

# From Chinese fences to floating parks in Rotterdam – what can we do with plastic waste?

Dr Katrien Steenmans

Lecturer in Law, Coventry Law School  
Research Associate, Centre for Business in Society  
Coventry University

Steens88

## Plastic pollution is a growing problem

The problem is not plastic – plastics are embedded into the economy with **many beneficial uses**

**BUT**

**Problem is loss** of plastic waste into the environment

## Plastic pollution is a growing problem

60% of plastic waste in 2015 was sent to landfill or accumulated in the natural environment with only 9% recycled

- Geyer, Jambeck & Law 2017

In EU alone estimated that commercial value of waste sent to landfill ~ EUR5.25 billion per annum

- European Commission 2010

Cost of environmental damage to marine ecosystems by plastic waste is US\$13 billion

- UN Environment 2014

Increasing evidence that waste is having a detrimental human health impact – e.g. plastic waste is being ingested by humans

- Van Cauwenberghe & Janssen (2014); Schwabl & others 2018

## The need for new ideas and innovative uses for plastic waste

### Prevent plastic waste pollution:

- Circular economy
- Edible cutlery
- Edible packaging
- Plastic-eating mushrooms
- Biodegradable plastics
- ...

### Address plastic waste issues:

- Plastic waste homes
- Plastic waste roads
- Converting plastics to fuels
- 3D printing with plastic waste
- ...

## Floating Parks on the River Meuse – a case study

PRIVATE WASTE



LITTER TRAPS



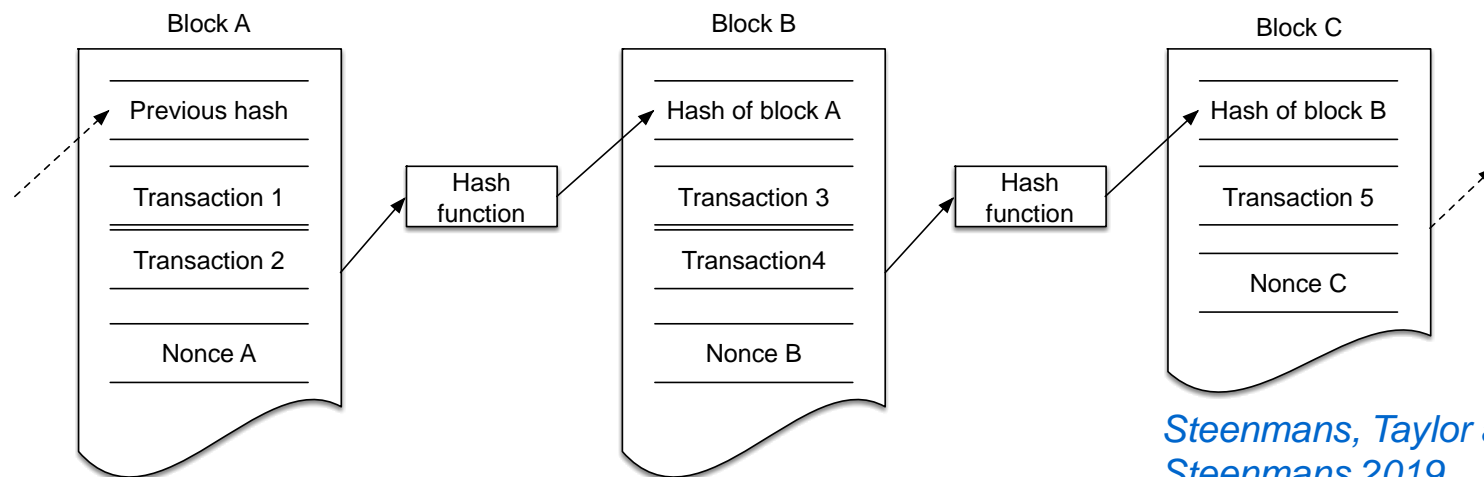
*Recycled Island Foundation 2018*

COMMUNAL PROPERTY



*Recycled Island Foundation 2018*

## Use of blockchain technology



*Steenmans, Taylor and Steenmans 2019*

### AREAS FOR DISRUPTION

Monitor and track waste  
*E.g. Arep*

Cryptocurrency-based recycling rewards  
*E.g. The Plastic Bank*

Cryptocurrency payments  
*E.g. Jay Phillips Partnership*

Smart contract implementation  
*E.g. Oil and Gas Supply Chain*

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