



ROAD INFRASTRUCTURE  
MANAGEMENT FORUM

**Our Carbon Equation**

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# Setting ourselves up for successful carbon reduction – where do we start?

Suzanne Watt | Downer NZ

**RIMS**  
Roading Infrastructure Management Support

in association with

**IDS**   
Infrastructure  
Decision Support

# South Bay, Kaikoura





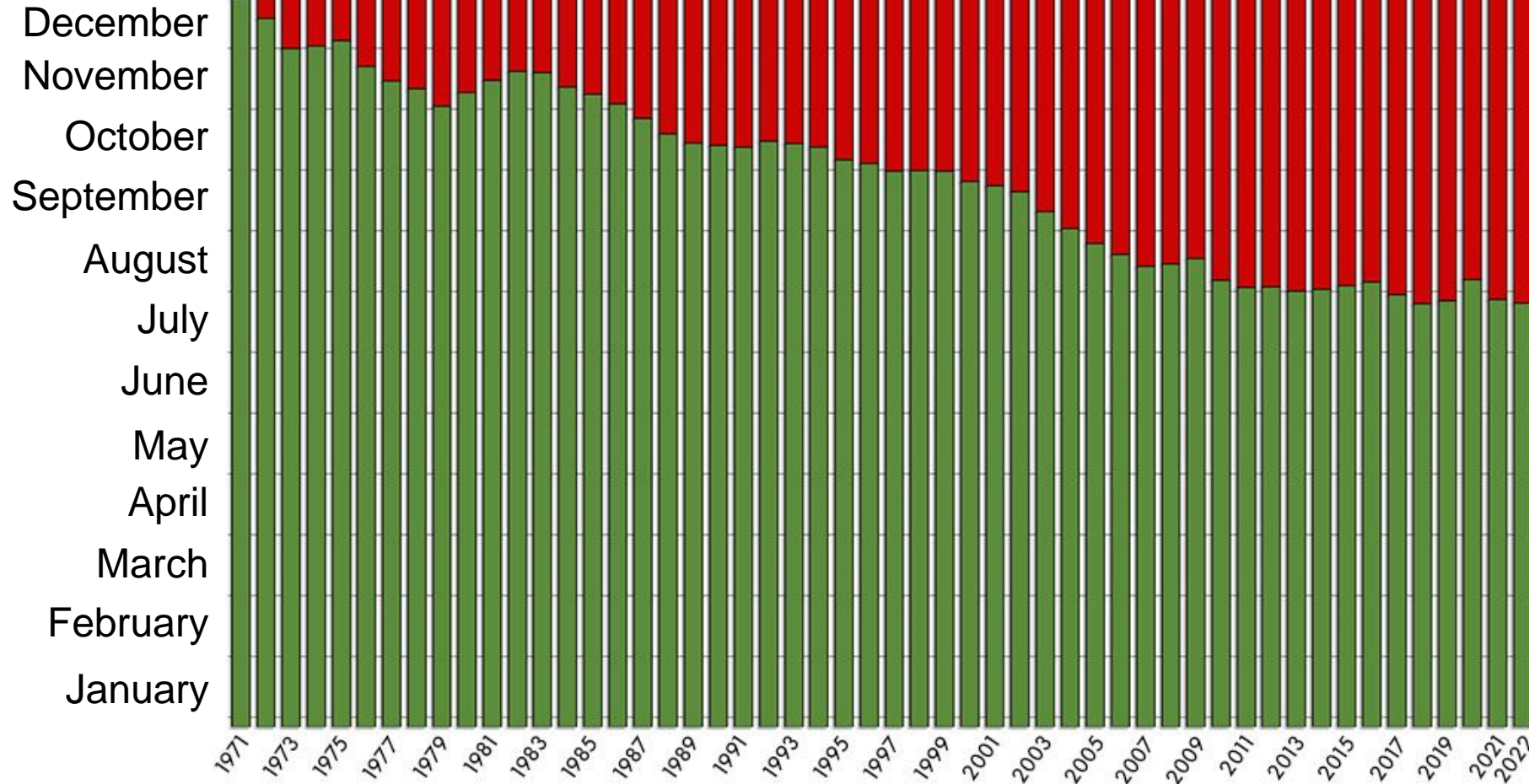


1 Earth

# Earth Overshoot Day 1971 - 2022



1.75 Earths





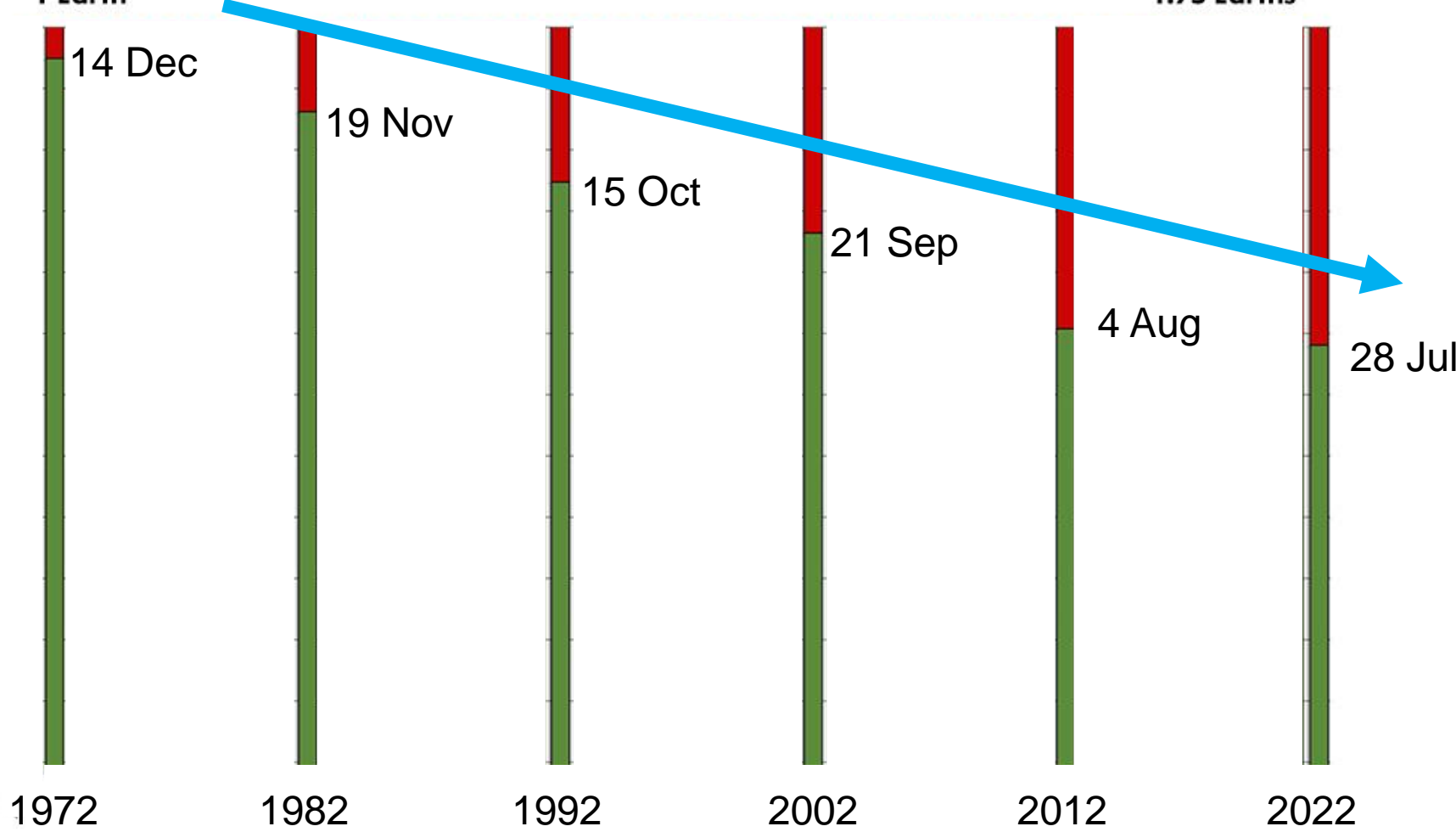
1 Earth

# Earth Overshoot Day 1971 - 2022



1.75 Earths

- December
- November
- October
- September
- August
- July
- June
- May
- April
- March
- February
- January



# KEY SCIENTISTS



**Prof Svante  
Arrhenius**



**Prof Stephen  
Schneider**

# THE OPPORTUNITY



## ENGINEERING

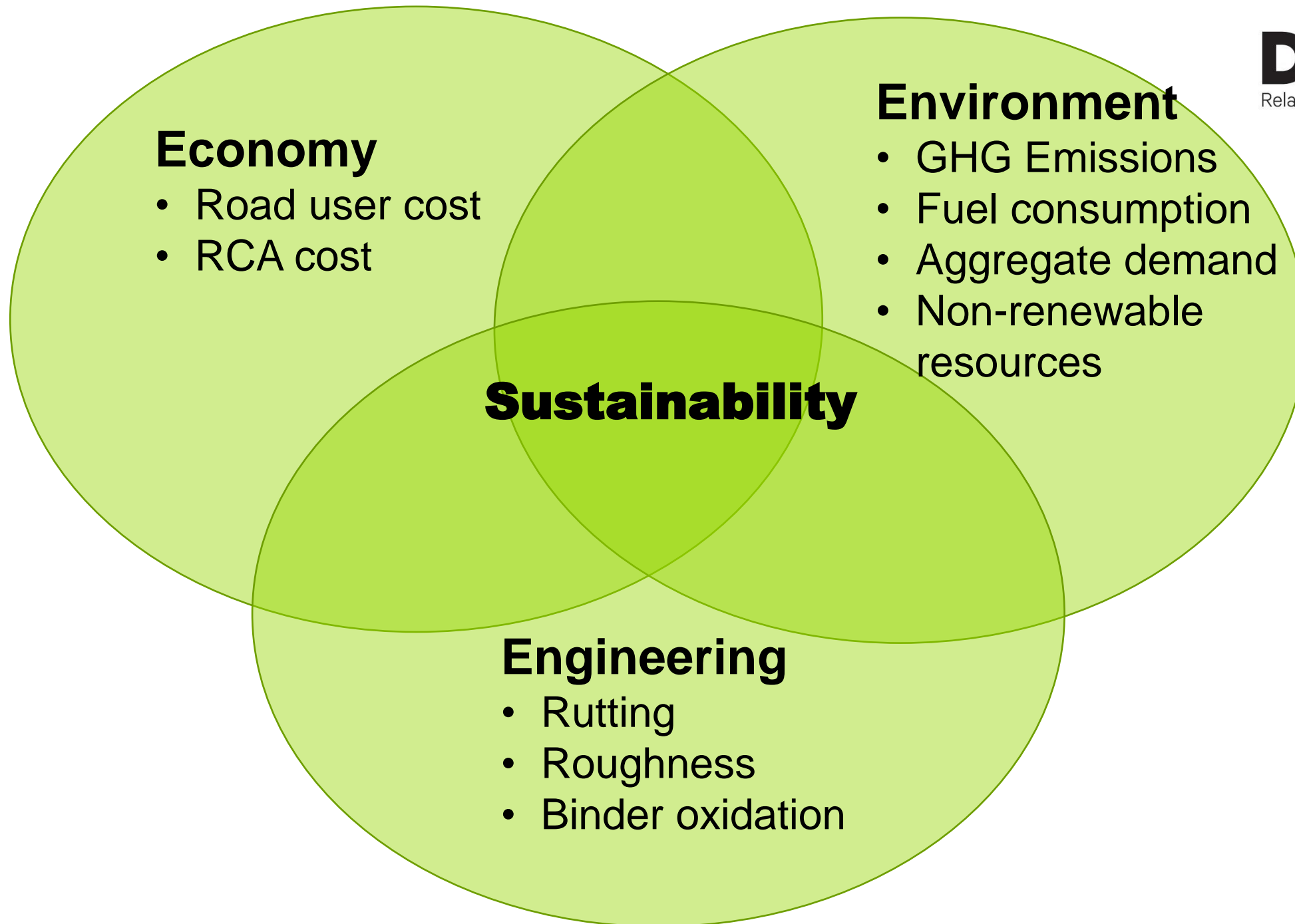
The application of science to the physical world to make a better place for people.

## SUSTAINABILITY

The use of science to find ways to support our people and our planet to coexist in a way that means all parts can thrive.

## SUSTAINABLE ENGINEERING

Designing systems and products that minimise pollution, conserve resources, and repurpose resources we've used in the past.



# THE CHALLENGE



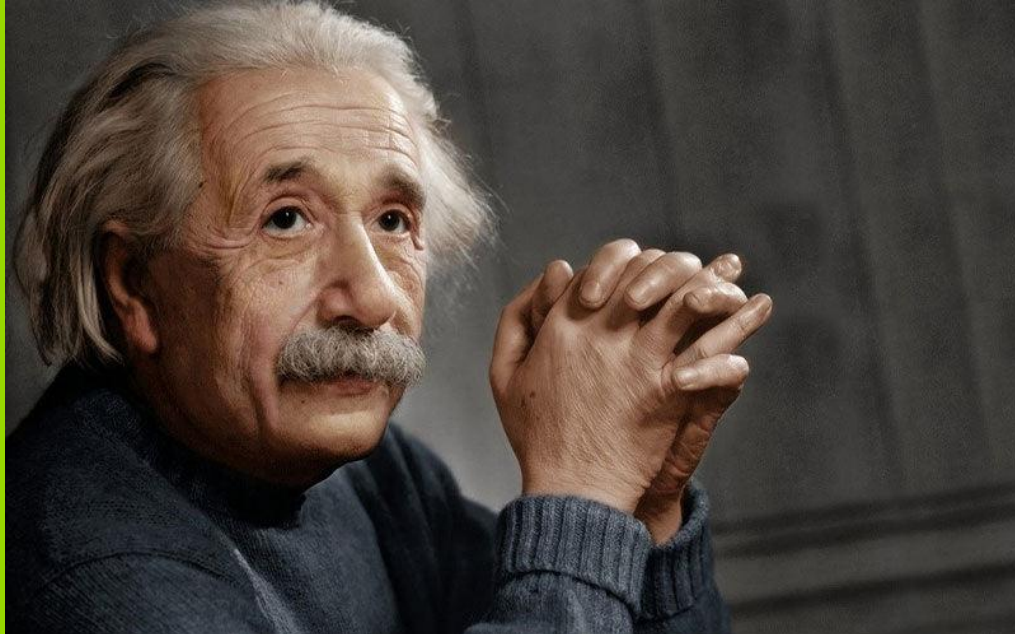
...the  
magic  
happens  
out here!



# DELIVERING

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**Insanity is doing the same thing over and over again and expecting different results.**

**- Albert Einstein**



# CURRENT METHODS

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# WE CURRENTLY DO THESE...





# LOOK TO NATURE FOR NATURE



Photo credit: Living Water trials, Waikato





# LET'S DO THIS

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OOOOOH,  
PICK ME!  
PICK ME!





# THREE WAYS

**1**

Lowering  
whole of life  
emission  
profiles

**2**

Eliminating  
waste by  
repurposing  
materials

**3**

Changing  
how you  
think and act



# 1 LOWERING EMISSION PROFILES

## Steps

- **Understand** current carbon lifecycles – invest in the skills
- **Apply** carbon emission, embodiment and waste information in designs
- **Use** the cost of carbon emissions in cost benefit analyses
- **Approve** lowest carbon emission and lifecycle options as a priority
- **Research** until we can find a low carbon road construction method/materials



**UA-UAR** the ones who can create change!

## 2 ELIMINATING WASTE

### Think points

- What 'waste' do we create?
- What 'waste' will I avoid?
- How will we reuse our 'waste'?
- Who else could our 'waste' benefit?
- Where can we store 'waste' for reuse later?
- Who else might have 'waste' we can use?

LINEAR ECONOMY



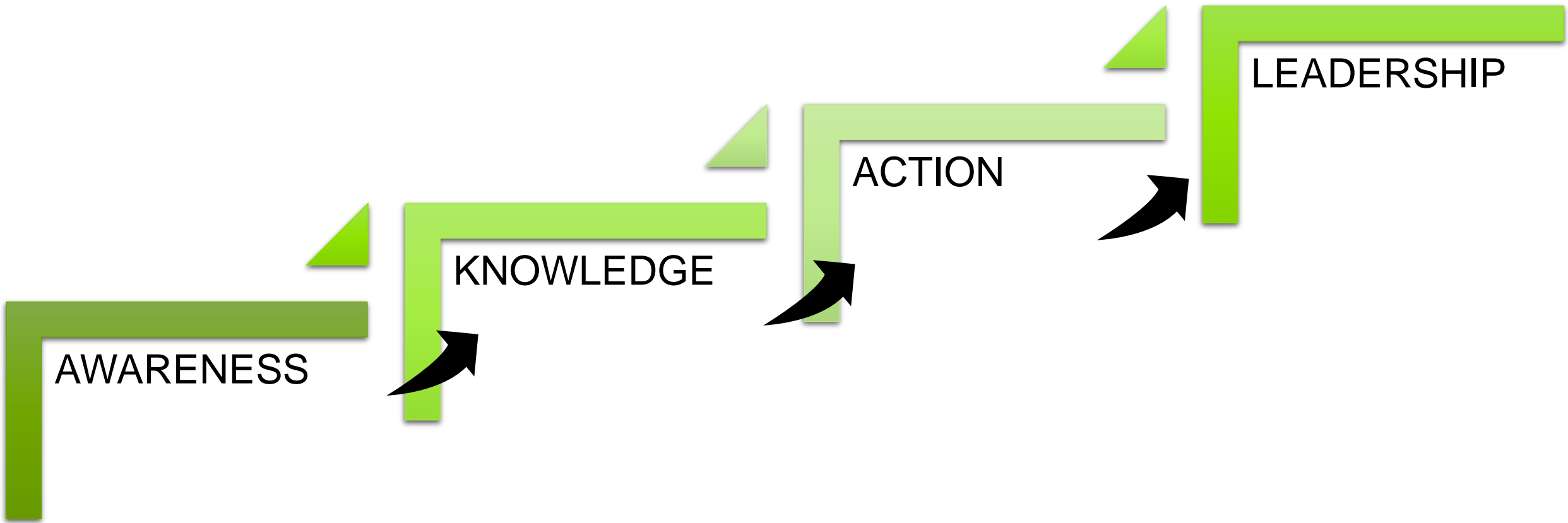
RECYCLING ECONOMY



CIRCULAR ECONOMY

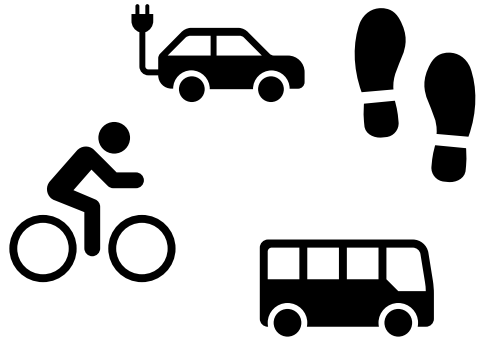


# 3 CHANGING OURSELVES



# 3 CHANGING OURSELVES

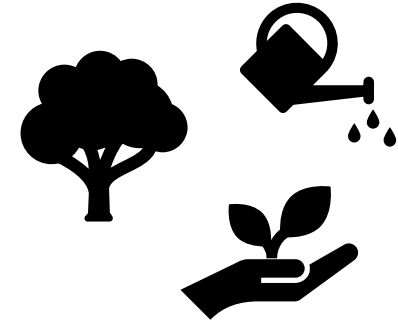
## MOVE



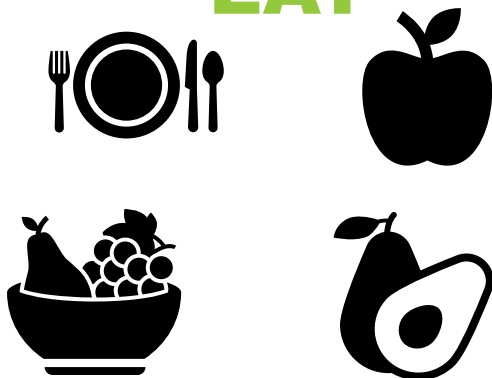
## SHOP



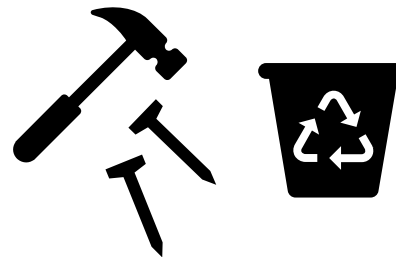
## GROW



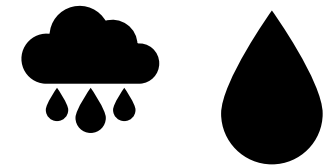
## EAT



## REPURPOSE



## CONSERVE





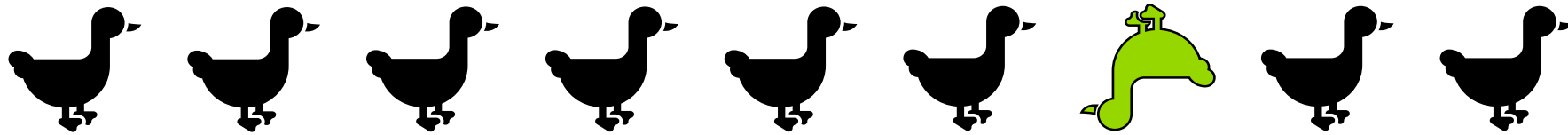
**REMEMBER....**

**-**

*Don't let perfection be the  
death of delivery*

# YOU'VE GOT THIS!

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**GET THIRSTY**

**GET HUNGRY**



**CHOOSE**  
**TO MAKE A DIFFERENCE**

**Thank you**

[www.downergroup.co.nz](http://www.downergroup.co.nz)

