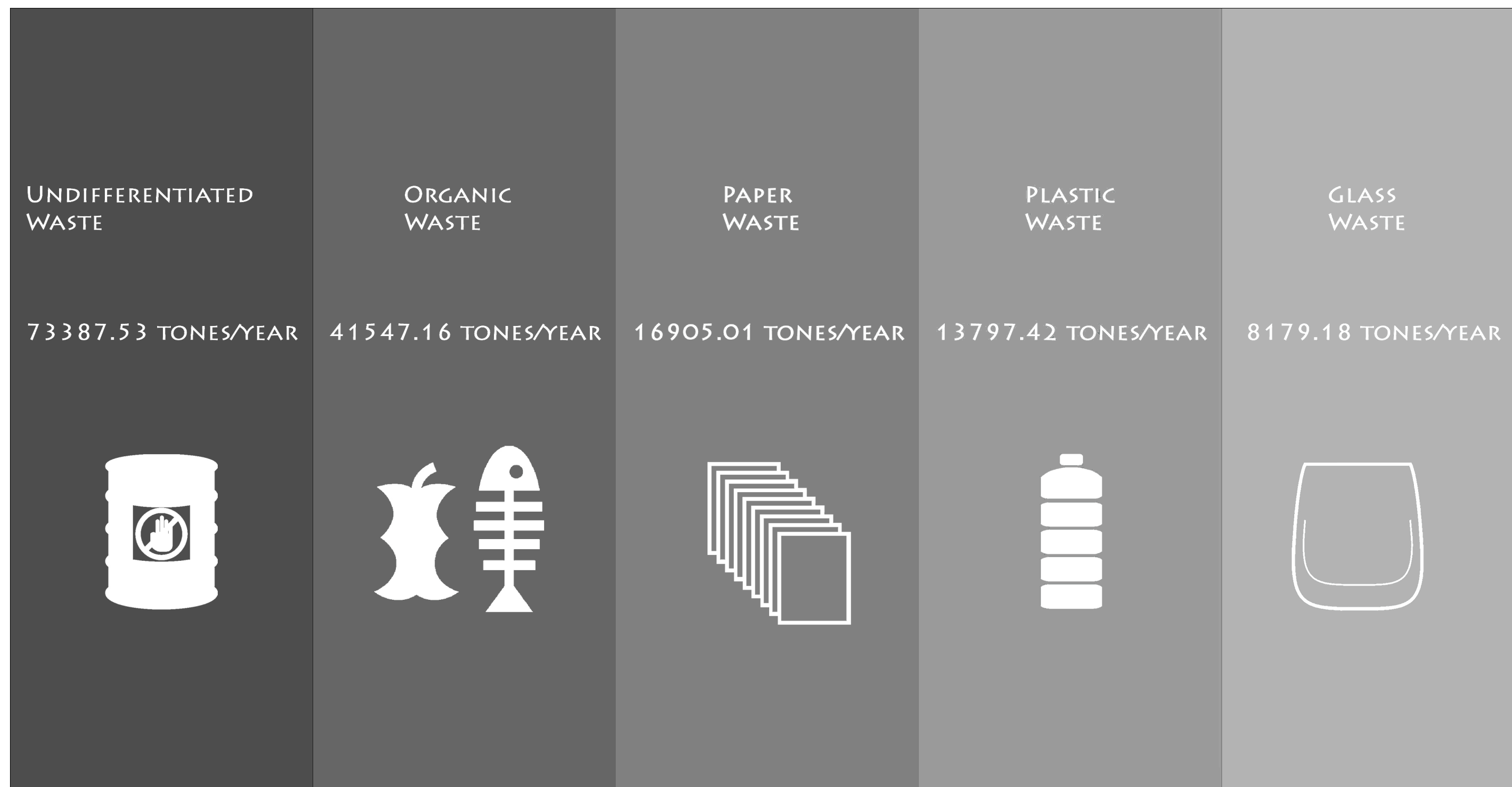
SINGLE-USE SHOPPING BAGS: REDUCED BY 50% FROM 2010



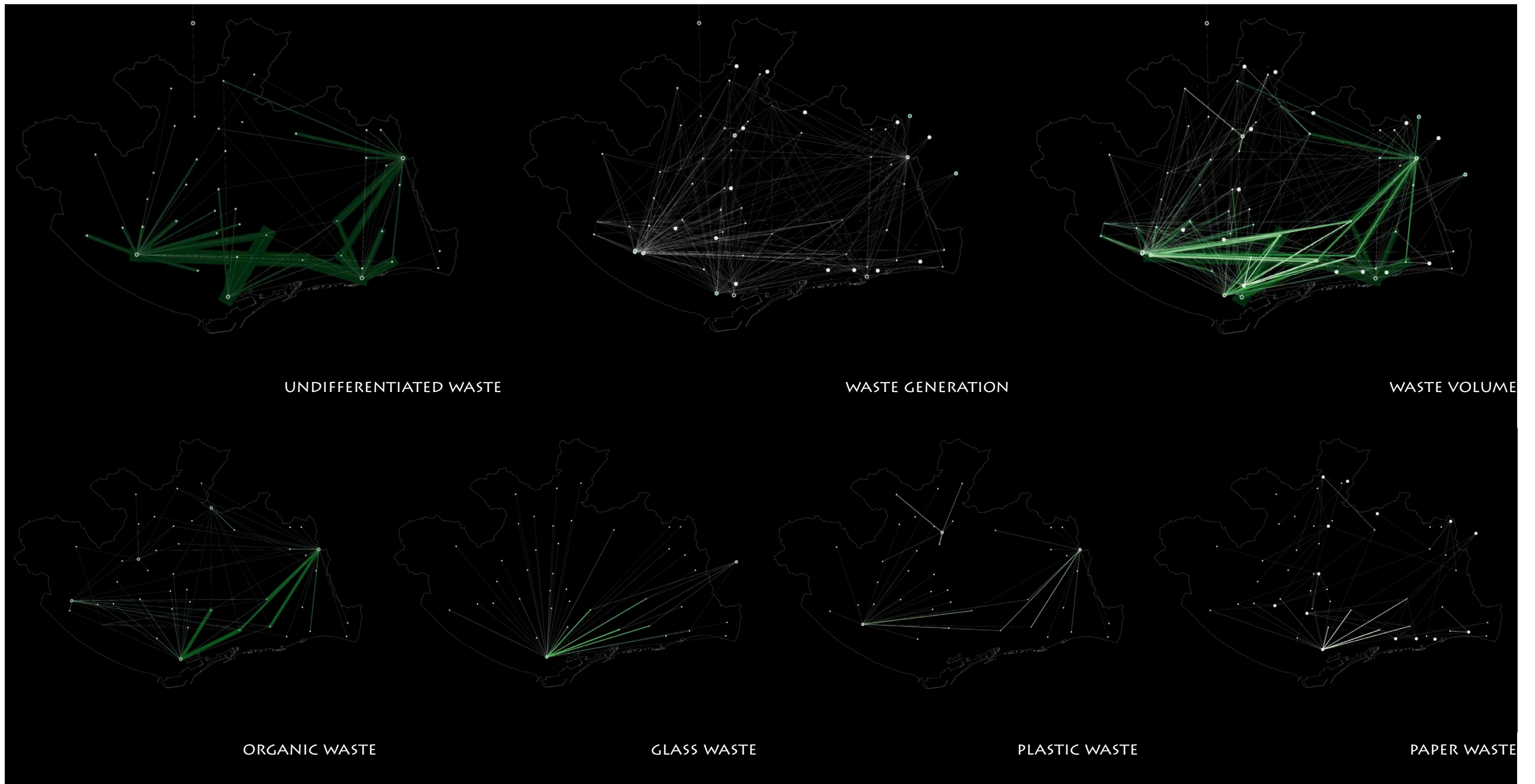
IMPROVEMENT IN RECYCLING HAS BEEN SEEN IN LAST 10 YEARS MORE THAN 10% INCREASE FROM 21% IN 2001 TO 33% IN 2010

DESPITE THIS PROGRESS, AN EXTRAORDINARY EFFORT IS STILL REQUIRED IF SPAIN IS TO MEET THE 50% TARGET OF THE WASTE FRAMEWORK DIRECTIVE BY 2020

SPAIN

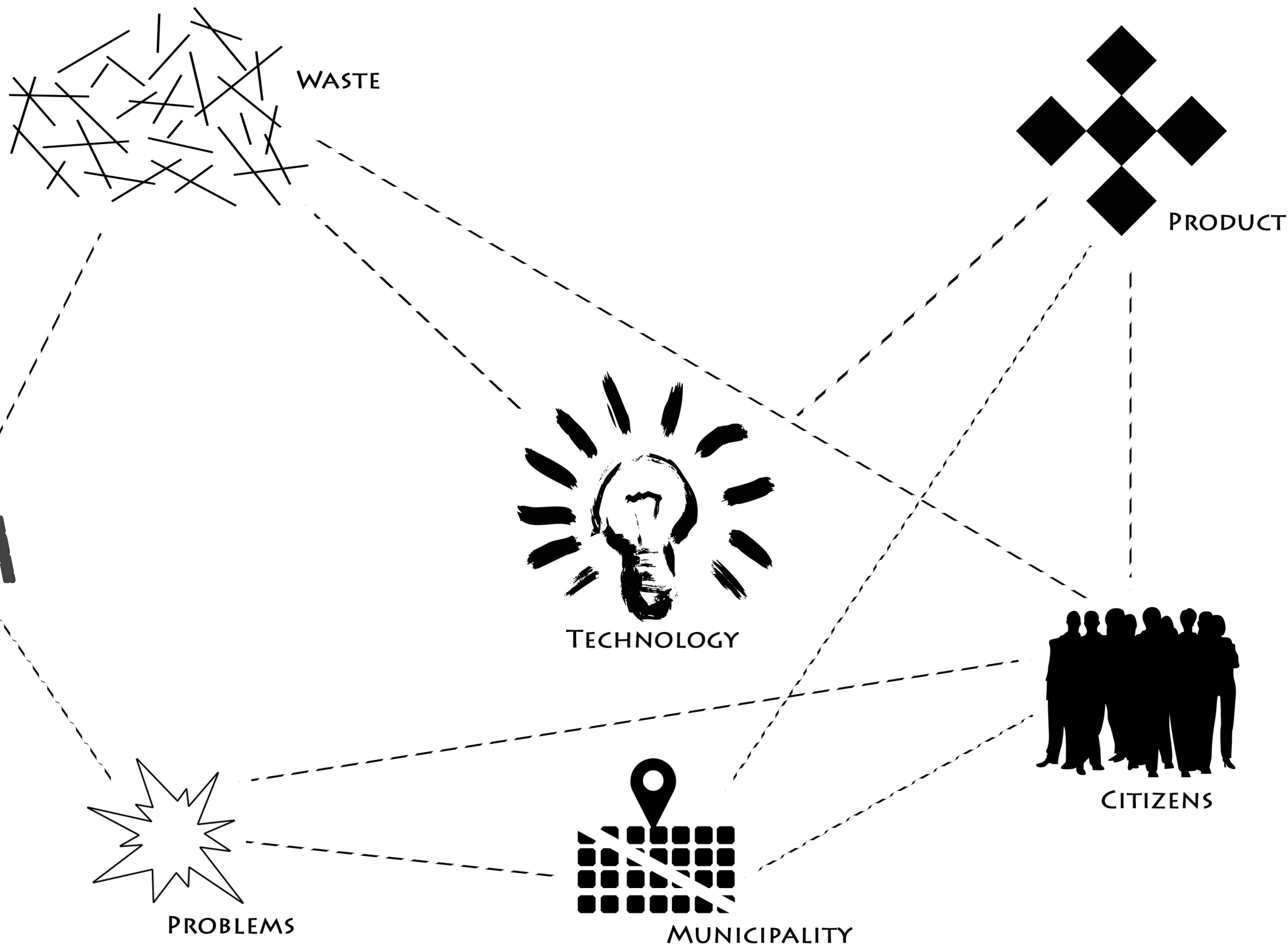


BARCELONA
WASTE PRODUCTION EACH YEAR



BARCELONA
WASTE PRODUCTION

•
zicla



POBLENOU

Iaac

Institute for
advanced
architecture
of Catalonia

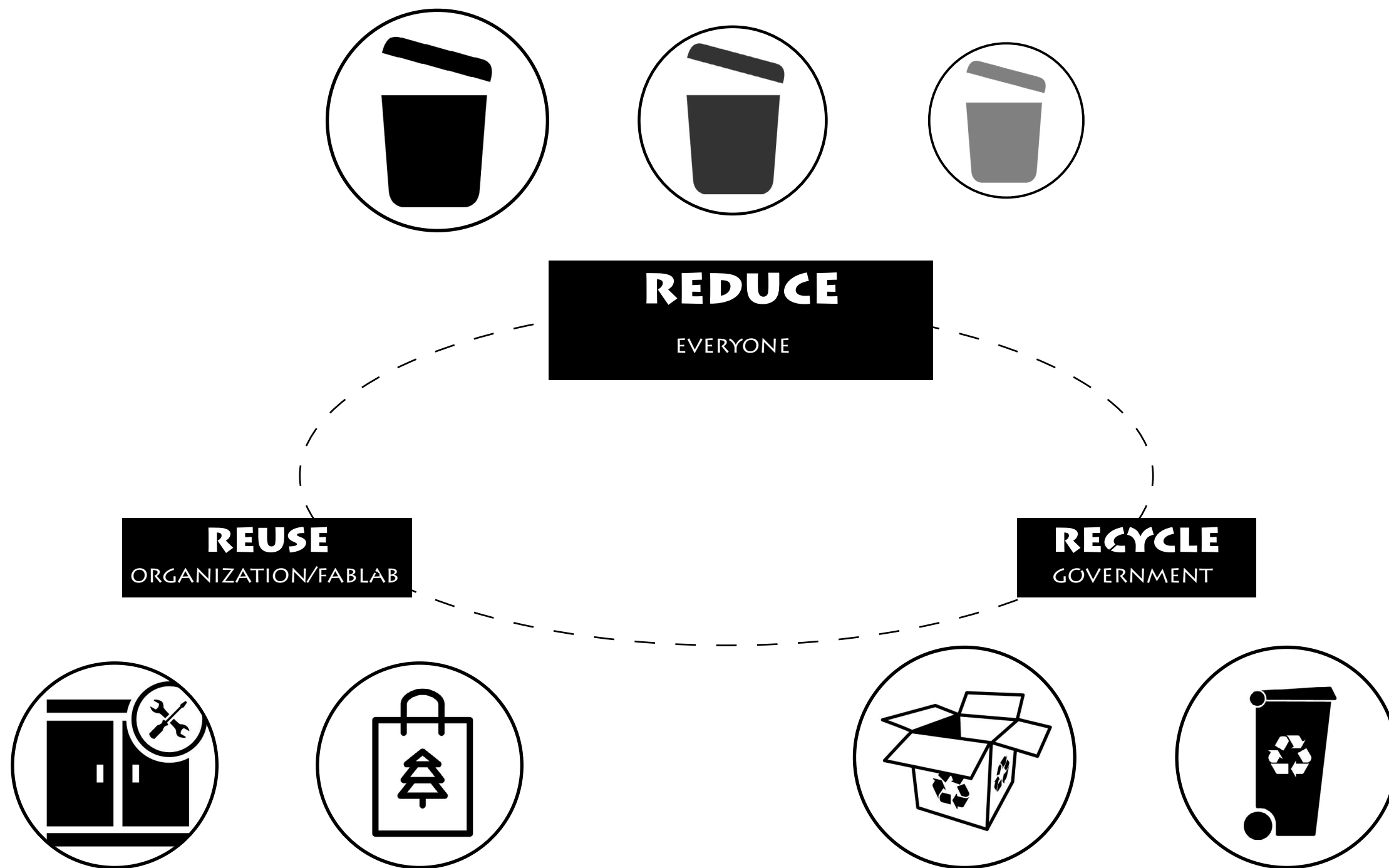
BARCELONA



FAB LAB

Master in City and Technology 2016/2017
Fablab Design Strategies

Tutors: Tomas Diez & Mathilde Marengo
Students: Pratyaksh Sharma & Peng Wang



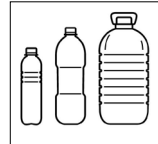
PLASTIC



5 TRILLION

12 MINUTES

GLOBAL CONSUMPTION OF PLASTIC BAGS PER YEAR | AVERAGE TIME FOR A PERSON USING A PLASTIC BAG, SIMPLY THROWN OUT



1 OF 12 DEBRIS MOST OFTEN FOUND IN COSTAL CLEANUPS



10 MILLION TONS

PLASTIC END UP IN THE OCEANS - AND NOT WITHOUT CONSEQUENCE

Sources:
Worldwatch Institute: plastic bags

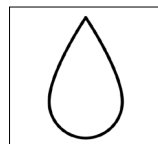
PAPER



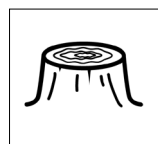
560 MILLION TONS

35%

CONSUMPTION OF PAPER PRODUCTS EVERY YEAR. STILL IN RISING | 35% BY WEIGHT OF MUNICIPAL SOLID WASTE ARE PAPER



MORE PAPER NEED MORE WATER
THE PAPER INDUSTRY USES MORE WATER TO PRODUCE A TON OF PRODUCT THAN ANY OTHER INDUSTRY.



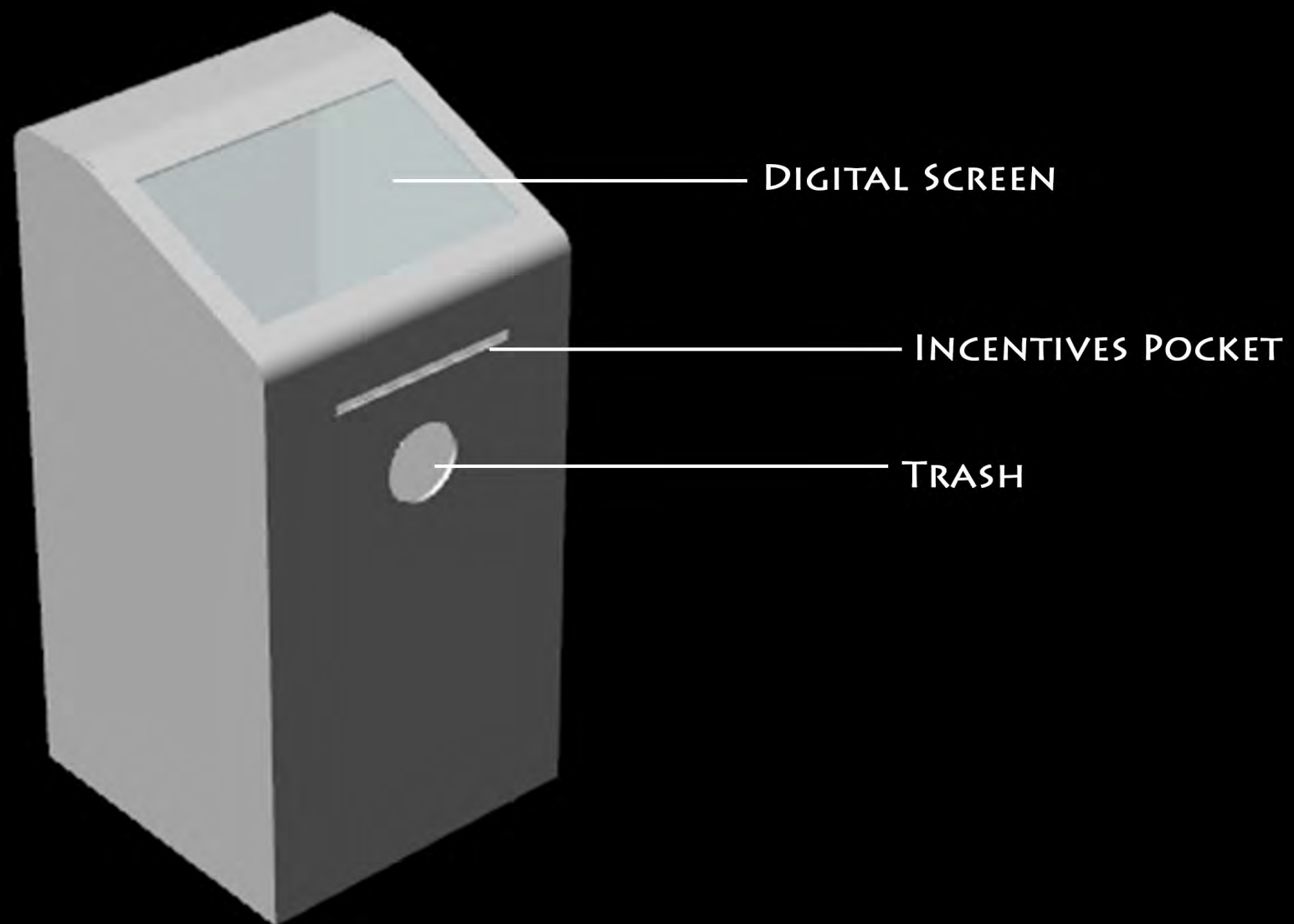
17 BILLION CUBIC FEET

WOOD USED FOR PAPER AND PULP

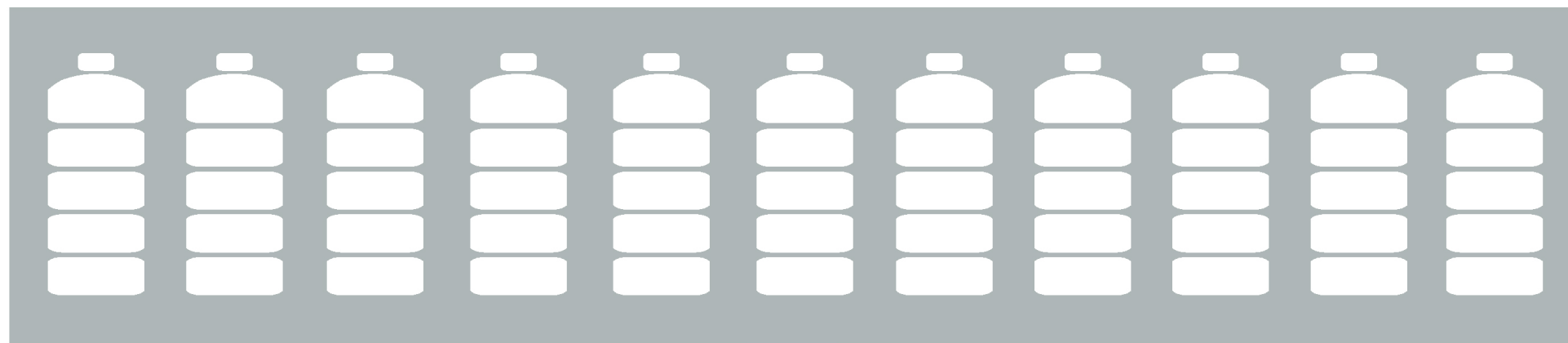
LESS FORESTS, MORE GHG EMISSIONS

Sources:
Forest Ethics – www.forestethics.org/paper-the-facts
Environmental Paper Network – www.environmentalpaper.org
World Resources Institute – www.wri.org

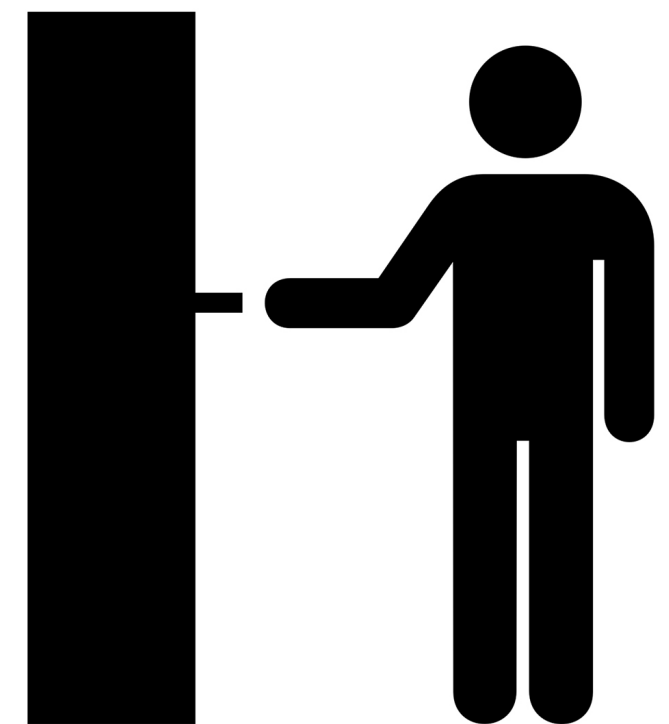


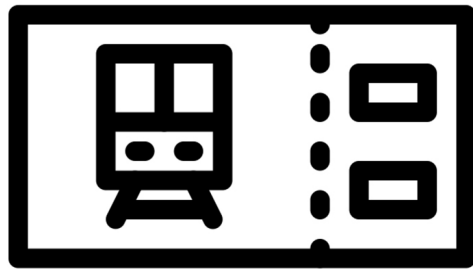


PAPER

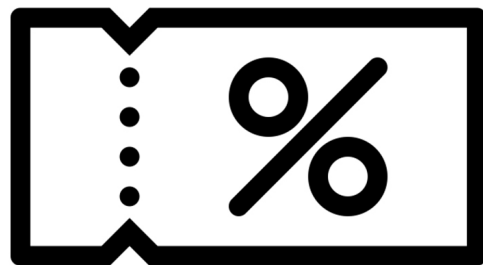


PLASTIC

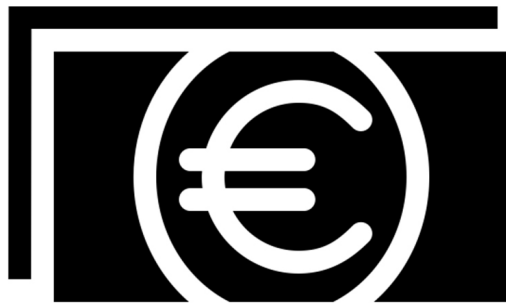




ONE WAY TICKET



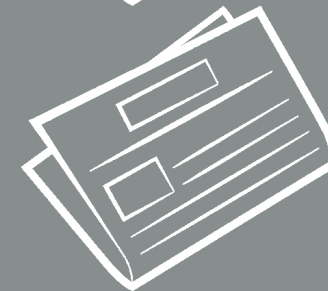
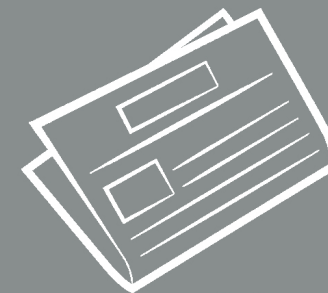
COUPONS



MONEY

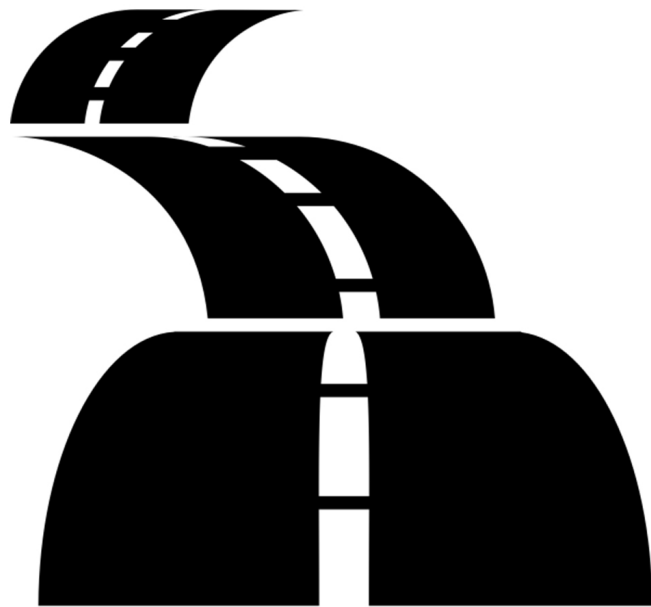


PAPER



PLASTIC

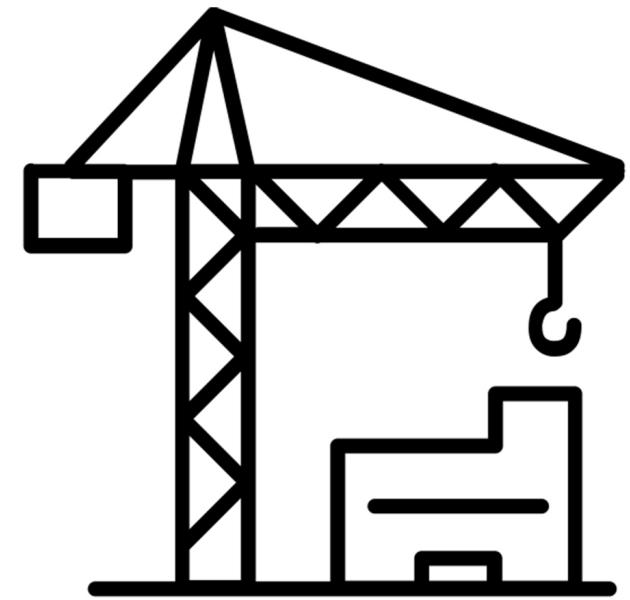




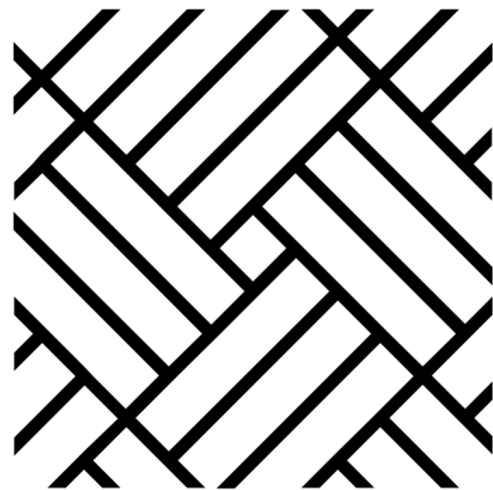
ROADS



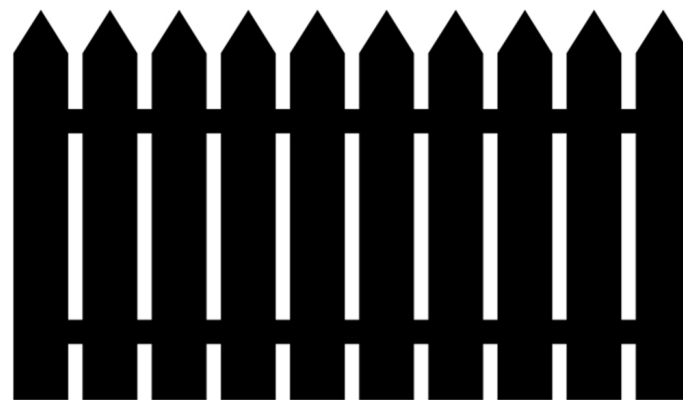
BENCHES



CONSTRUCTION
MATERIALS



PAVEMENTS



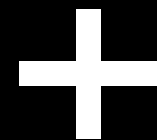
FENCING



MATERIALS
(REUSE)

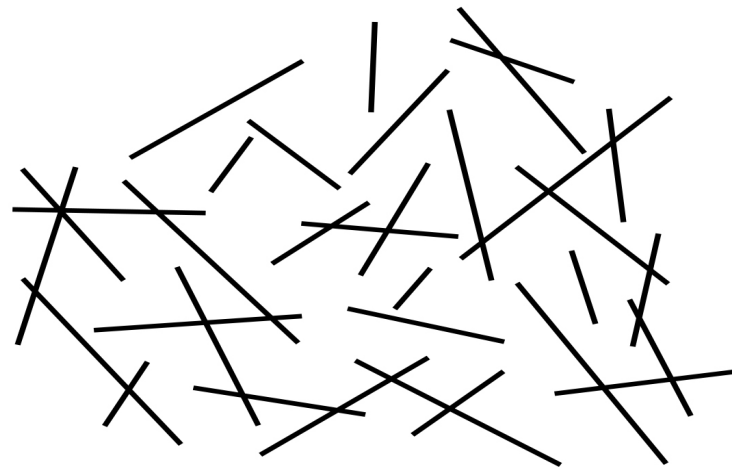
3R'S

- REDUCE
- REUSE
- RECYCLE

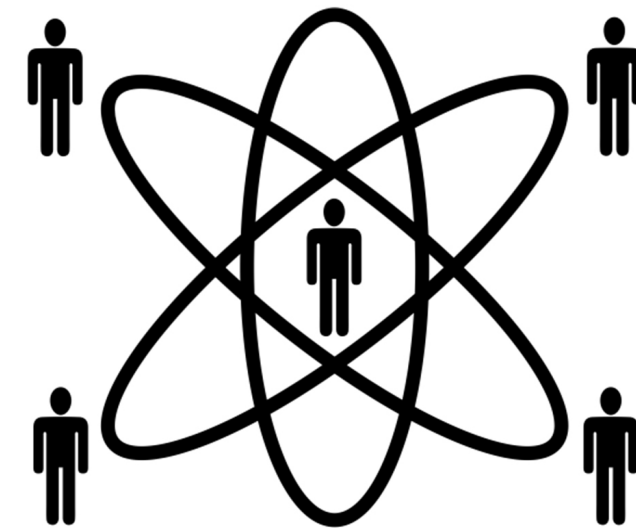


4R'S

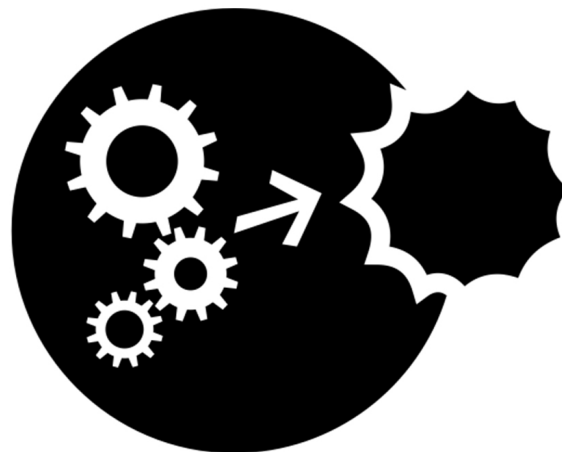
RESPONSIBILITY



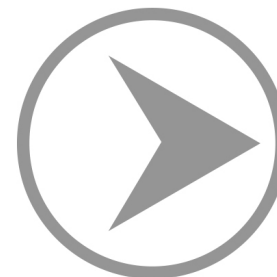
WASTE



COMMUNITY (4-R'S)



PROCESS



GOVERNMENT

PARTNERS

