



# Putting a value on compost

Dr Jane Gilbert



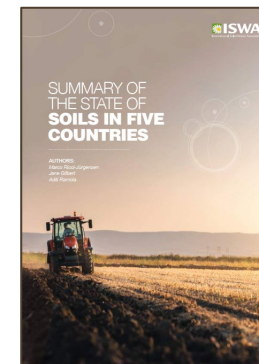
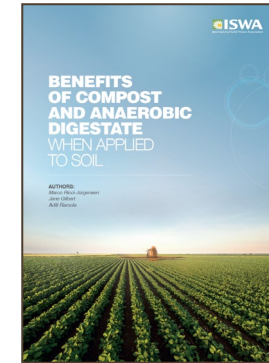
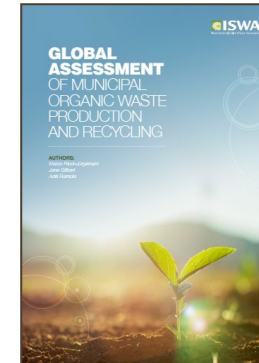
# Valuing Compost: ISWA's Soils Project

## ■ Project:

- 'Quantify the Benefit of Organic Matter in Compost and Digestate When Applied to Soils'
- Started in 2018 & completed 2020

## ■ Team:

- Marco Ricci-Jürgensen, CIC, Italy
- Jane Gilbert, Carbon Clarity, UK
- Aditi Ramola, ISWA, Netherlands



# PUTTING A VALUE ON COMPOST



## COMPOSTING RECYCLES CARBON

CURRENT **83 million**  
POTENTIAL **1,000 million**

BIOWASTE RECYCLED  
tonnes every year



## COMPOST MITIGATES CLIMATE CHANGE

CURRENT **9 million**  
POTENTIAL **98 million**

CARBON STORED IN SOIL &  
AVOIDED EMISSIONS AS FERTILIZER  
tonnes of carbon dioxide equivalents every year

## COMPOST FEEDS THE SOIL

CURRENT **1 million**  
POTENTIAL **12 million**

FERTILIZER RECYCLED  
Total tonnes of N, P<sub>2</sub>O<sub>5</sub> & K<sub>2</sub>O every year

**Recycle Your Organics - Feed Your Soil - Compost!**



# COMPOST MITIGATES CLIMATE CHANGE



## CARBON STORED IN SOIL

CURRENT **5 million**  
POTENTIAL **55 million**



## SMARTPHONE CHARGES

CURRENT **608 billion**  
POTENTIAL **12 trillion**



OR

## KM DRIVEN IN A CAR

CURRENT **4 million**  
POTENTIAL **43 million**



CURRENT **36 billion**  
POTENTIAL **396 billion**

tonnes of carbon dioxide equivalents every year

[www.epa.gov/energy/greenhouse-gas-equivalencies-calculator](http://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator)

## Recycle Your Organics - Feed Your Soil - Compost!

# COMPOST CONTRIBUTES TOWARDS THE '4 PER 1000' GOAL

ANNUAL COMPOST  
APPLICATION RATE

**5.2 tonnes per hectare**

INCREASE IN SOIL ORGANIC  
CARBON STOCK

**0.4 %**

FRACTION OF GLOBAL CROPLAND

**6 %**

POTENTIAL  
AGRICULTURAL LAND

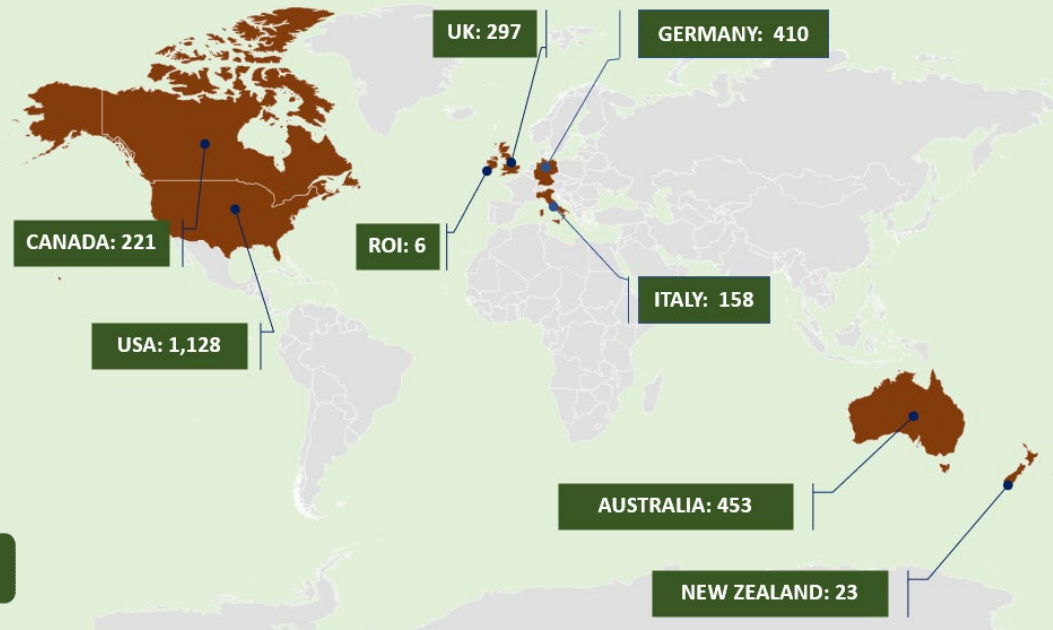
**96 million hectares**



**Recycle Your Organics - Feed Your Soil - Compost!**

## COMPOST SEQUESTERS CARBON IN THE SOIL

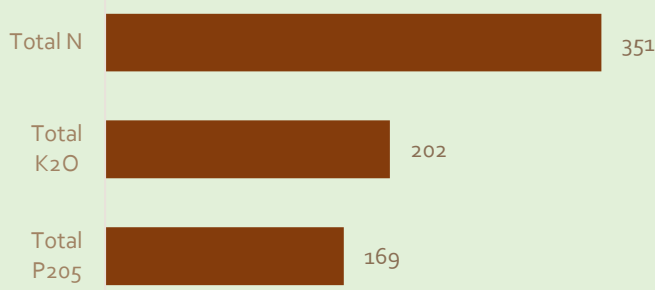
(thousand tonnes of carbon dioxide equivalents every year)



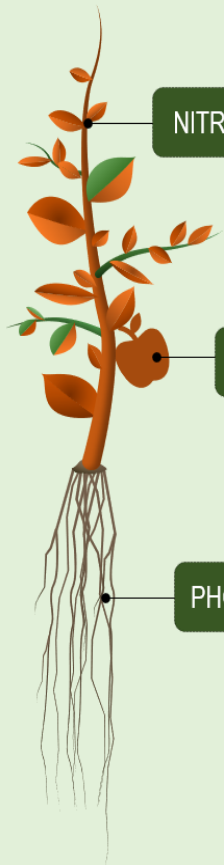
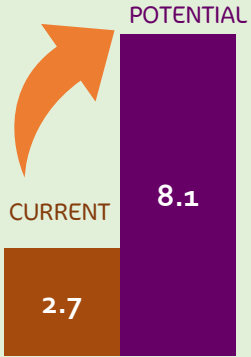
## SPOTLIGHT ON 8 COUNTRIES

### COMPOST RECYCLES PLANT NUTRIENTS

(thousands tonnes of nutrients every year)



Annual C Sequestration in soil  
(eight selected countries)  
M tonnes CO<sub>2</sub>-eq



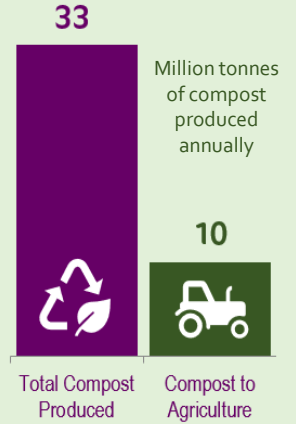
NITROGEN – for leaves & stems

POTASSIUM – for fruit & flowers

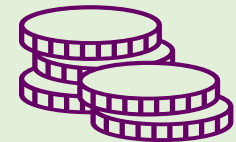
PHOSPHORUS – for roots & shoots

# 4,879

Composting Facilities



TOTAL NUTRIENT VALUE  
(in millions)



AUD 806 CAD 757  
EUR 502 GBP 440  
NZD 859 USD 577





Thank you

Dr Jane Gilbert  
[jane@carbon-clarity.com](mailto:jane@carbon-clarity.com)  
[www.carbon-clarity.com](http://www.carbon-clarity.com)

