



# HUSTEF

HUNGARIAN SOFTWARE TESTING FORUM

**Connecting the Bits with the Beats**

**- And create a better world whilst doing so**

October 2023

**Drone Swarms**

**Spying Smart Home Devices**

**Smart Dust**

**AI Cloning**

**Facial Recognition**

**AI and Bot-enabled Blackmailing and Hacking.**

**Fake News Bots**

**Ransomware**





# INNOVATION DRIVES SOCIAL PROGRESS

SINCE 1950 :

**-50%** Deaths from infectious diseases

**-75%** Infant Mortality

**+50%** Life expectancy

SINCE 1960 :

**+200%** Crop yields

**-50%** Population suffering from malnutrition

**-90%** Deaths from famine

SINCE 1970 :

**+60%** Industrial productivity

**-25%** Working hours per worker

SINCE 2000 :




**X10.000** Microchip processing power

**:10.0000** Cost of data storage

**X10.000** Data transfer speed



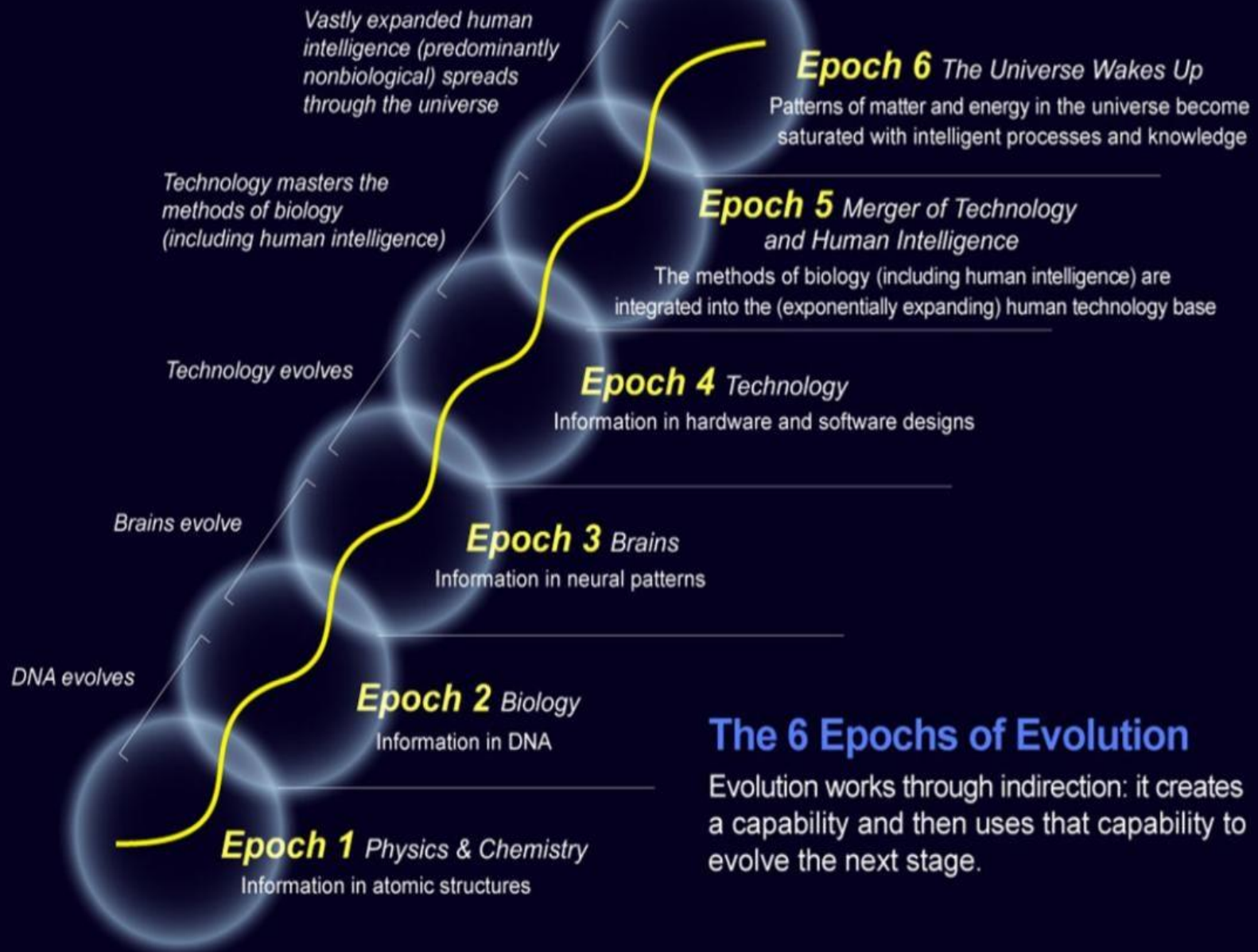
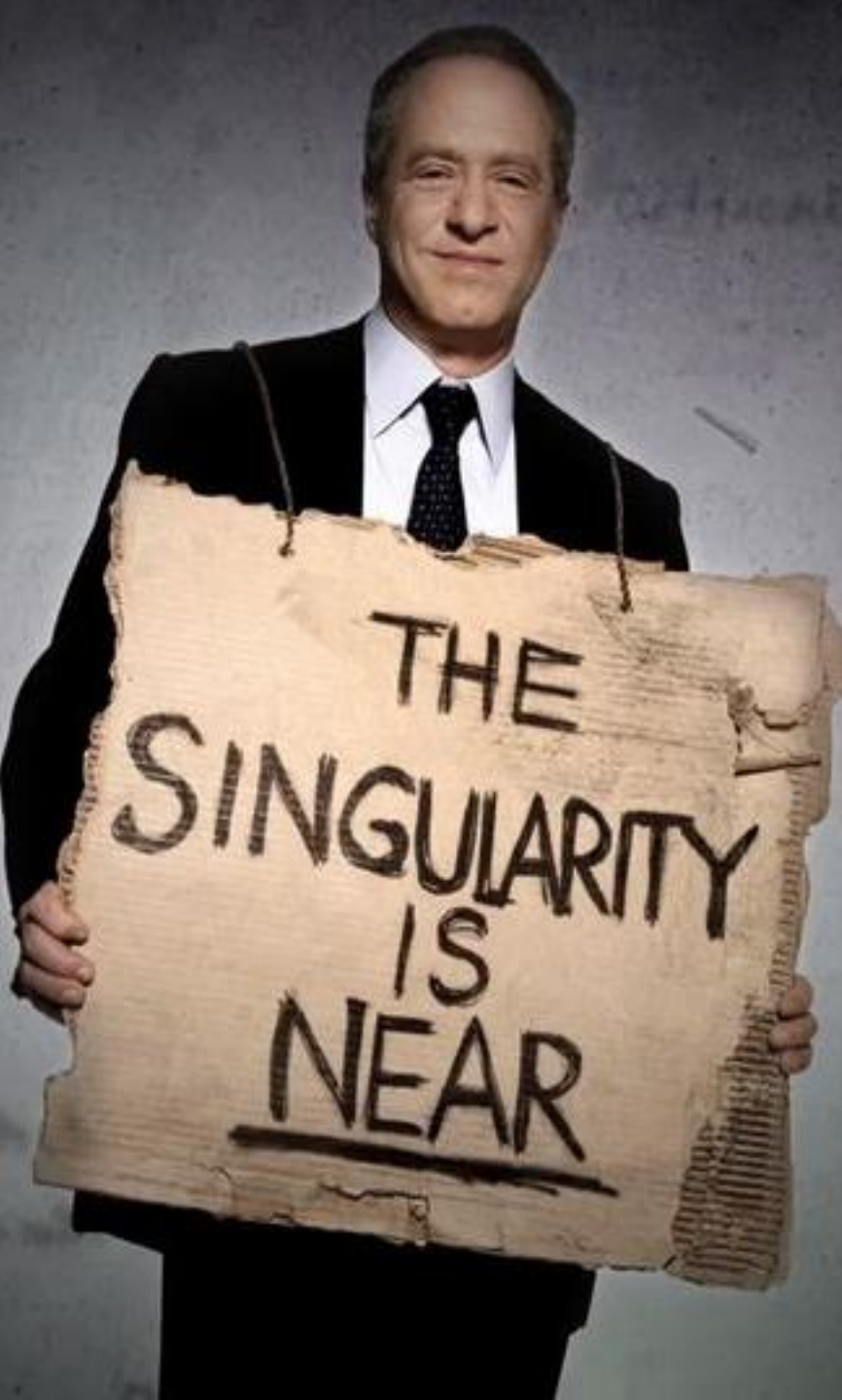
By 2035, we need :

-  **+30%** food
-  **+40%** water
-  **+50%** energy

By 2035, we need to reduce  
our CO2 emissions by :

**45%**





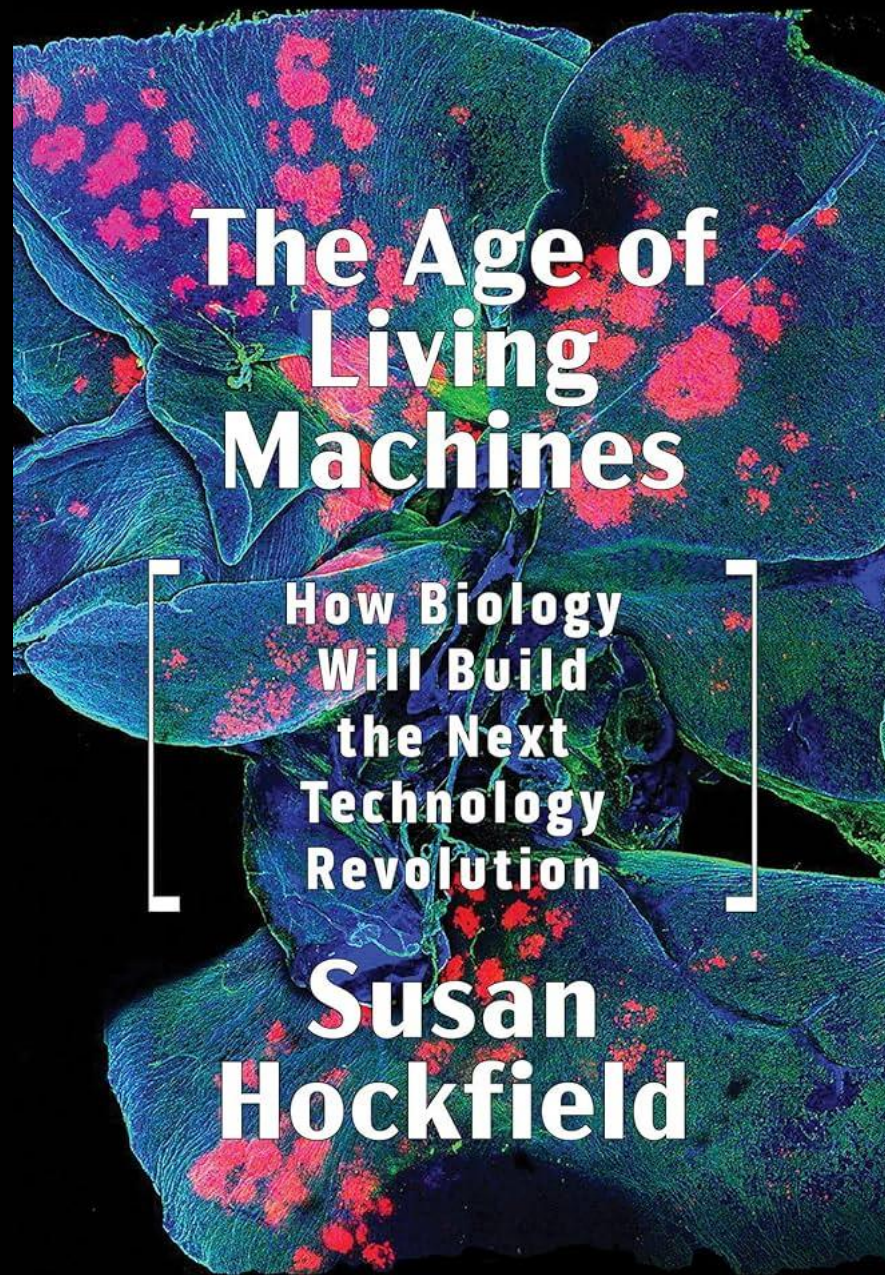
## The 6 Epochs of Evolution

Evolution works through indirection: it creates a capability and then uses that capability to evolve the next stage.



Science, math and engineering can give you the exhilarating power to become not mere spectators or consumers, but the active explorers, makers and doers who will help invent the future.

— *Susan Hockfield* —



# The Age of Living Machines

How Biology  
Will Build  
the Next  
Technology  
Revolution

Susan  
Hockfield











shaibu bukari

## MICROFINANCE FOR POVERTY REDUCTION:

A CASE STUDY OF APED IN THE TWIFU-HEMANG-LOWER  
DENKYIRA DISTRICT IN THE CENTRAL REGION OF  
GHANA.



Francis Alfred

## Microfinance a Tool to Poverty Reduction

Impact of Microfinance on Asset Accumulation  
Among Women

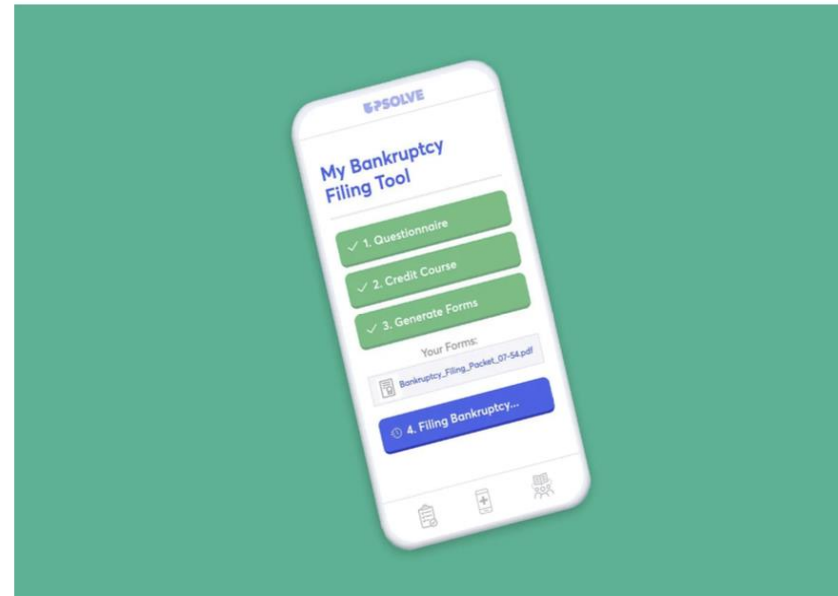
1 NO POVERTY



← THE BEST INVENTIONS OF 2020

## Free Filing

Upsolve



Courtesy

NOVEMBER 19, 2020 8:56 AM EST

**F**iling for personal bankruptcy can help people get back on their financial feet—although the process can be pricey. “The cruel irony in America is that it can cost \$1,500 in court filing and attorney fees to tell the court you have no money,” says Rohan Pavuluri, the founder of tech nonprofit **Upsolve**. Upsolve’s software fixes that, helping users complete the complex legal paperwork so that they can file for bankruptcy without hiring a lawyer. Since launching in 2018, the free service has helped relieve more than \$250million in total debt nationwide. —*Mariah Espada*

CONTACT US AT [LETTERS@TIME.COM](mailto:LETTERS@TIME.COM).





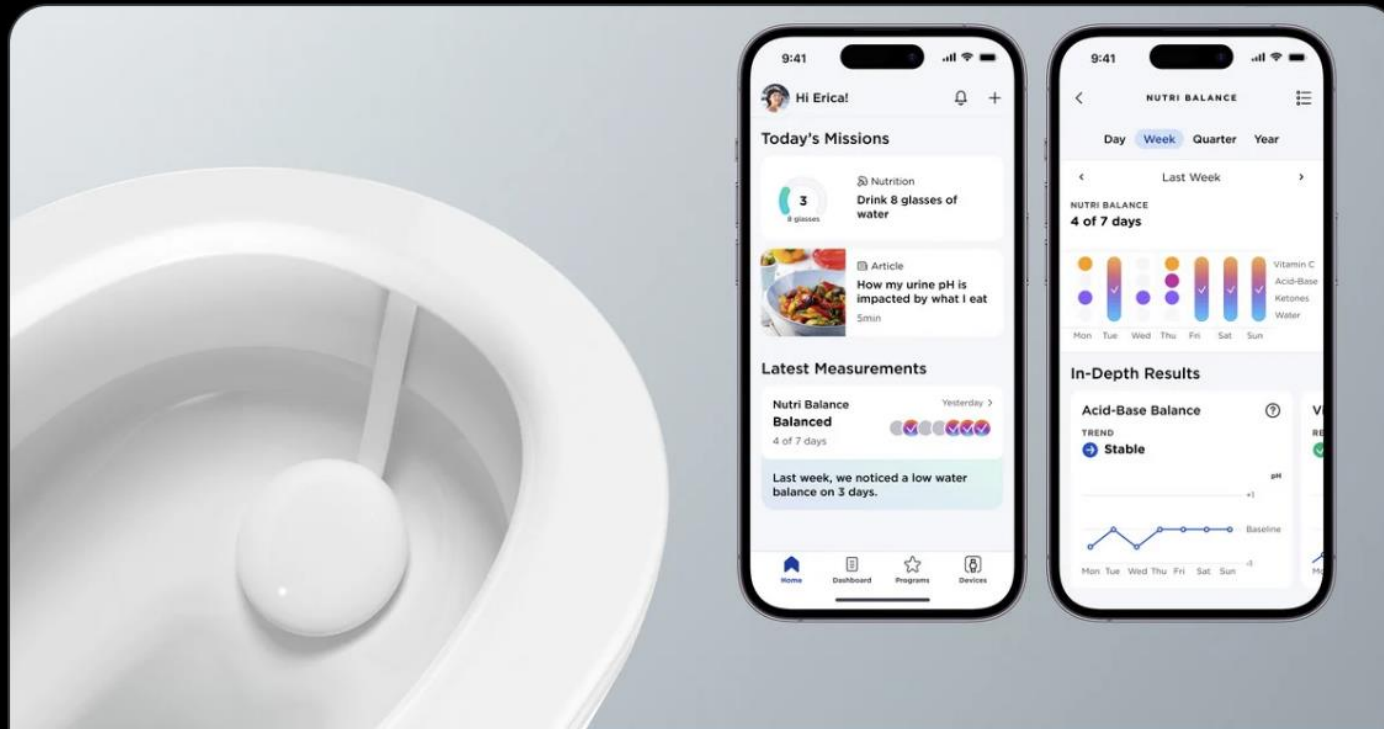
USING **AI** FOR  
SMARTER  
FARMING

3 GOOD HEALTH AND WELL-BEING





CES 2023's best health tech was Withings' U-Scan, an at-home urinary lab that you stick in your toilet... and, well, pee on. Once the giggling subsides, you start to see that this is actually a thoughtful device that could make a lot of lives easier.



theverge.com

Withings wants you to pee on its latest device

Withings doesn't want you to flush your health data away







## PROJECT SELECTION CRITERIA

These are some of the criteria that the van Kesteren Foundation use to select projects we work with:

- Focus on children, education, well-being, and health.
- Primarily located in Developing Nations
- Funding only to registered charitable organisations and not to individual persons.
- Supported by a robust governance structure and be sustainable long-term.
- Provide regular progress reports and accounting records to the van Kesteren Foundation.
- Project visit and due diligence before any substantial commitment.
- Regular visits to review project development.

THE VAN KESTEREN FOUNDATION DOES NOT ACCEPT UNSOLICITED APPLICATIONS FOR FUNDING.

"Hunger is not a problem. It is an obscenity. How wonderful it is that nobody need wait a single moment before starting to improve the world."

~ Anne Frank



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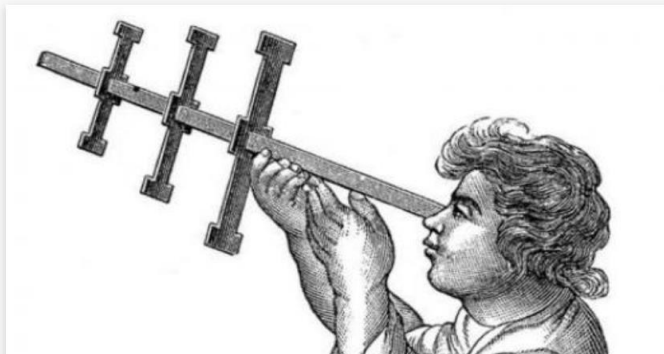


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6 CLEAN WATER AND SANITATION





# THE NEW LANGUAGE OF CARBON

Too much carbon in the atmosphere is damaging. Instead, it should be retained in durable forms such as plastic and wood or in living organisms. Recycling materials and nurturing the soil ensure that carbon ends up in the right places in the right amounts.

## FUGITIVE CARBON

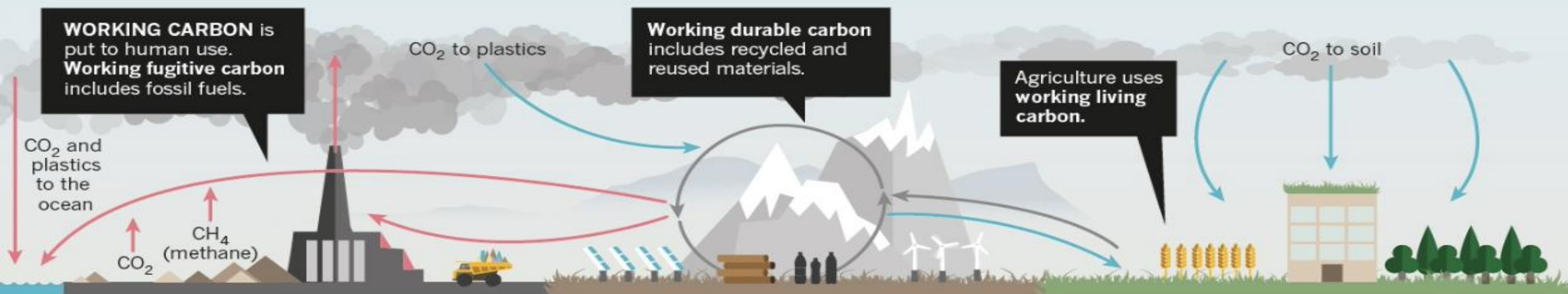
Has ended up somewhere unwanted and can be toxic. It includes carbon dioxide released into the atmosphere by burning fossil fuels, 'waste to energy' plants, methane leaks, deforestation, much industrial agriculture and urban development. Plastic in the ocean is fugitive carbon.

## DURABLE CARBON

Locked in stable solids such as coal and limestone, or in recyclable polymers that are used and reused. It ranges from reusable fibre, such as paper and cloth, to building and infrastructure elements that can last for generations and then be reused.

## LIVING CARBON

Organic, flowing in biological cycles, providing fresh food, healthy forests and fertile soil. It is something we want to cultivate and grow. Soil includes living carbon in the form of fungi, microbes, humus, legumes and grasses.



## MANAGEMENT STRATEGIES

### CARBON NEGATIVE

Actions that pollute the land, water and atmosphere with various forms of carbon. For example, releasing methane into the atmosphere or plastic waste into the ocean is carbon negative.

### CARBON NEUTRAL

Actions that transform or maintain carbon in durable earthbound forms and cycles for use across generations; or renewable energy such as solar, wind and hydropower that do not release carbon.

### CARBON POSITIVE

Actions that convert atmospheric carbon to forms that enhance soil nutrition or to durable forms such as polymers and solid aggregates. Also includes the recycling of carbon into soil nutrients from organic materials, food waste, compostable polymers and sewage.

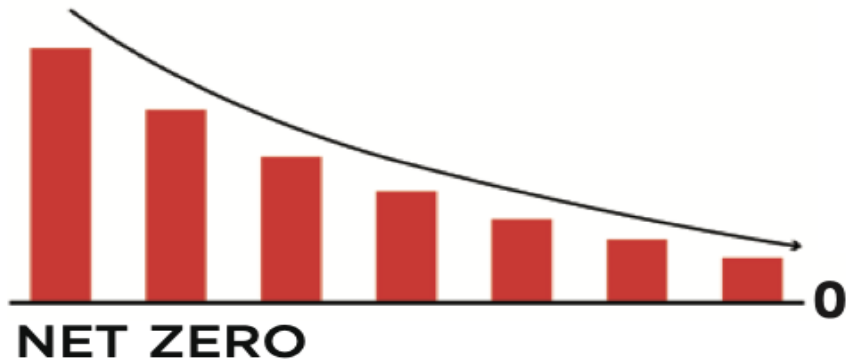


7 AFFORDABLE AND  
CLEAN ENERGY



7 AFFORDABLE AND  
CLEAN ENERGY





## ECO-EFFICIENT APPROACH = “LESS BAD” TRAJECTORY

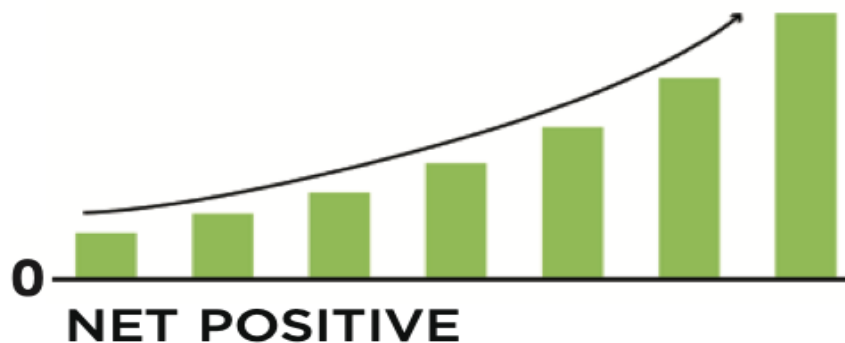
Reduce Carbon

Minimize Chemicals of Concern

Energy Efficient

Reduce Water Consumption

Goal of Zero Hazards



## ECO-EFFECTIVE APPROACH = “MORE GOOD” TRAJECTORY

Increase Positive Ingredients

Energy Positive

Improved Water Quality

Increased Biodiversity

Goal of 100% Positive / Beneficial Products,  
Processes and Systems



“Consider this: all the ants on the planet, taken together, have a biomass greater than that of humans. Ants have been incredibly industrious for millions of years. Yet their productiveness nourishes plants, animals, and soil. Human industry has been in full swing for little over a century, yet it has brought about a decline in almost every ecosystem on the planet.

**Nature doesn't have a design problem. People do.”**

— William McDonough,  
[Cradle to Cradle: Remaking the Way We Make Things](#)





Hi Tatiana, how are you? I'm Dr. David. I'm going to examine you...







15  
LIFE  
ON LAND



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15 LIFE ON LAND



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FAQ



# A UNIQUE BLEND OF AGRITECH, COMPUTER VISION AND DRONES

A satellite-style image of a forested area with a river. A yellow boat is on the river, and a white satellite dish is visible on the bank. The text is overlaid on the bottom left of the image.

AI **algorithms** that learn to spot signs of beetle attack in satellite images







Planning

Marketing

Action

