International Webinar

'ACHIEVEING SUSTAINABLE AND REGENERATIVE DEVELOPMENT GOALS

UNIVERSITAS DWIJENDRA – DENPASAR, BALI, INDONESIA

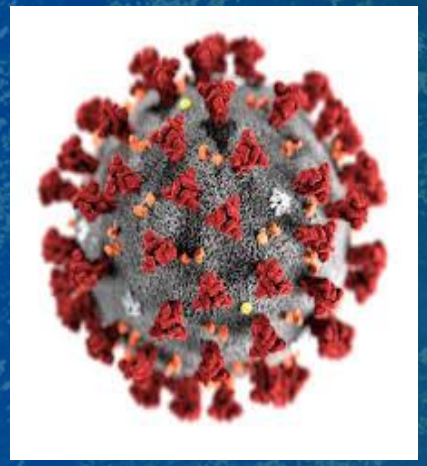
REGENERATIVE SUSTAINABILITY FROM THE COVID-19 PANDEMIC

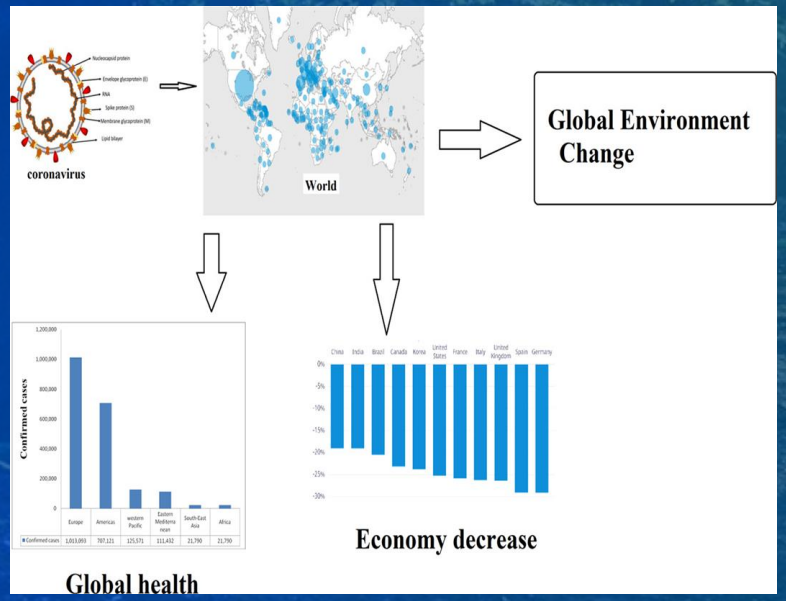
Asst. Prof. Dr. Irina Safitri Zen

Kuliyyah Architecture & Environmental Design, Sejahtera Center for Sustainability & Humanity,

International Islamic University Malaysia

CORONAVIRUS-19 PANDEMIC





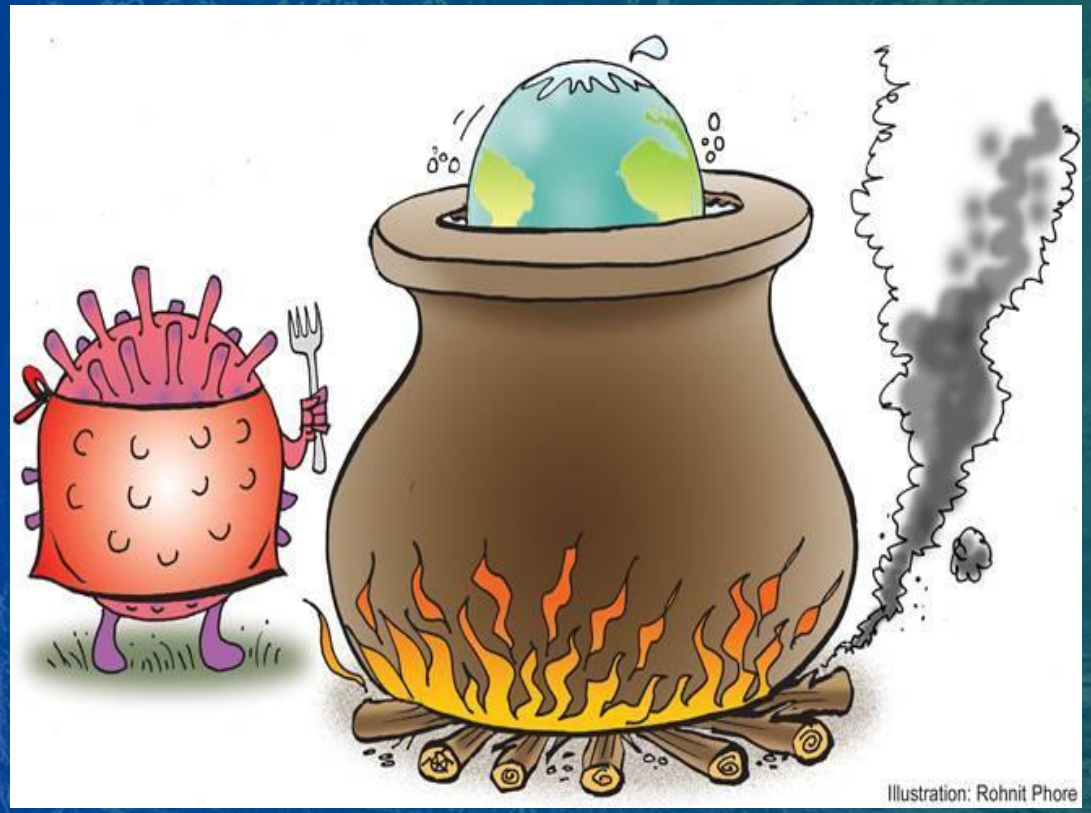
The coronavirus pandemic is a wake-up call to stop exceeding the planet's limits.

Deforestation, biodiversity loss, and climate change make pandemics more likely.

Deforestation drives wild animals closer to human populations, increasing the likelihood that zoonotic viruses like SARS-CoV-2 will make the cross-species leap.

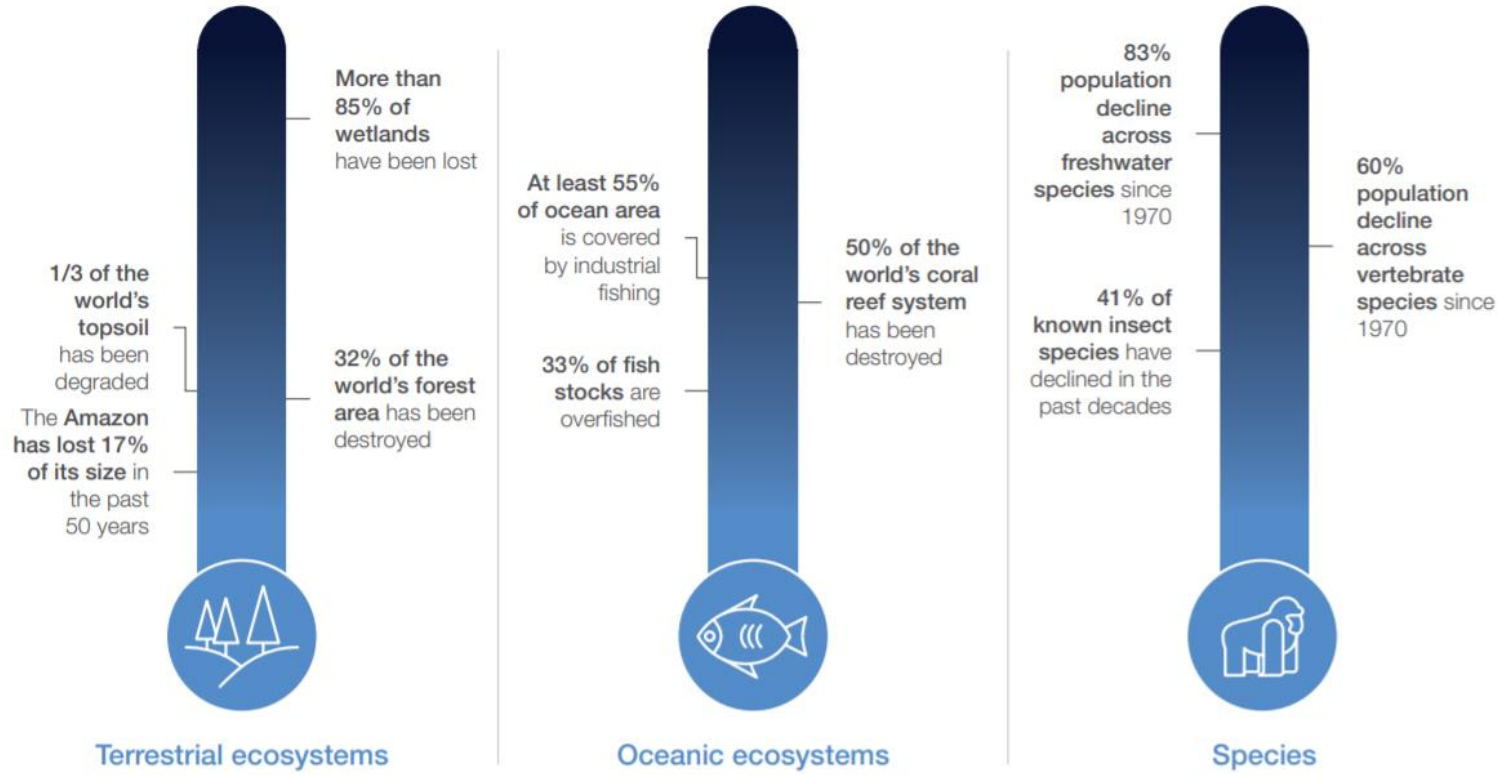
The Intergovernmental Panel on Climate Change (IPCC) warns that global warming accelerate the emergence of new viruses.

Climate Change and COVID-19



- Rising global temperature expanding the geographical distribution of diseases like dengue and malaria,
- Infectious diseases thrive better in a warmer climate.
- For example, climate change is making winters milder, and shorter. This allows extended breeding periods for disease-carrying vectors such as mosquitoes, and rats.
- Warmer climates also enable them to survive in higher altitudes, and, therefore, bring diseases to new places.
- Global warming is also changing the water cycle, leading to heavy rainfalls, higher humidity, and floods.
- Higher temperature and humidity assist breeding of pathogens, and heavy rain assists the breeding of mosquitoes.

FIGURE 1:
Human activity is eroding the world's ecological foundations



Source: IPBES, 2019, "Global assessment report on biodiversity and ecosystem services"; Maria-Helena Semedo of the Food and Agriculture Organization (FAO) at World Soil Day 2014; The Economist, 2019, "On the brink – The Amazon is approaching an irreversible tipping point"; WWF, 2018, "Living planet report – 2018: Aiming higher"; F. Sánchez-Bayo and K.A.G. Wyckhuys, 2019, "Worldwide decline of the entomofauna: A review of its drivers", Biological Conservation.

Sweden

OVERALL SDG PERFORMANCE	Global rank	Score or value	Regional average
SDG Index	1 (of 149)	84.5 /100	75.3 /100

AVERAGE PERFORMANCE BY SDG

SDG DASHBOARD

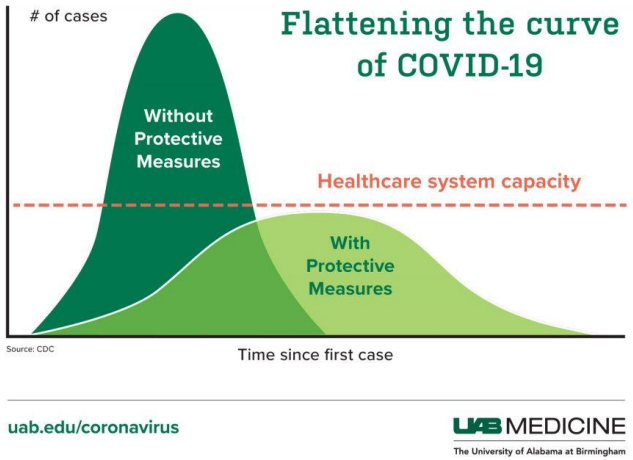
Central African Republic

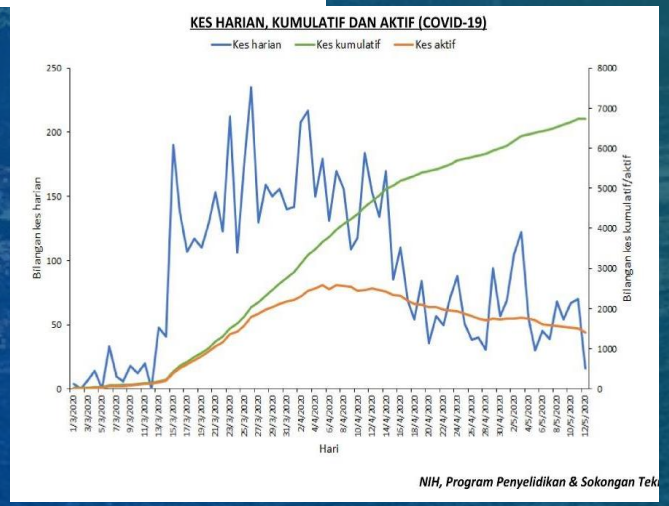
OVERALL SDG PERFORMANCE	Global rank	Score or value	Regional average
SDG Index	149 (of 149)	26.1 /100	42.5 /100

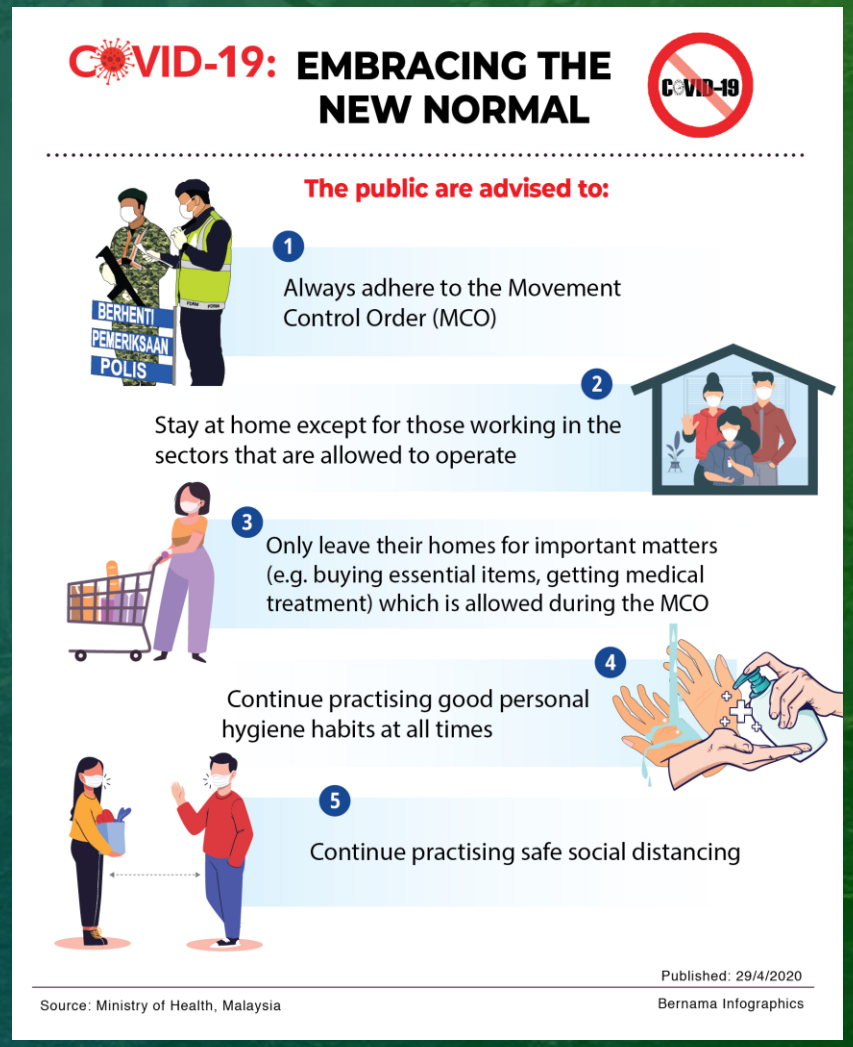
AVERAGE PERFORMANCE BY SDG

SDG DASHBOARD

FLATTENING THE CURVE OF COVID-19 through HUMAN ACTION - A NEW NORMAL



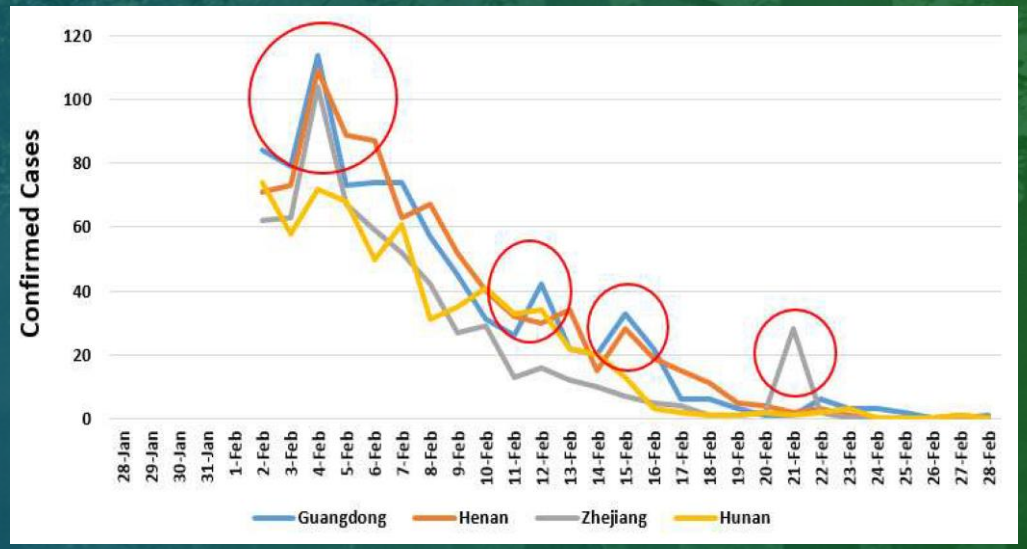


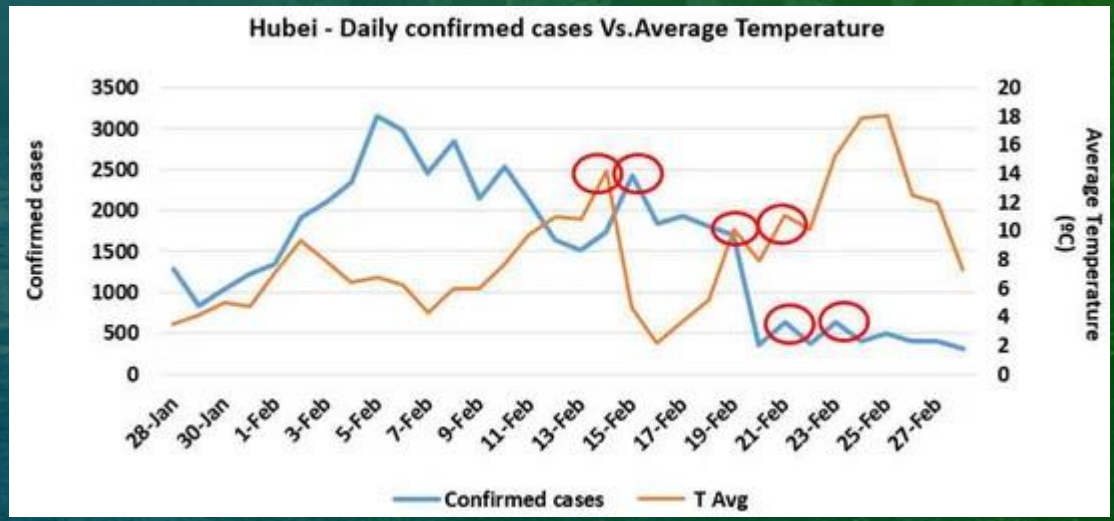


IMPACT OF QUARANTINE TO DECREASING POSITIVE CASE OF COVID-19 SLIDE

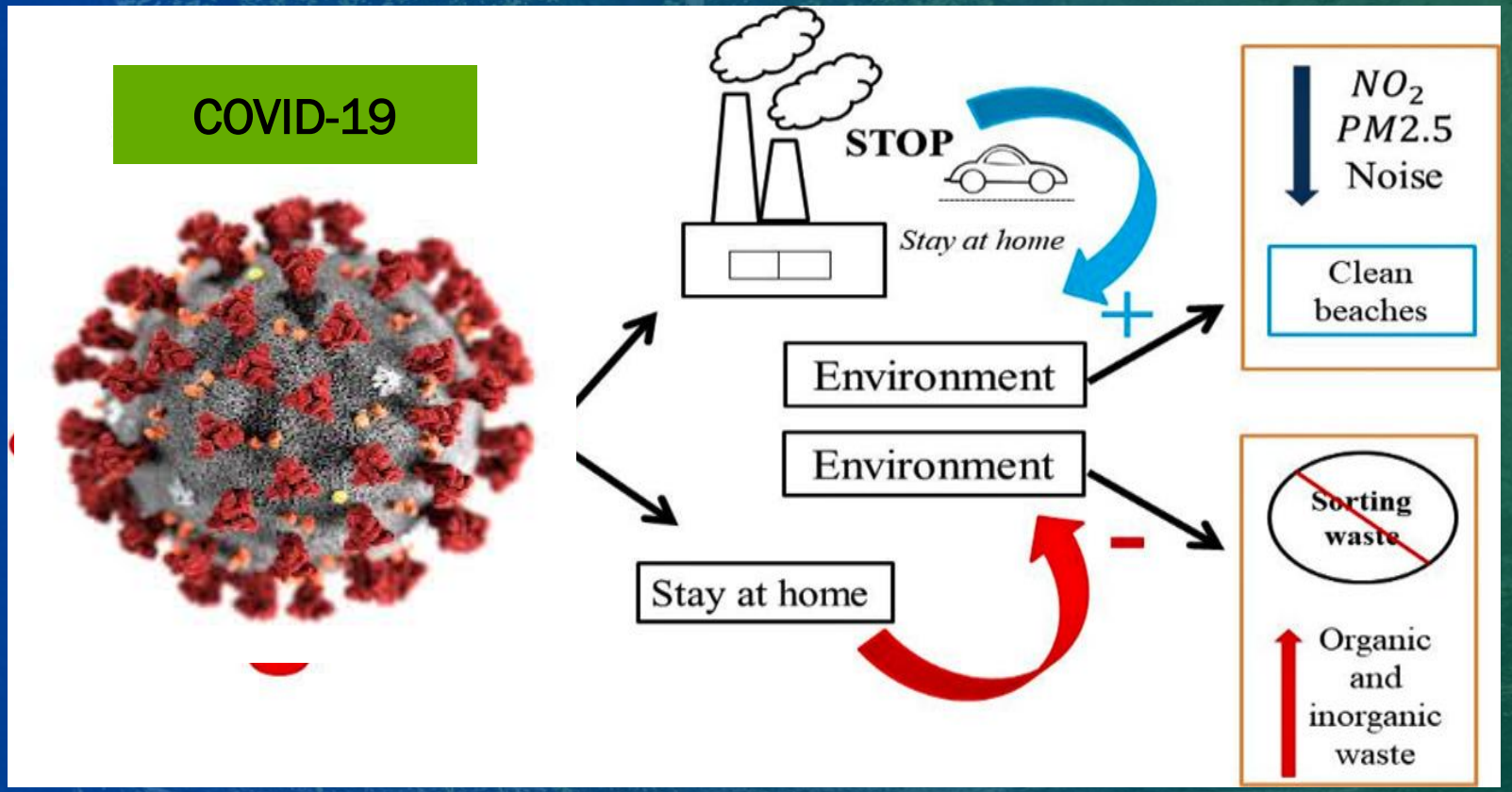
The positive impact of quarantine in decreasing the number of confirmed cases, which was effective after about 14 days, alongside the impact of environmental factors.

The impact of environmental parameters on epidemic diseases, such as the quicker spread of flu virus in cold and dry conditions by Lowen et al., 2007 and Price et al., 2019 or the faster increase of MERS-CoV in warm temperature, low wind speed, low relative humidity, and high ultraviolet index by Altamimi and Ahmed, 2019.





Effect of Pandemic to the Environment



Non Vaccine action.

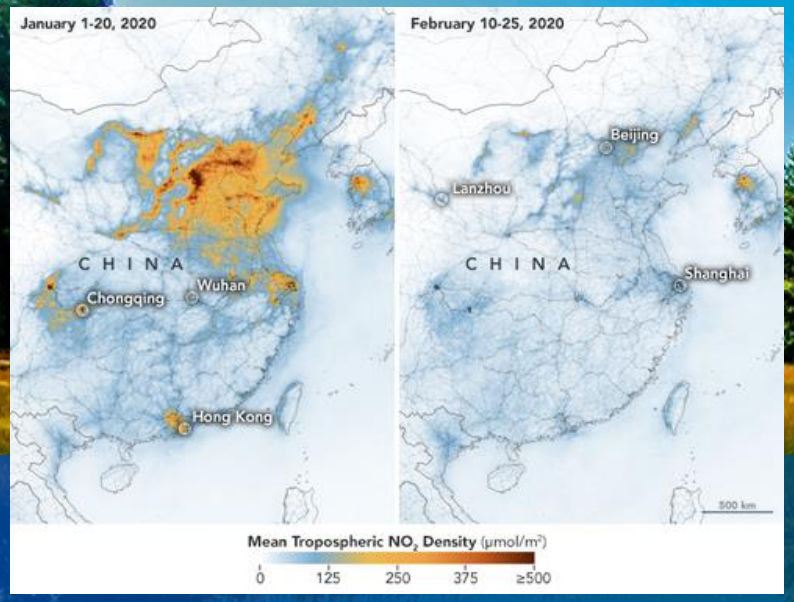
Epidemiology - public health/ collective action.

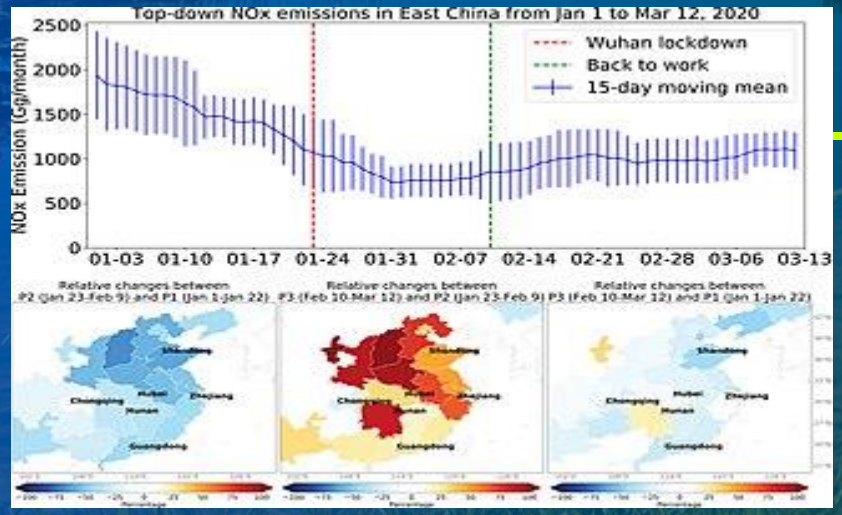
Social Distancing implement to break the chain of the virus spreading.

Stay At Home/ Work From Home/ Lockdown.

Positive impact to the environment, i.e. reduce air and noise pollution.

Evidence from COVID19 shows that force behavioural changes IMPROVE ENVIRONMENTAL QUALITY





The COVID-19 pandemic is threatening lives and economies around the world.

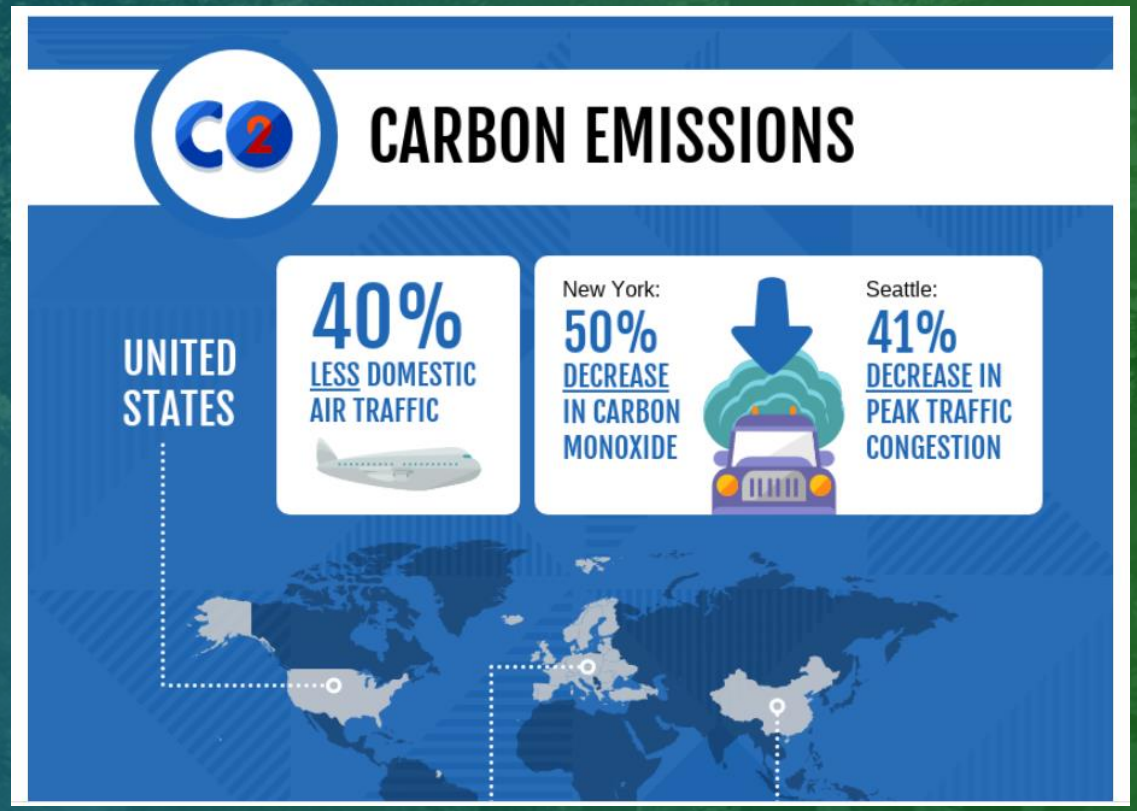
But it has also demonstrated that human societies are capable of transforming themselves more or less overnight.
Its the time to usher in systemic economic change.

The COVID-19 crisis shows us that it is possible to make transformational changes overnight. We have suddenly entered a different world with a different economy.

THE CORONAVIRUS PANDEMIC'S

IMPACT ON THE ENVIRONMENT

As the coronavirus pandemic unfolds across the globe, threatening lives and upending the world economy, an unexpected side effect has been a decrease in greenhouse gas emissions. In this infographic, we'll look at the full environmental impact of the COVID-19 crisis, from the rise of medical waste to the decline of air pollutants.



Zen 2020

WASTE

UNITED STATES

Surge in solid **medical waste** puts
467K
WASTE COLLECTION WORKERS AT RISK

REUSABLE BAGS ARE BANNED IN SEVERAL STATES

1B TREES PER YEAR
are needed to **package** shipped goods.

ITALY

111%
INCREASE IN CONSUMER SPEND ON PACKAGED MANDARINS

CHINA

MEDICAL WASTE QUADRUPLED TO
200
TONS PER DAY

While China grapples with medical-waste facilities at near or full capacities, the rest of the world braces for a huge increase in infectious waste. It remains to be seen if a dip in office waste balances out the increase in food and shipping packaging.

ENERGY

UNITED STATES

1.5%
OF THE TOTAL POWER IN THE U.S. IS CONSUMED BY DATA CENTERS ANNUALLY

EUROPE

40% INCREASE IN BROADBAND DEMAND

9.1 TERABITS PER SECOND
A **new world record** for data throughput at the Internet Exchange in Frankfurt, Germany.

WORLDWIDE

63M STREAMS OF STRANGER THINGS S3*
Comparable to driving **420 miles** + **189 million kg of CO2.**

*Between Oct. 2018 to Sept. 2019

SOUTH KOREA

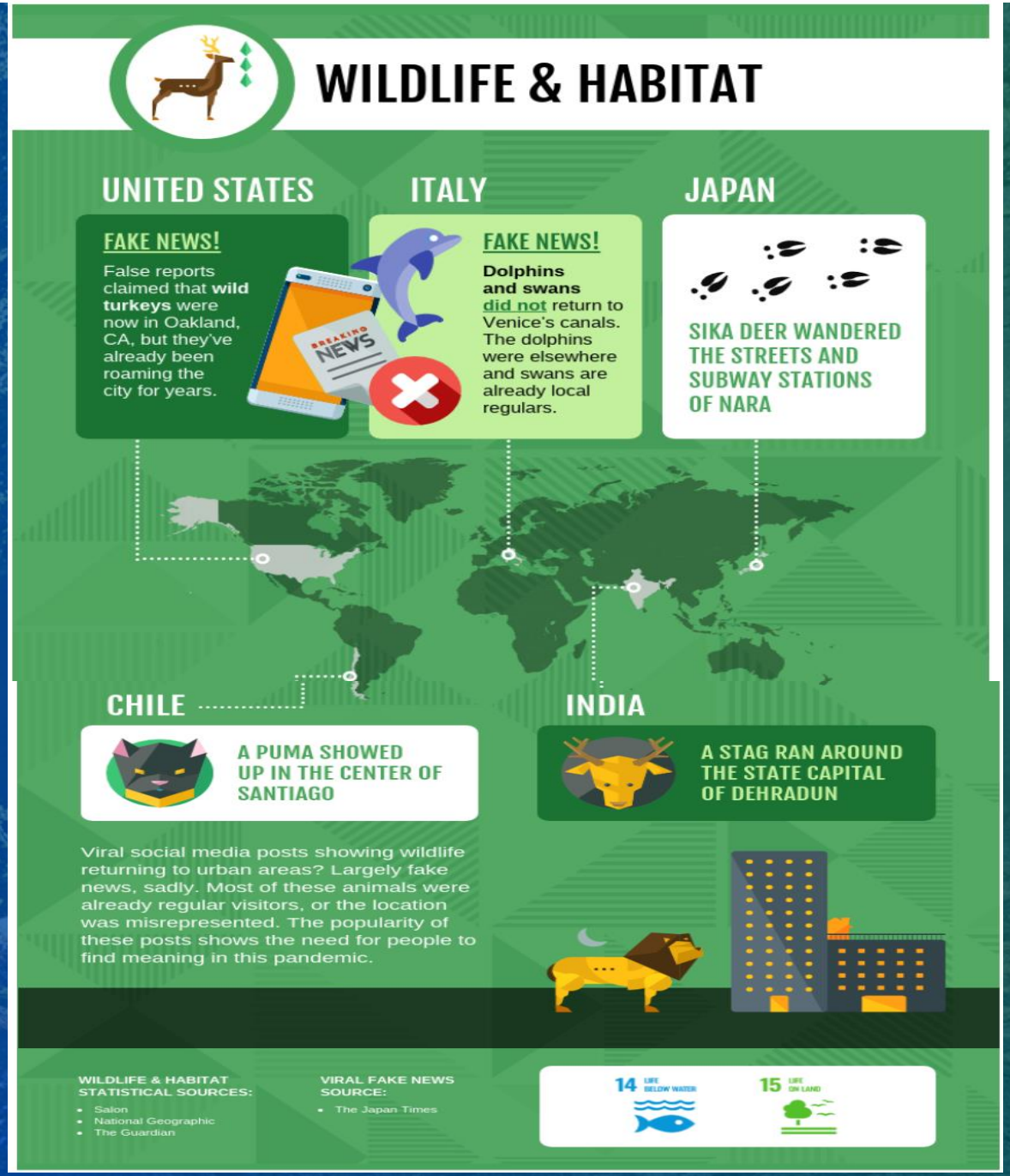
30%
INCREASE IN ONLINE GAMING ACTIVITY

Broadband demand has risen dramatically thanks to online conferencing, schooling and streaming videos, but not all experts agree it's energy intensive. Some experts argue that big data, like the kind that picks what products to show you on a website, requires more energy.

ENERGY STATISTICAL SOURCES:

- SaveOnEnergy
- The Channel Company, CRN
- Forbes
- CNN News
- DE-CIX

Zen 2020



On one planet, all species, countries, and geopolitical issues are ultimately interconnected. We are witnessing how the outbreak of a novel coronavirus in China can wreak havoc on the entire world.

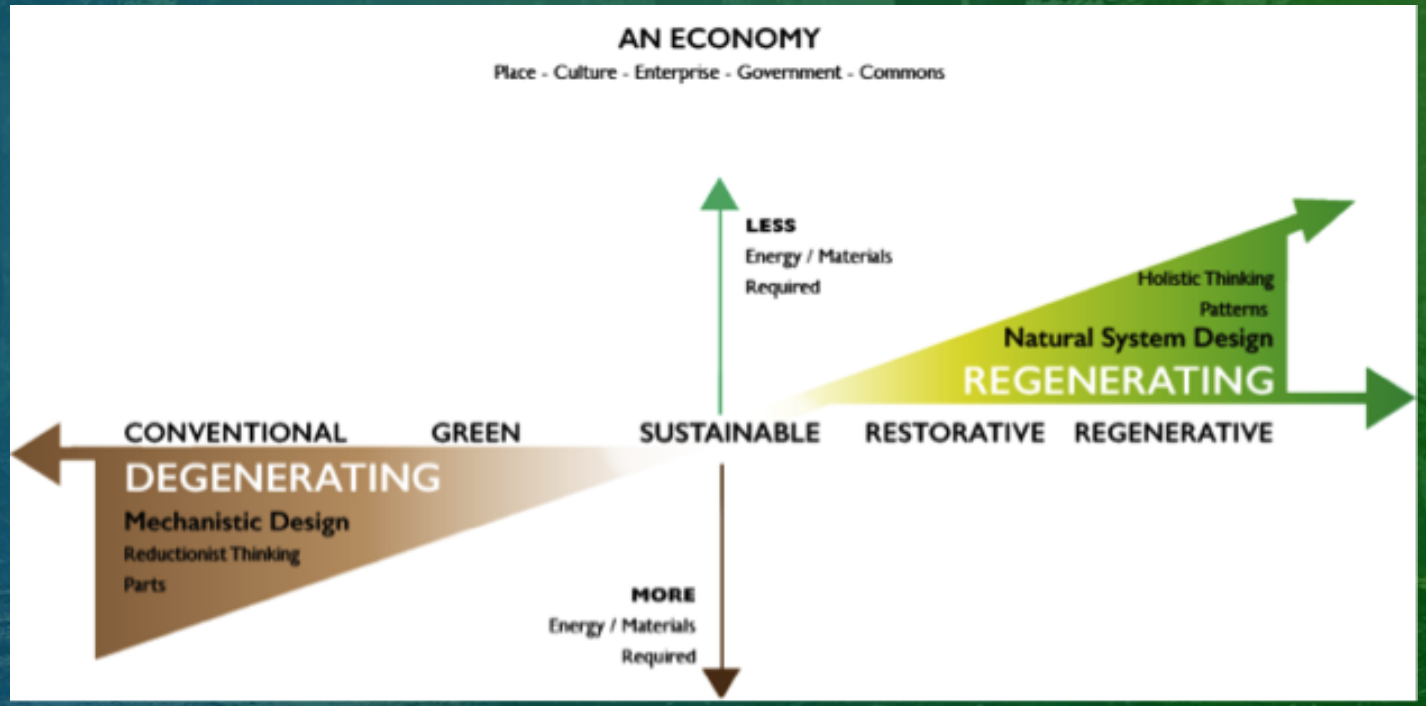
Like COVID-19, climate change, biodiversity loss, and financial collapses do not observe national or even physical borders.

These problems can be managed only through collective action that starts long before they become full-blown crises.

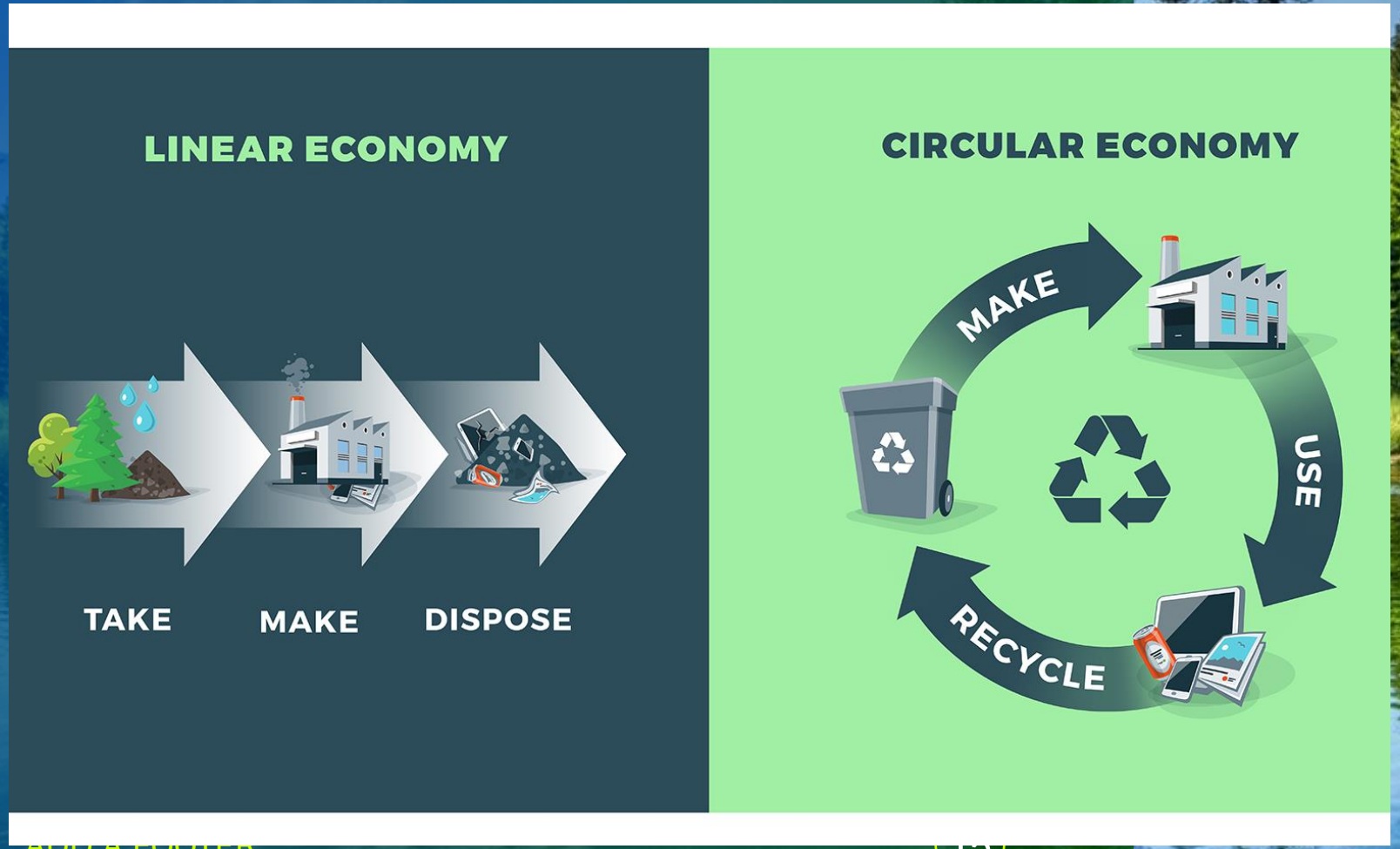
- How to sustain the ‘best’ environmental quality during COVID19 pandemic?
- How to balance between the three pillar of sustainability?

Regenerative Sustainability

- Transition from a ‘mechanistic’ to an ‘ecological’ or living systems worldview.
- Develop comprehensive rules for an environmentally enhancing, restorative relationship between humanity and the ecosystems from which we draw resources for our sustenance.
- Re-conceptualize relationships among humans' technological, ecological, economic, social and political systems.



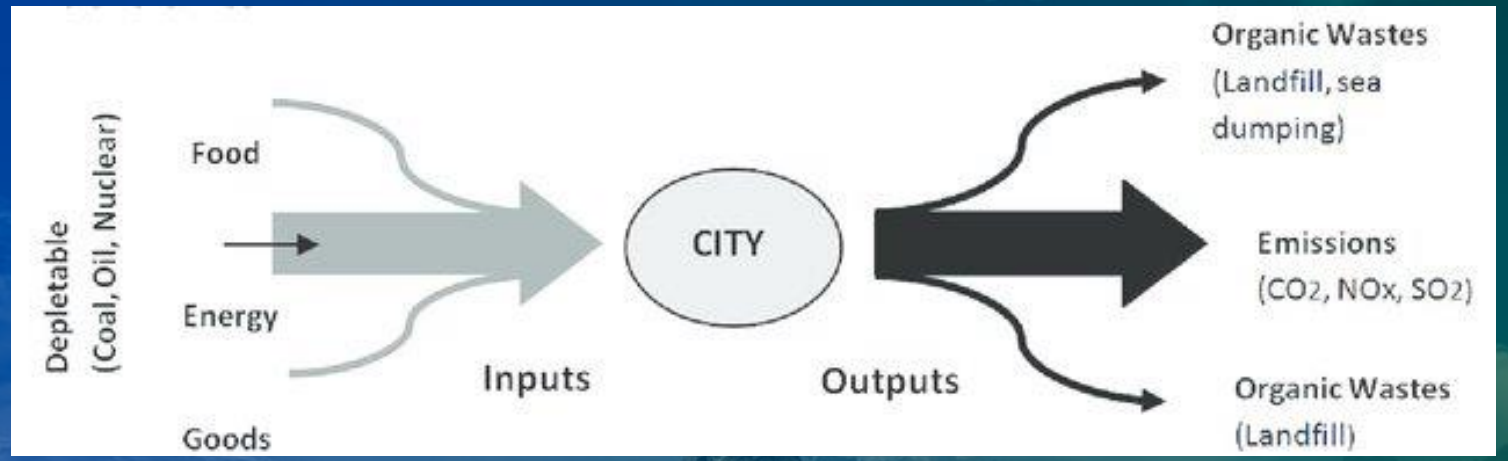
LESSON FROM COVID-19 : Its Proven!
Human's activity could improve environmental quality

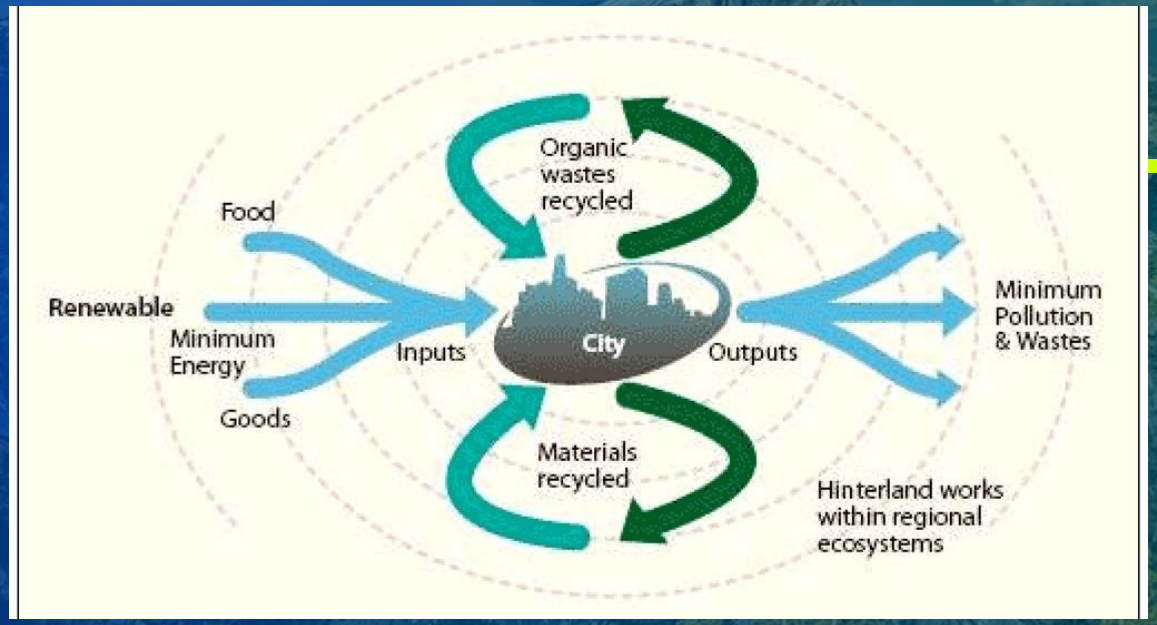


Economies that are more circular and resource-efficient will see long-term reduced greenhouse gas emissions along value chains; from logistics and manufacturing, to the mines where raw materials are sourced.

Less deforestation and resources needed for raw material.

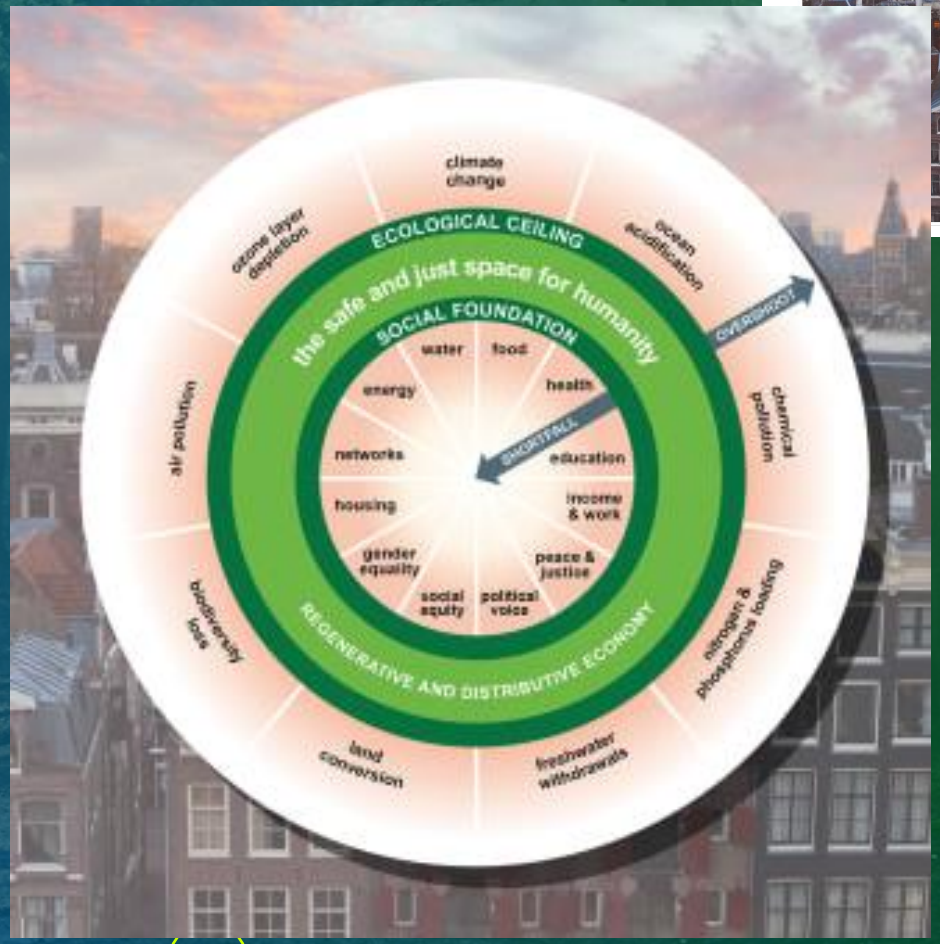
URBAN METABOLISM : From Linear to Circular





‘Doughnut Economy’

- to mainstream economic thinking that formulates conditions for a sustainable economy.
- ‘the doughnut’ as an economic model that balances essential human needs and planetary boundaries.
- Instead of focusing on the growth of the economy, a model focus to ensure everyone on earth has access to their basic needs, such as adequate food and education, while not limiting opportunities for future generations by protecting our ecosystem.



Zen 2020

What does the strategy involve?

As the City of Amsterdam, we are focusing on 3 value chains:

Food and organic waste streams

Ambition 1: Short food chains provide a robust sustainable food system
Ambition 2: Healthy and sustainable food for the people of Amsterdam
Ambition 3: High-quality processing of organic waste streams

Consumer goods

Ambition 1: The City sets the right example by reducing its consumption
Ambition 2: Using what we have more sparingly
Ambition 3: Amsterdam makes the most of discarded products

Built environment

Ambition 1: The transition to circular development requires a joint effort
Ambition 2: The City sets the right example by formulating circular criteria
Ambition 3: A circular approach to the existing city

SUSTAINABLE FOOD AWARDS 2021

THANK YOU!

Irina Safitri Zen PhD

Phone

+6017 3777 – 400

Email

Irinazen@iium.edu.my