Index

Academic community, 8, 133	Business innovation and change for
Accountability, 50–51	circular economy, 6–7, 113
Action plans (APs), 45	Adidas case study, 127–129
Adaptation, 7	big data and blockchain, 117–118
Adaptive leaders, 126	CE and innovation, 114–115
Adidas case study, 127–129	CE innovation and business model
ADKAR model, 125	canvas, 119–121
Agricultural waste, 18	change and CE, 124–125
Agriculture, 117	consumer behaviour and CE, 119
Airbnb, 116–117	digital technologies and circular
AliExpress, 63	business models, 116–117
Alliance to End Plastic Waste (AEPW),	industry 4.0, 115
38	innovation and adoption in CE,
Amazon, 63	122–124
Application Programming Interface	innovation in CE business models,
(API), 90	121–122
Artificial intelligence (AI), 74, 89, 115,	innovation in sustainable
143	design and product
Augmented reality (AR), 91	manufacturing, 116
Automation, 91, 115	leadership and change, 125–127
	technology, waste, and resource
Big data, 117–118	efficiency, 115–116
Big data analytics (BDA), 5, 22, 43,	Business model canvas (BMC), 119–121
80, 143	Business model innovation (BMI),
Biomimicry, 116	114, 142
Bioplastics, 116	Businesses, 46
Block-chain, 80	models, 18
Blockchain, 75, 91, 117–118	redesign, 74
Blue-washing, 39	
'Bottom-up' approach, 102	Carbon emissions, 14–15
BP's Deepwater Horizon oil spill,	Carpet Recycling UK programme,
39	124
Bridges' Transition Model (1991),	Caveat emptor, 42
125	Caveat Venditor, 42
British Glass, 13	Change
Built-in obsolescence, 44–48	and CE, 124–125
Business analytics (BA), 92	leadership and, 125–127

Changing, 124	managing complex CE business
Channels, 120	models, 51–52
Charities, 43–44	new managerial and policy
Charity shops, 44	implications for, 139–141
Circular business model innovation	organisational and dynamic
(CBMI), 29	capabilities for
Circular business models (CBM), 48,	enhancement of
114, 116–117, 135	sustainability and, 142–143
evaluation tools for, 135	origins of, 2–3
Circular business updates, 91	rebound effect, 97
Circular consumption, 119	review and research agenda for,
Circular economy (CE), 1–2, 9, 37,	7–8
59, 79, 113, 133	social and institutional dimensions,
business innovation and change,	26–30
6–7	supply chain management and, 5
change and, 124–125	sustainability and, 3
consumer behaviour and, 119	sustainable production and
conventional waste management	consumption within, 4–5
driven by collection and	systemic strategies for CE
disposal costs, 17–21	implementation, 42–44
core drivers, 62	Circular Economy Monitoring
dematerialisation of economy,	Framework (CEMF), 49
23–26	Circular economy rebound (CER),
developing critical assessment of,	141–142
135–139	Circular Performance Indicator
drivers, barriers, and practices,	(CPI), 89, 138
143–146	Circular product design (CPD), 81,
ecological systems and economic	137
growth, 21–23	Circular production systems, 22
embedding CE concepts into	Circular strategies, 48
mainstream business and	Circular supply chain management
management, 134–135	(CSCM), 7, 85, 89–91, 114
frameworks for embedding and	Circular Transition Indicators (CTI),
ensuring longevity of	127
sustainability and CE	Circularity, 10–17
principles, 146–150	measuring, 11
global CE models, 48–51	ten metrics for successful corporate
implementation strategies, 67–68	circularity strategy, 12
innovation, 114–115	Circularity indicator for treatment
innovation and adoption in,	plants (CITP), 20
122–124	Circularity indicators (C-indicators),
innovation and business model	52
canvas, 119-121	Classic long-life model, 18
and knowledge management,	Clean Air Act (1970), 38
66–68	Clean Water Act (CWA), 38
linear to, 10–17	Climate change mitigation strategy, 16

~	
Closing loops, 18, 75, 147	Digital SCs, 80, 85
network, 13	Digital technologies (DTs), 92, 116–117
system, 100	Digitalisation, 91
Clothing, 70	Disposition, 99
Competition law, 46	Distribution and sales, 99
Composting, 18	Dow, 38
Construction and demolition waste	Driving forces, pressures, states,
(C&DW), 20	impacts, and responses
Construction industry, 61	framework (DPSIR
Consumer behaviour, 119	framework), 28
Consumer capitalism, 69	<i>**</i>
Consumer Code, 47	E-Bay, 63
Consumer Product Safety Committee,	Early adopters, 122
45	Early majority, 122
Consumer protection, 46	Eco-design, 46
Consumer-facing corporations	Eco-innovation (EI), 79
(CFCs), 29, 143	Ecological economics, 21
Consumption waste, 16	Ecological systems, 21–23
Conventional waste management	Economic growth, 21–23
driven by collection and	Economic value-added products, 21
disposal costs, 17–21	ECOR, 134
Corporate hypocrisy, perceptions of,	Ecosystem transformation, 141
39	Electronic-waste (e-waste), 16, 46
Corporate social responsibility (CSR),	Electronics industry SAF, 65
6, 16, 39, 84, 133	Ellen MacArthur Foundation (EMF),
COVID-19 pandemic, 69	134
Cradle-to-cradle certificate (C2C	CE Framework, 126–127
certificate), 11, 134	End-of-life (EOL), 50
Cross-functional circulatory indicator	Energy analysis, 5, 80, 85
(C-F CI), 49	Energy recovery and recycling, 145
Cruise ships, 50–51	Environmental, social, and
Cultural movements, 69	governance risks (ESG
Culture, 61	risks), 40
Cumulative Energy Extraction from	Environmental economics, 21
the Natural Environment	Environmental management (EM),
(CEENE), 89, 138	101
Customer relationship management	Environmental management systems
(CRM), 86	(EMS), 49–50
Customer segments, 120	Environmental supply chain
Customer segments, 120	cooperation (ESCC), 90
Data analytics, 115	Environmental technology variation
Decision support systems (DSSs), 80, 145	(ETV), 50
	Environmental well-being, 26–30
Dematerialisation of economy, 23–26	European Environment Agency
Deposit-refund schemes, 18	(EEA), 49
Diffusion of Innovation, 124	European Union (EU), 18, 45, 97, 137

Extinction Rebellion movement, 69 Harvard Business Review (HBR), 117 ExxonMobil, 38 Hazardous waste, 18 High-density polyethylene recycling (HDPE recycling), 30 Fashion, 70 brands, 19 Fast fashion (FF), 43-44 Idiosyncratic and intuitive behaviour, supply chain, 75-76 103 Fast-moving consumer goods Incineration, 18 (FMCG), 81, 137 Industrial internet of things (IIoT), Federal Water Pollution Control Act, 38 Industrial symbiosis models, 18 Firms, 143 Industrial waste, 18 First Deep Transition, 83, 102 Industry 4.0 (I4.0), 52, 115, 143 Food neophobia (FN), 145 within circular SC, 91–95 Food organisations, 27 Inertia Principle, 81, 148 Food SCs, 81, 86 Innovation, 114–115 Food technology neophobia (FTN), 145 and adoption in CE, 122-124 Fruit and vegetable wastes (FVW), 20 in business models, 79 Functional circulatory indicator in CE business models, 121–122 (FCI), 49 in sustainable design and product manufacturing, 116 Global CE models, 48-51 Innovators, 122 Global cruise tourism (GCT), 51 Inspection, 99 Institutional theory, 103 Global fast fashion industry, 72–76 Global South, 15-16 Integration of economic activity, Global supply/demand relationships, 26 - 30dynamics of, 38-40 Intensity of use, 23–24 Global warming, 1 Inter-organisational sharing, 74 Google, 134 Internet of things (IoT), 115, 117, Green issues, 1 Green product innovation (GPI), 39 Interpretive structural model (ISM), Green public procurement (GPP), 50 52. Green SC flexibility aligned to CE, iPhones, 45 101-103 Green SCM (GSCM), 85 John Kotter's 8-step Change Model (1996), 124-125 Green sheen, 38 Greenhouse gas emissions (GHG emissions), 16, 102 Key activities, 121 Greenwashing, 37 Key partnerships, 121 academics, 40 Key resources, 121 Knowledge management, 66-68 advent of, 38-40 Gross domestic product (GDP), 24, 97, 140-141 Laboratory for Applied Circular Economy (LACE), 25 H &M's sustainability strategy, 72–76 Laggards, 122 Hannover Principles, 134 Landfill, 18

Late majority, 122 Organisational and dynamic Leadership and change, 125-127 capabilities for enhancement Lewin's three-stage model, 125 of sustainability and CE, Life cycle sustainability assessments 142-143 (LCSAs), 30 Overall annualised cost (OAC), 21 Life-cycle assessment (LCA), 20, 50, P&G's Pampers recycling programme, 127 Lightbulb Conspiracy, 46 Linear economy, 14 Packaging production, 16 Linear systems, 14 Paris Agreement, 11*n*1 Paris Climate Accords, 11n1 Local government organisations People, planet, prosperity, peace, and (LGOs), 41 partnership (5Ps), 139 Localisation, agility, and digitisation 'People Do' campaign, 38 (LAD), 142 Performance economy, 97 Mainstream economics, 21 Phillips, 134 Marketing, 5, 80, 85 Phoebus Cartel, 46 Marketplaces, 3 Photo Voltaic panels (PV panels), 52 Markets, 3, 7, 9, 114 Planned obsolescence, 45, 47–48 Material flow analysis (MFA), 127 Plastic recycling rate, 16 McKinsey 7-S Framework (2017), Portfolio theory, 150 Postconsumer waste recycling, 18 125 Power, 64 Microprocessors, 117 Mixed-integer linear programming Pre-source, 81 (MILP), 17 Product acquisition, 99 Multi-national corporations (MNCs), Product decisions, 67 Product environmental footprint Multi-regional input-output analysis (PEF), 127 (MRIO analysis), 49 Product life cycles (PLCs), 10, 82 Municipal solid waste (MSW), 18 Product-as-a-service (PaaS), 115 Product-service system models, 18 National Ambient Air Quality Profit-maximising production system, Standards (NAAQS), 38 Net zero manufacturing (NZM), 41 New managerial and policy Qualitative meta-synthesis approach, implications for CE, 139-141 Radiofrequency identification Nike, 134 (RFID), 75 Nonlinearity, 10–17 'Not in My Back Yard' syndrome Rainwater harvesting (RWH), 88 (NIMBY), 139 Reconditioning, 99 Nutrient cycles, 48 Recovery horizon, 81 Recycling, 48 Online clothing purchases, 76 Reducing, repairing, remanufacturing Optimisation of sustainable reverse and recycling (four Rs), 145 SCs, 98–101 Refreezing, 124

Relationships, 120	Strategic sustainability, 44–45
Remanufacturing principles, 5	Strategic sustainable resource use,
Renault, 134	44-48
Repair Association, The, 47	Structural socio-economic changes,
RESOLVE framework, 48	83
Resource efficiency, 115–116	Sufficiency-driven business models, 18
Resource-based taxonomies and	Supply chain integration (SCI), 93
global strategies for CE	Supply chain management (SCM), 80
implementation, 52–53	case study, 105–106
Resource-based view (RBV), 41	circular SCM, 89–91
Retention options (ROs), 144	green SC flexibility aligned to CE,
Revenue streams, 120–121	101–103
Reverse logistics, 98–99	industry 4.0 within circular SC,
in H & M's garment recycle	91–95
system, 76	optimisation of sustainable reverse
Reverse SC, 98	SCs, 98–101
'Right to repair' movement, 47	SC resilience for CE, 86–89
Robotics, 115	SSCM performance within CE,
'Rolling-window' approach, 14	95–98
	Supply chains (SCs), 2, 61, 79, 134
Saliency, 64, 66	global changes in, 4
Self-sustaining production systems, 37	management, 5
Sensors, 117	resilience for CE, 86–89
Sequential cash flows, 18	Sustainability, 1, 3, 15, 37, 59
Servant leadership, 126	and consumption, 68–71
Service economy, 44	dynamics of global supply/demand
Sharing, 74–75	relationships and advent of
economy, 97, 116	greenwashing, 38–40
Shell, 38	global CE models, 48–51
Short-term reduction in profitability,	managing complex CE business
75	models, 51–52
Single lighting regulation (SLR), 48	principles, 51
Small and medium-sized enterprises	resource-based taxonomies and
(SMEs), 96	global strategies for CE
Small island developing states (SIDS),	implementation, 52–53
16	strategic sustainable resource use
Smart cities, 91	and built-in obsolescence,
Social action, 64–66	44-48
Social and institutional dimensions of	systemic strategies for CE
CE, 26–30	implementation, 42–44
Social skill, 66	targets, 87
Stella McCartney, 134	Sustainable consumption (SC), 140
Stewardship rules, 63	Sustainable consumption and
Strategic action fields (SAF), 64–66	production (SCP), 49
Strategic alliance, 43–44	Sustainable development (SD), 95

Sustainable production and	United Nations (UN), 50, 136
consumption (SP&C), 44, 59	Basel Convention on
CE and knowledge management,	Transboundary Movement
66–68	of Hazardous Waste and
exploring, 61–64	Disposal, 136, 138–139
global fast fashion industry, 72–76	United Nations Framework
SAF, 64–66	Convention on Climate
sustainability and consumption,	Change (UNFCCC), 11n1
68–71	United Nations Sustainable
Sustainable SC (SSC), 85	development goals (SDGs)
Sustainable SCM (SSCM), 84–85	15, 49, 60, 139
performance within CE, 95–98	SDG 17, 50-51
Systematic literature review (SLR),	United States Environmental
30, 143	Protection Agency (US
Systemic strategies for CE	EPA), 38
implementation, 42–44	Upcycling, 115
•	Urban mining, 20
'Take Care' initiative, 74	
Taxonomy, 52	Valorisation of fruit and vegetable
Tech-driven innovation, 63–64	wastes, 20
Technology, 7, 75–76, 115–117, 119,	Value proposition, 120
122	Value retention decisions, 67
Technology acceptance theory, 122	Volkswagen's emissions scandal, 39
Technology acceptance/adoption	Voluntarism, principle of, 40
model (TAM), 122	* *
Technology adoption curve (see	Waste, 18, 81, 115–116
Technology acceptance/	compaction, 18
adoption model (TAM))	glass, 13
3D printing, 115–116	management, 18
Topic Centre on Waste and Materials	Waste and Resources Action
in a Green Economy (ETC/	Programme (WRAP), 43
WMGE), 49	Waste Framework Directive (WFD),
Transformational leaders, 126	82
Transformative innovation, 82	Waste from electrical and electronic
Transition frameworks, 127	equipment (WEEE), 19
Twitter Application Programming	Waste lubricating oil (WLO), 21
Interface, 90	Waste-to-value (WTV), 145
Two-stage stochastic linear model, 103	Whistle-blowers, 47
,	World Commission on Environment
Uber, 116–117	and Development
Umbrella Concept, 28	(WCED), 97, 137
Unfair competition, 46	Worldwide glass industry, 13–17
Unfreezing, 124	<i>2</i>
Unilever, 134	Zipcar, 117
*	• '