

A Sustainable Innovation & Circular Economy Strategy

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Introduction

- ▶ A circular economy focuses on reducing wastage and pollution with repair, reuse and reduction
- ▶ In recent years, global sustainability has become one of the main focus areas for businesses and government
- ▶ Three areas of focus will be looked at:
 - ▶ Renewable Energy
 - ▶ Sustainable Transport
 - ▶ Recyclable Materials

Renewable Energy

- ▶ Renewable energy sources are continually restored by nature and derived directly or indirectly from the sun or other natural mechanisms of the environment
- ▶ Excludes resources derived from fossil fuels, waste products from fossil sources and waste products from inorganic sources
- ▶ Renewable energy is climate-neutral and resource saving
- ▶ Climate change due to greenhouse gas emissions from fossil fuels emissions

Global Companies in Renewable Energy

Attracted by the future potential, several multinationals from developing and emerging markets have succeeded in becoming global players in the renewable energy sectors

Hanergy - China

- ▶ Thin-film solar power company
- ▶ Hydropower
- ▶ Wind power
- ▶ Branches in Americas, Europe, Middle East, Africa

TrinaSolar - China

- ▶ PV solar panels for renewable energy
- ▶ USA, UK, Europe, Australia

Suzlon - India

- ▶ Wind power
- ▶ USA, Europe, Australia, China

Field of renewable energy has become global by nature, from the production of technology to the generation of energy

Global Companies Powered By Renewable Energy

Intel - USA

- ▶ Uses renewable power, generated from wind, solar, geothermal, low-impact hydro, and biomass sources

Apple - USA

- ▶ Uses renewable power itself and pushing their sources to target of 100% green energy by 2030

Microsoft - USA

- ▶ Greenest company - uses 1.3 billion kWh of green energy (solar and wind power)

Kohl's - USA

- ▶ 1,160 stores in 49 states, 1,001 are Energy Star-certified and 163 locations feature on-site solar panels
- ▶ Met that goal with net zero emissions from 2010-2014

Google - USA

- ▶ Carbon neutral since 2007
- ▶ Seeks new technologies for making green energy

Government requirements

- ▶ China - Renewable Portfolio Standards. Minimum % requirement of renewable electricity used. National carbon-trading scheme. Green power trading.
- ▶ Indonesia - Renewable Energy Certificate. Achieve 35% renewable energy by 2030
- ▶ Vietnam - UN Climate Change phase out coal + become net-zero by 2060
- ▶ International Energy Agency:
 - ▶ Net-Zero by 2050 initiative
 - ▶ 30 member countries, 8 association countries
 - ▶ Identifies energy issues (oil, gas and coal supply and demand), renewable energy technologies, electricity markets, energy efficiency, access to energy and demand side management and much more
 - ▶ Advocates policies that will enhance the reliability, affordability and sustainability of energy in its 30 member countries, 8 association countries and beyond

Sustainable Transport

- ▶ One of the leading causes of Greenhouse Gas Emissions and other pollutants
- ▶ Companies across the world are revolutionising their logistics in order to use less fuel while maintaining effective goods transport

North American Methods

- ▶ Many modern North American companies use services such as the Mobility-as-a-Service (MaaS).
- ▶ Allows for ride sharing which reduces the number of cars on the road.
- ▶ The scheme was introduced after a study found that 90% of all motor vehicles in North America were only idling while in use.
- ▶ Only 1.5 people on average in each car.
- ▶ Ride sharing would in theory reduce the number of cars needed by up to 50% in theory (Assuming cars have five seats)

Tyre Recycling and Reusage

- ▶ One of the often-forgotten parts of vehicles when it comes to waste and material usage.
- ▶ Companies across Europe such as Genan in Denmark have pushed for old tyre recycling and are now a market leader in Europe.
- ▶ 1 Billion tyres wear out each year globally, creating a huge need to tyre recycling.
- ▶ Out of the Billion, 65% are collected for re-use, of which 70% are then recycled and 30% are used for energy recovery.
- ▶ Tyre manufacturers such as Genan now offer innovative service packages which include maintenance and real time tyre condition monitoring. This allows tyres to become longer lasting and decreases resource utilization.

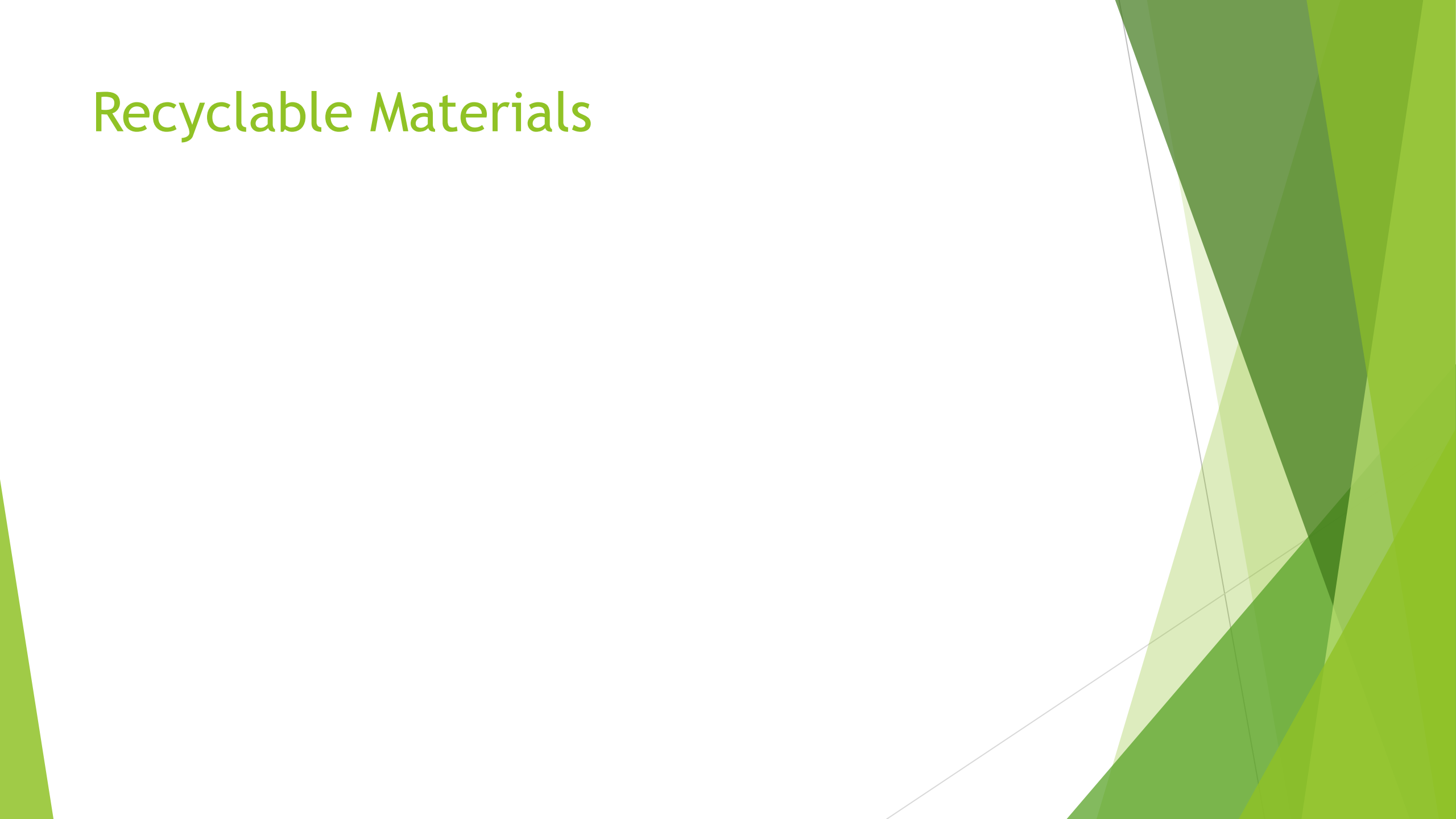
Freight

- ▶ The most important logistical system on the planet is the transportation of goods by freight.
- ▶ Includes shipping, air cargo and trucks.
- ▶ According to the National Bureau of Transportation, in 2019 a quarter of all truck fuel tanks ran empty in North America. In Europe, this figure is 27% and Asia 40%.
- ▶ This data suggests that trucks are often used for long journeys.
- ▶ Companies worldwide are trialling new innovative systems that will allow for 'route linking'. This will allow trucks to link up and exchange freight which allows the least distance possible to be travelled.

DHL Vans (Deutsche Post group)

- ▶ DHL plans to use mostly zero emission vans by 2030.
- ▶ They have collaborated with Ford to produce a new model of electric van.
- ▶ DHL are the leaders in using electric vans.
- ▶ Each vehicle that is switched from diesel to electric will reduce 5 to 10 tonnes of CO2 emissions per year.
- ▶ An example of a leading company pushing towards a circular economy

Recyclable Materials



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