Index

3M Corporation, Pollution Prevention Pays Program (3P) 12

Abrassart, C. 186
Abu-Lebdeh, Ghassan 204–18
Ackermann, C. 146
Acquaye, A. 206
Africa 152, 155, 156–7, 158, 160
Afuah, A. 124, 128
Aggeri, F. 186
Agrawal, A. 92
Akinboade, O. 159
Al-Mansi, A. 252
Alan, C. 191
Alan, K. 191
Aldrich, H. 152
Alter, S. 139, 140, 148
Alvord, S. 173
Ambec, S. 65–6
Amul milk cooperative 131–2
Anderson, A. 141
Andres, P. 93
appropriate technology movement 118–35
Buddhist economics 123–4
competitive restraints 129–30
dehumanising nature of early industrialisation 118–19
economic growth, importance of 128–33
India and early iron technology, effects of 122
India, HMT rice variety, development of 125–6
Indian cultural idiosyncrasies and business decision making 131–3
Indian Freedom Movement and factory system 119–20
innovation dropout problem 129
innovation and invention, commercialisation and marketing issues 126–8
innovation and invention increase 121, 124, 125–8
intermediate technologies 122
micro systems, importance of 127–8
National Innovation Foundation, India 126–7
online marketing and open source initiative, India 127
outsourcing, benefits for India 130–31
production efficiency measurement and profit motive 120–21
religion and philosophy, effects of 123–6
‘scanning the environment’ method 130
social impact 125–6
sustainability factors 124–5, 127
Taylor System 120
Arning, J. 253
Atkinson, G. 55, 144
Augenbroe, G. 208–9
Austin, J. 148
Ayuso, S. 70
Babu, S. 149
Balasubramanian, N. 93
Bar-on, A. 159, 160
Bardy, Roland 139–67
Barney, J. 186
Barney Pityana, N. 152
Barreyre, P. 188
Basant, R. 77
Batsch, L. 229
Bavadam, L. 125
Baysinger, B. 92
Beamon, B. 221
Becker, D. 223
Begg, C. 263
Beheiry, Salwa 204–18

277
Strategies for sustainable technologies and innovations

Bekker, G. 213
Bellini, B. 190, 194
Bennett, S. 141
Berger-Douce, Sandrine 186–203
Bere, G. 141
Berry, M. 13
Bhagat, S. 92
Bhāle, Sanjay 168–85
Bhāle, Sudeep 168–85
Binns, T. 157
Bioly, Sascha 239–61
Black, B. 92
BMW Group, eco-innovation 32
Boissin, J. 187, 191
Bornstein, D. 160
Borzaga, C. 142, 148–9
Bowen, P. 205
Bowersox, D. 220
Boyko, C. 210
Brake, K. 253
Braungart, M. 145
Brazil 153, 177
Bridwell, L. 207
Brinckerhoff, P. 177, 178
Brown, K. 124, 155
Brown, L. 266
Browne, F. 252
Brundtland, G. (Brundtland Report) 3, 52, 58, 220
Buckley, P. 147
Butler, H. 92
Butynski, T. 157
Bynum, P. 209–10

Calantone, R. 263
Callard, A. 157
Camison-Zomosa, C. 186
Campbell, K. 158
Carrier, C. 188–9
Carrillo-Hermosilla, J. 48
CEMEX 148
Champy, J. 220
Charter, M. 26
Christensen, C. 128–30
Christopher, M. 220, 222
Clark, T. 26
Clements, M. 208
climate change see global climate change, sustainable innovation responses to

Clinton, S. 220
Closs, D. 220
Coase, R. 66
Cohen, B. 141
Cole, A. 171
competitiveness regulatory standards and social challenge of sustainable development 64–7
restraints, appropriate technology movement 129–30
construction technology in the building and transportation sectors, benchmarking, building sector 205–10
building information modeling (BIM) 209–10
and energy consumption 206 environmental policies, need for 208–9
flexible building design 206–7
fundamental safety risk levels 209
future visualization tools 210
green building assessment and measurement tools 207
Leadership in Energy and Environmental Design (LEED) credits 209
life-cycle assessment (LCA) and environmental impact 208
off-site fabrication and alternative contracting strategies 206–7
SILENT sustainability assessment model 209
solar technology 207
sustainability in developing countries 208
sustainable construction, increased popularity of 207–8
Sustainable Construction Technology Index case study 214–15
team communication, importance of 209
Terra Block Fabricator 207
waste management programs 208
construction technology in the building and transportation sectors, benchmarking, transportation sector 210–14
Index

279

air-pollution-absorbing concrete and bricks 213
global warming effects 212–13
high speed rail (HSR) and energy efficiency 212
low-energy-consuming materials 212
natural habitat impact reduction 213
noise pollution 213
project operation 210–11
recycled materials, use of 211–12
sustainability policies, need for 214
unsustainable projects, identifying impact of 211
consumers see customer relationships
Convention on International Trade in Endangered Species (CITES) 8
Conway, S. 129
Cooper, M. 227
Corner, P. 176
corporate governance norms and Indian corporate enterprises 74–9
Accounting Standards 80
auditor–company relationship 78, 81–2, 85–7, 90
banks and financial institutions, supervisory role of boards 79
Birla Committee (Securities and Exchange Board of India (SEBI)) 78, 91, 94
board composition and independence 83–5, 92, 93–4
Companies Act 75, 77, 79, 80, 84–5, 86
Confederation of Indian Industries (CII) initiative 77–8
Confederation of Indian Industry Code on Corporate Governance 93–4
Constitutional Law and wealth distribution 79
corporate governance overview 74
disclosure transparency 78–9
evolution of 75–7
future research 92–5
Ganguly Committee (Reserve Bank of India (RBI)) 79
Income Tax Act 80
Indian Partnership Act 75
information and reporting pattern, inadequacy of 90
initiatives in corporate governance 77–9
insider trading and mergers and acquisitions 91
Institute of Chartered Accountants of India (ICAI) 80, 81, 87
institutional context and firm performance 93
institutional investors, monitoring role 87–90
Irani Committee 79, 94
liability for independent directors 94
liberalization effects 77
Malegam Committee (Securities and Exchange Board of India (SEBI)) 78
mergers and acquisitions 75, 90, 91
Ministry of Corporate Affairs (MCA) 79, 80, 81, 87
Naresh Chandra Committee (Department of Company Affairs) 78, 94
N.R. Narayana Murthy Committee 94
post-1990 period 77
post-independence period 76–7
poverty 91–2
pre-independence period 75–6
regulatory framework 79–80, 87, 94–5
Restrictive Trade Practices Act (MRTP Act) 77
sanctions and enforcement for violations 87
Securities and Exchange Board of India (SEBI) 77, 79–80, 81, 87, 88–9, 91
Securities and Exchange Board of India (SEBI), Takeover Code 90
shareholder activism, need for 87–8, 94–5
shareholding of controlling interests, need for identification of 90
sustainable solution, need for 91–2
violations, implications of 87–91
see also marketing innovation; multinationals, codes of conduct and other multilateral control systems for
corporate governance norms and
industry practices, understanding 28–32  
information and communication technologies (ICT) 33, 38–9, 45–6  
innovation mechanism 27–8  
iron and steel industry 32, 33, 35  
levels of making differences, classification of 26  
physical infrastructure support, availability of 46  
policy considerations 44–6  
product-service systems (PSSs) 39, 40, 42  
radical forms of eco-innovation, importance of 29–30, 31–2, 38, 45  
risk considerations 31  
shared products 42–4  
social and cultural changes, effects of 31  
social and institutional structures 26  
sustainable development targets 24–5, 28–9  
systemic changes and business opportunities 37–9  
systemic (transformative) innovation 30–32, 45  
technological entry barriers 45  
transport industry 32, 33, 35, 38, 44–6  
value creation 39, 41, 43  
eco-logistics improvement in France 219–38  
business process re-engineering (BPR) 220  
freight transportation example and sustainable development 221–3  
logistics development, role of transport and territorial policies 227–8  
logistics, integrated and sustainable 220–21  
logistics networks, collaborative aspect and global geographical dimension 229, 234–5  
logistics networks, multiplicity of 221–3  
oil prices, effects on transportation choices 225  
service level improvements 228  
supply chain networks 219–23  
sustainable development definition 220  
transportation modes, cost specifications 232  
eco-logistics improvement in France, inland waterway transport advantages of 233  
‘door-to-door’ service and delivery deadlines 235–6  
high-value-added goods transportation 226  
integration, barriers limiting 233–4  
integration, key to successful 234–5  
integration in logistics networks 229–31  
integration, and new practices and strategies 233–6  
integration, speeds limitations 233–4  
integration within supply chains, effects of 227–33  
logistics networks, ecological benefits 230–31  
logistics networks and lower transport costs 229–30  
logistics risks and external costs, reduction of 231  
ew new commercial offers 235–6  
recent increase in, cyclical and structural factors 225–7  
recent increase in 224–5  
revival of 223–7  
revival of, regulatory changes 223, 225  
as transportation mode dedicated to flexible production system 231–3  
wide-gauge canal projects 224–5, 227  
eco-social business in developing countries 139–67  
barriers to 142  
bottom/base of the pyramid (BOP) strategies and public purpose capitalism 146–8, 150  
business entrepreneurship 150  
Climate and Biodiversity Convention (CBD) 153–4  
ecosocial business in developing countries 139–67  
barriers to 142  
bottom/base of the pyramid (BOP) strategies and public purpose capitalism 146–8, 150  
business entrepreneurship 150  
Climate and Biodiversity Convention (CBD) 153–4  
community-based participation and expanded linkages 152–3
sustainability issues and responsible investment 143–6
sustainability, sink-side and source-side problems 151–2
theoretical foundation 148–55
transnational companies (TNCs), involvement of 155–6
upcycling and downcycling 145
weak versus strong sustainability and natural capital replacement 144–5
World Conservation Strategy (WCS) 154
youth and youth leaders as social entrepreneurs 149–50
see also entrepreneurship development at small scale as key to sustainable economic development
ecological perspective
logistics management 246–8
social challenge of sustainable development through innovation 63–4
economic effects
eco-innovation and green industry transformation in OECD countries 23, 38
economic crisis and social challenge of sustainable development through innovation 54
economic growth, challenge of 53–6, 60–61, 63
economic growth, importance of, appropriate technology movement 128–33
financial ethics, Ipsos analysis 269–70
green economy see green economy
logistics management, integrating sustainability and technology innovation, Germany 241–6
sustainable development see entrepreneurship development at small scale as key to sustainable economic development

Ede, F. 191
Edwards, M. 142
Ehrenfeld, J. 3, 9
Ehrlich, A. 10, 63
Ehrlich, P. 10, 63
Eickmann, C. 241
EID Parry 148
Eisenberg, T. 93
Eisenkopf, A. 241
Ekins, P. 63
electronics industry 32, 33–4, 36
Elram, L. 227
Elsen, T. 158
Engleberg, D. 264
entrepreneur profile and sustainable innovation strategy 186–203
entrepreneurial profile 191–2, 194, 196–9
environmental technologies and sustainable development 190–91
French eco-activities and Grenelle de l’Environnement 189–90
innovation and entrepreneurship 187–9
innovation and performance, relationship between 188, 195, 196, 197
managerial issues 200–201
sustainable innovation strategies 189–91, 193–4
technological innovation, importance of 188–9
entrepreneur profile and sustainable innovation strategy, ECODAS case study, France 193–9
entrepreneur’s profile, influence of 196–9
environmental regulation, evolution of 199
intellectual rights 197–8
non-discriminatory employment 195–6, 198–9
sustainable development strategy 194–6
sustainable development and technological innovation 193–4
entrepreneurship development at small scale as key to sustainable economic development 168–85
business entrepreneurship definition 171–2
consumer choices, importance of 182–3
entrepreneurial attitude and innovation 170–71
India, Lijjat Papad cooperative example (SMGULP) 178–80
India, Lijjat Papad cooperative example (SMGULP), business model 180–81
India, Lijjat Papad cooperative example (SMGULP), value system 181–2
innovation and realization 169
Internet access 177
Millennium Development Goals (MDGs) 178
opportunity recognition 172, 174–5
poverty solutions 171, 175, 176–7
private sector involvement and growing importance of SMEs 182–3
profit-making and social entrepreneurship 175, 176, 181
value creation 172, 173, 174–8, 181–2
see also eco-social business in developing countries
entrepreneurship development at small scale as key to sustainable economic development, social entrepreneurship 170–71
definition 173–5
key features 174–8
socially entrepreneurial ventures (SEVs) 173–4
and sustainability 175–6
versus business entrepreneurship 171–3
vision-oriented and crisis-oriented factors 175
environmental concerns
carbon offset schemes 270–71
environmental balance and electric mobility 254–6
environmental technologies, emphasis on 24–5
externalities factor and social challenge of sustainable development through innovation 66
policies, need for, and sustainable construction technology in building sector 208–9
protection in developing countries, challenge of 52–3
recycling 14, 145–6, 151–2, 211–12, 264, 268
regulation, evolution of, ECODAS case study, France 199
see also ‘eco’ headings; global climate change, sustainable innovation responses to; green economy

EU
City–Vitality–Sustainability (Civitas) initiative 214
Eco-Innovation Action Plan 24
Eco-Innovation Observatory (EIO) project 26
European Waste Directive 199
Lisbon Strategy for competitiveness and economic growth 24
White Paper on European Transport Policy 227–8

Evans, D. 212
Faucheux, S. 55
Fayolle, A. 187
Fender, M. 228
Fierman, J. 264
Fiksel, J. 263
financial effects see economic effects
Fincham, R. 129
Fisher, M. 221
foreign investment see eco-social business in developing countries
Foster, R. 129
Fox, C. 6
France 34, 44–5
eco-logistics see eco-logistics improvement in France
ECODAS case study see entrepreneur profile and sustainable innovation strategy, ECODAS case study, France
EDF Group, Web 2.0 website (Ma Maison Bleu Ciel d’EDF) innovation 272–4
Frankel, C. 264
Fuller, D. 264
Gani, A. 126
Garand, D. 188, 189
Garg, A. 93
Garnett, N. 204
Gary, I. 152
Geels, F. 31, 48
Geindre, S. 191, 199
Gendron, Corinne 51–73
General Electric (GE), Ecomagination programme 12
Germany, logistics management see logistics management, integrating sustainability and technology innovation, Germany
Ghalib, K. 155
Gillin, M. 175
global climate change, sustainable innovation responses to 3–20
biological impact of climate change 6
business model changes, need for 18
circuit board cleaning 13
data centre energy consumption 13–14
eco-innovation (EI) 16
ecosystem resources as sustainability challenge 10–11
electric mobility 250–52
employee involvement 17–18
energy use as sustainability challenge 10
greenhouse gas emissions 4–5
habitat fragmentation 6, 7
hotels and ecological footprints 15
ink-efficient fonts 13
multinational corporations (MNCs) 11–12
oceans, climate change effects on 6
organizational systems, changes to 18
physical evidence of global climate changes 5–6
pollution as sustainability challenge 10
population as sustainability challenge 10
precursors to unleashing innovation 17–18
recycling and industrial ecosystems 14
social benefits 16
supply-chain sustainability 14–15
sustainability challenges 10–11
sustainability definition 9
sustainability as response to climate change 6–9
sustainable innovation overview 11–16
transportation sector 212–13
trucking industry, idling rest stops 13
waste management practices 14, 15
see also environmental concerns; greenhouse gas (GHG) emissions
globalization effects
logistics management, Germany 240–41
markets and co-venturing in developing countries 146–7
Goberville, E. 6
Godard, O. 64
Goodland, R. 55
Göpfert, I. 240
Grámeen Bank 139, 160–61, 177
green economy
construction technology in building sector 207
definition (UNEP) 53
eco-innovation see eco-innovation and green industry transformation in OECD countries
green and clean technology implementation, developing countries 152
green architecture, Ipsos analysis 271
political dimension, lack of 56
transition to 51–7
see also economic effects; environmental concerns
greenhouse gas (GHG) emissions 4–5, 23–4, 33, 35, 38, 44–5
logistics management 246–7, 248, 249, 250–52, 254–6
see also global climate change, sustainable innovation responses to; pollution
Group of 20 (G-20) 106–7
Guillaume, J.-P. 235
Guimaraes, Renato 219–38
Gunasekaran, A. 222
Haanaes, K. 3
Hackett, M. 142
Hairong, Y. 159
Halldorsson, A. 252
Halme, M. 42
Hambrick, D. 92
Hamet, J. 213
Hammer, M. 220
Hammond, A. 146
Harland, C. 221
Hart, S. 142, 144–5, 146, 190, 263, 264
Hazelton, P. 208
Hellström, T. 29, 30
Hemmati, M. 155
Hermalin, B. 92
Heringhaus, H. 255
Hermoso de Mendoza, A. 158
Herremans, I. 200
Hill, R. 205
Hillbrand, T. 240
Hilton Hotels, LightStay measurement system 15
Hlady Rispal, M. 193
Ho, M. 176
Hoa, T. 211
Hockerts, K. 145
Holt, D. 142, 160
Honig, B. 175
Hopkins, R. 158
Horsley, A. 206
Hossain, F. 155
Houé, Thierry 219–38
Hout, T. 229
Hoxha, A. 156
Hwang, B. 204
IBM 13–14, 32, 33, 35
India
Arvind Eye Hospitals 132
corporate governance see corporate governance norms and Indian corporate enterprises
cultural idiosyncrasies and business decision making 131–3
eye early iron technology, effects of 122
HMT rice variety, development of 125–6
Indian Partnership Act 75
Lijjat Papad cooperative see under entrepreneurship
development at small scale as key to sustainable economic development
National Innovation Foundation 126–7
online marketing 127
open source initiative 127
outsourcing, benefits 130–31
information and communication technologies (ICT)
eco-innovation and green industry transformation 33, 38–9, 45–6
deco-social business in developing countries 142, 155
Internet access and entrepreneurship development at small scale 177
logistics management 244–5
online marketing, India 127
innovation
dropout problem, appropriate technology movement 129
eco-innovation see eco-innovation and green industry transformation in OECD countries
and environment–economy debate 62–7
invention increase, appropriate technology movement 121, 124, 125–8
marketing see marketing innovation
social challenge see social challenge of sustainable development through innovation
Inoue, C. 153
International Monetary Fund (IMF) 106
International Union for Conservation of Nature (IUCN) 154
Ipsos analysis and market innovation see marketing innovation, Ipsos analysis
iron and steel industry 32, 33, 35
ISO 26000 standard of social responsibility and sustainable development 57–60, 61–2
Israel 45–6
Italy 86–7, 156
Ivanko, J. 141

Jackson, E. 92
Jakubowski, M. 127
Jaouen, A. 186
Japan 25, 32, 36, 86
Jasper, A. 257
Jeanrenaud, S. 154
Jensen, M. 93
Jeppesen, S. 147
Johnson, S. 171
Jordan, D. 211
Julien, P. 187
Jump, A. 6, 7

Kakoty, Sanjeeb 118–35
Kalina, J. 157
Kapp, W. 66
Kar, Rabi Narayan 74–99
Karl, T. 152
Karnani, A. 147
Katerere, Y. 158
Kelley, T. 129
Kemp, R. 26
Kennedy, T. 143, 150
Keoleian, G. 264
Khasreen, M. 208
Kobragade, D. 125–6
Kibert, C. 205–6
Kiehl, J. 247
Kille, C. 239, 240
Kirkby, C. 157
Kirzner, I. 172
Klaus, P. 239, 240, 241, 245, 246, 248, 252
Klein, A. 92
Klein, P. 213
Klein, R. 213
Klumpp, Matthias 239–61
Knoeber, C. 92
Kolk, A. 264
Korkmaz, S. 209
Korten, D. 128
Kothari, L. 75
Krieger, W. 241, 245, 246, 248, 252
Krishnan, M. 263

La Pira, F. 175
Lachance, R. 187
Lambert, D. 222
Latour, B. 191
Laufer, J. 191
Lawrence, J. 92
Le Bas, C. 200
Le Boulch, Gaël 262–76
LEED (Leadership in Energy and Environmental Design) 14–15
Leitner, A. 152
Lemoine, O. 227
Lessem, R. 158
Lipton, M. 93
Littlewood, D. 142, 160
Littman, J. 129
logistics, eco-logistics see eco-logistics improvement in France
logistics management, integrating sustainability and technology innovation, Germany 239–61
business cycles, effects on 256
ecological perspective 246–8
economic perspective 241–6
global supply chains 241, 245–6
globalization effects 240–41
greenhouse gas emissions 246–7, 248, 249, 250–52, 254–6
greenhouse gas emissions, power plants comparison 255
information technology, importance of 244–5
integrated development perspective 257
logistics market 239–41
oil prices and dependency 250
outsourcing 245–6
respirable dust emissions, reduction in 248
risk management and secure handling of goods transport 247
service levels 244–5
sustainable solutions, improvement of 241–2, 248, 252
vendor-managed inventory 246
warehouse centralization concepts 242–4, 245–6, 256
waste management 247
logistics management, integrating sustainability and technology innovation, Germany, electric mobility 249–56
battery power duration 253–4
and climate change 250–52
and demographic change 252
environmental balance 254–6
and resource protection 253
urbanization factors 252–3
Loorbach, D. 48
Lorsch, J. 93
Louche, C. 144
Lozano, J. 191
Lydenberg, S. 144
McCormick, J. 154
McDonough, W. 145
Machiba, Tomoo 21–50
McKie, D. 191
McKinnon, A. 220, 228
McMullen, J. 140, 150
McWilliams, A. 186
Maibach, M. 231, 232
Mair, J. 172, 173, 174, 175, 176, 177, 178
Mak, Y. 93
Makita, R. 143
marketing innovation 262–76
customer relationship management (CRM) 263–4, 272–4
Design for-X process 263–4
EDF Group, Web 2.0 website (Maison Bleu Ciel d’EDF) innovation 272–4
environmental management systems (EMS) quality standards (ISO 14000) 265
environmental new product development theory (ENPD) and eco-performance 263–4, 265
recycling 264
see also corporate governance norms and Indian corporate enterprises; multinationals, codes of conduct and other multilateral control systems for marketing innovation, Ipsos analysis 265–72
back to sources trend 266–7
carbon offset schemes 270–71
customer transparency 269
ethical concerns trend 269–70
financial ethics 269–70
green architecture 271
guilt absolution trend 270–71
holistic green trend 271–2
local materials, importance of use of 267
natural concept, expansion of 267
pollution reduction 268
raw materials, use of 266–7
revival of older techniques 269
voluntary reduction trend 267–9
voluntary simplicity 268
waste management and recycling 268
Marti, I. 172, 173, 174, 175, 176, 177, 178
Martin, M. 46
Martin, R. 174
Martinet, A. 190, 194, 262–3
Mashelkar, R. 132
Masi, A. 149, 156
Massaro, Maurizio 139–67
Masurel, E. 141
Mathieu, A. 186, 189, 190, 194, 195
Maxwell, D. 222
Meadows, D. 63
Menon, A. and A. 141, 264
Mentzer, J. 220
mergers and acquisitions 75, 90, 91
see also multinational corporations (MNCs)
Meunier, C. 228
Mexico 158
Michelin, eco-innovation 32
Miles, M. 264
Miles, R. 191, 194, 200, 229
Milstein, M. 142
Mohamed-Katerere, J. 158
Mohammed, O. 177
Moltini, M. 156
Morin, X. 6
Morris, M. 172
Mort, G. 174
Mortensen, O. 227
Mowforth, M. 157
Muchner, C. 241
multinational corporations (MNCs)
global climate change, sustainable innovation responses to 11–12
involvement in eco-social business in developing countries 155–6
mergers and acquisitions 75, 90, 91
multinationals, codes of conduct and other multilateral control systems for 100–117
collective approach, need for 102
World Trade Organization (WTO) involvement 107
see also corporate governance norms and Indian corporate enterprises; marketing innovation
Munilla, L. 264
Munt, I. 157
Mutagwaba, B. 143
Nel, E. 157
Nelson, R. 3, 200
Netherlands 68–9
Neumayer, E. 145
Ngai, E. 222
NGO involvement 69–71, 156
Nicaragua 148
Nicholls, A. 175
Nicolau, J. 130
Nigeria 156–7
Index

289

Nilekani, N. 133
Nordic Council of Ministers 39, 40
Norton, M. 270
Noya, A. 149
Obot, A. 155
Obot, I. 155
Ochoa, L. 206
OECD involvement
  eco-innovation see eco-innovation
  and green industry
  transformation in OECD
countries
multinationals, codes of conduct
and other multilateral control
systems for 101, 107–8
Offner, J.-M. 227
oil prices 225, 250
Organisation for Economic Co-
operation and Development
(OECD)
Green Growth Strategy 21–2, 47
Oslo Manual of innovation (OECD/
Eurostat Oslo Manual) 25–6
Orsato, R. 219
Osberg, S. 174
Osei-Hwedie, K. 160
Oshisanya, K. and T. 152
Ostertag, M. 257
Osterwalder, A. 40
Oudghiri, Remy 262–76
outsourcing 130–31, 245–6
Paché, G. 229
Palazzo, G. 60
Palmer, K. 66
Pape, J. 93
Patris, C. 189
Pauli, G. 145
Pearce, A. 208–9
Pearce, D. 55, 144
Pearson, P. 26
Peattie, K. 263, 264
Pennisi, E. 212
Penuelas, J. 6, 7
Perrons, D. 152
Peter, R. 177
Pfohl, H. 240–41
Phillips, R. 213
Pickrell, S. 204
Piebalgs, A. 152
Pigou, A. 66
Pinchot, G. 141–2
Pinstrup-Andersen, P. 149
policy considerations
  eco-innovation and green industry
  transformation in OECD
countries 44–6
  policy entrepreneurship and eco-
social business in developing
countries 149
regulatory framework, Indian
corporate enterprises 79–80, 87,
94–5
transportation sector 214
pollution concerns
  air-pollution-absorbing concrete and
  bricks 213
  global climate change, sustainable
  innovation responses to 10
pollution reduction, Ipsos analysis
268
social challenge of sustainable
development through
innovation 64, 65
see also greenhouse gas (GHG)
emissions
Ponnekanti, J. 157
Porter, M. 24, 64–6, 67, 264
Postman, N. 118, 119, 120, 121
poverty reduction
  bottom/base of the pyramid (BOP)
  strategies 146–8, 150, 171, 175,
  176–7
  and business entrepreneurship 150,
  153, 155–6
  and foreign investment 147–8
  India 91–2
  and social challenge of sustainable
  development through
  innovation 54, 57
Powell, W. 190
Prahalad, C. 146, 148, 176, 182, 263
Prinsen, G. 159
production system
  closed-loop 28–9
  efficiency measurement and profit
  motive 120–21
  inland waterway transport 231–3
  product-service systems (PSSs) and
green industry transformation 39, 40, 42
profit-making 120–21, 175, 176, 181
Prowell, B. 212
Pujari, D. 263
Qian, Q. 207
Randjelovic, J. 141
Rasmussen, R. 213
Raynor, M. 128–30
recycling 14, 145–6, 151–2, 211–12,
264, 268
see also environmental concerns;
regulatory framework see policy
waste management
Reuther, J. 253
Reveret, J. 55
Reynaud, E. 186, 190, 194, 262–3
Rhodes, P. 129
Richardson, B. 211
Ricupero, R. 101
risk management
eco-innovation and green industry
transformation in OECD
countries 31
eco-logistics risks, inland waterway
transport 231
fundamental safety risk levels,
building sector 209
logistics management and secure
handling of goods transport
247
Rist, G. 57
Robinson, J. 172
Rondinelli, D. 13
Rosenberg, N. 128
Rostow, W. 53
Roy, M. 77
Ruef, M. 152
Rugraff, E. 147
Ruli, G. 156
Russel, S. 70
Sagafi-nejad, Tagi 100–117
Salles, J. 64
Salomon, J. 64
Samoilovich, Y. 213
Sampath, K. 80
Santos, F. 173, 175
Sanya, T. 151–2, 158
Sassen, S. 253
Sautman, B. 159
Savy, M. 222, 227
Schaeffer, L. 174
Schaltegger, S. 141
Schaper, M. 141, 142
Scherer, A. 60
Scherhorn, G. 144, 145
Schieffer, A. 158
Schmidheiny, S. 220
Schmidt, J. 223
Schmitt, Christophe 186–203
Schoenberger-Orgad, M. 191
Schönwiese, C.-D. 250, 251
Schramm, C. 176
Schumacher, E. 121–2, 123, 124
Schumpeter, J. 168, 171, 188
Schützenmeister, F. 252
Scrace, I. 30, 31
Sehgal, K. 147
Seyfang, G. 70, 71
Shankar, B. 46
Sharma, R. 122
Sharman, M. 264
Sharp, eco-innovation 32
Sheshabalaya, A. 130, 131, 133
Shibata, H. 213
Shrivastava, Paul 3–20, 262, 264
Siemens VAI, eco-innovation 32
Signore, J. 213
Silitschena, R. 160
Singh, A. 209
SMEs see entrepreneurship
development at small scale as
key to sustainable economic
development
Smith, A. 70, 71
Smith, K. 31
Snow, C. 191, 194, 200
social business see eco-social business
in developing countries
social challenge of sustainable
development through innovation
51–73
competitiveness and regulatory
standards 64–7
ecologist movement and
technological innovation 63–4
economic crisis effects 54
economic growth, challenge of 53–6, 60–61, 63
environmental externalities factor 66
environmental protection in developing countries, challenge of 52–3
grass-roots innovations 69–71
green economy definition (UNEP) 53
green economy, political dimension, lack of 56
green economy, transition to 51–7
innovation and environment–economy debate 62–7
innovation and ‘society pull’ (transition management) 68–9
innovation for sustainable development 67–71
innovation subsidies 68
ISO 26000 standard of social responsibility and sustainable development 57–60, 61–2
NGO involvement 69–71
pollution concerns 64, 65
Porter Hypothesis on regulation and competitiveness 64–6, 67
poverty eradication 54, 57
social dimension of sustainable development 56–7, 69
social responsibility and sustainable development 57–62
social responsibility concept, history of 60–61
socio-technical regime proposal 69–70
sustainable development, confusion in understanding of 51–3, 55, 57–8
social entrepreneurship see entrepreneurship development at small scale as key to sustainable economic development, social entrepreneurship
social impact
appropriate technology movement 125–6
challenge of sustainable development through innovation 55–6
eco-innovation and green industry transformation in OECD countries 26, 31
Soparnot, R. 186, 188, 190, 194, 195
Sparkes, R. 144
Spence, L. 191
Spring, A. 155
Stake, R. 193
Stalk, G. 229
Stan, C. 252
Stapledon, G. 92
Steinert, J. 207–8
Stevens, E. 186, 188
Steward, F. 31, 129
Stiglitz, J. 110
Straube, F. 240–41
Subway restaurant chain 14–15
Sullivan, R. 219
Swaney, J. 64
Sweden 46
Swiaczny, F. 253
Switzerland 156
Taylor, F. 120
technology, appropriate see appropriate technology movement
technology innovation and sustainability, logistics management see logistics management, integrating sustainability and technology innovation, Germany
Tecnosol 148
Ten Hompel, M. 244, 246
Thomas, C. 11
Tischner, U. 44
Toutanji, H. 211
Toyota, eco-innovation 32
transnational companies (TNCs) see multinational corporations (MNCs)
transport industry 32, 33, 35, 38, 44–6
electric mobility see logistics management, integrating sustainability and technology innovation, Germany, electric mobility
inland waterways see eco-logistics
improvement in France, inland waterway transport
sustainability see construction technology in the building and transportation sectors, benchmarking, transportation sector
trucking industry, idling rest stops
13

Tremblay, D. 188, 192
Trenberth, K. 247
Tukker, A. 44, 48

Uganda 158
Ullrich, R. 247
ULSAB-AVC, eco-innovation 32
Ummenhofer, M. 230
United Arab Emirates, sustainable technology use in commercial and residential projects case study 214–15
United Nations Centre on Transnational Corporations (UNCTC) 103, 105, 111, 116–17
Conference on Environment and Development (UNCED) 8–9, 153–4
Conference on Sustainable Development, Agenda 21 154–5, 205
Conference on Trade and Development (UNCTAD), developing countries and FDI 105–6
Framework Convention on Climate Change (UNFCCC), Kyoto Protocol 9, 249
Global Compact 103–4
Human Settlements Programme UN-HABITAT 8
Montreal Protocol on Substances that Deplete the Ozone Layer 7, 8
multinationals, codes of conduct and other multilateral control systems for 103–6
Stockholm Declaration on the Human Environment 52

United Nations Environment Programme (UNEP) 8
Global Green New Deal (GGND) 54
green economy definition 53
Green Economy Report 21, 53–4, 56, 57, 66–7
Intergovernmental Panel on Climate Change (IPCC) 250–51
World Conservation Strategy (WCS) 154
United Parcel Service (UPS), idling savings 12–13

US construction industry 205, 206
Dodd–Frank Wall Street Reform and Consumer Protection Act 102
eco-innovation 24
Foreign Corrupt Practices Act (FCPA) 101
Green Building Council 14
residential energy consumption 206
Sarbanes–Oxley Act 101
Securities and Exchange Commission (SEC) 102
transportation construction and use of recycled materials 212
Ultra-Light Steel Auto Body (ULSAB) initiative 35

Van de Ven, A. 188
Van der Horst, R. 222
Van der Linde, C. 24, 64–6, 264
Vélib’, bicycle sharing system 32, 34
Ventzke, R. 246
Verkaar, H. 213
Verma, J. 93
Verstraete, T. 187
Vinacke, H. 123
Vogelpohl, A. 253
Vollenbroek, F. 67–9
Von Weizsäcker, E. 145, 151

Wachter, F. 193
Wad, P. 147
Wagenhofer, P. 255
Walubita, L. 211
Wang, J. 145
Ward, A. 213
waste management
building sector 208
global climate change, sustainable
innovation responses to 14, 15
logistics management 247
and recycling, Ipsos analysis 268
see also recycling
Wayson, R. 213
Weirner, J. 93
Weisbach, M. 92
Weller, G. 6
Welsh, C. 200
Wernerfelt, B. 186
Wheeler, W. 264
White, L. 123, 124
Williams, A. 159
Williams, O. 109
Williams, R. 70
Winter, S. 3, 200
Wong, V. 264
Wood, D. 60
World Business Council for Sustainable Development (WBCSD) 9, 39
World Health Organization (WHO) 8
World Meteorological Organization (WMO) 5, 250–51
World Trade Organization (WTO) 107
World Wildlife Fund (WWF) 154
Wüstehagen, R. 152
Xerox, eco-innovation 32, 35
Yermack, D. 92, 93
Yigitcanlar, T. 209
Yin, R. 193
Yokogawa Electric 32, 36
Young, A. 147
Yuanto, K. 93
Yunus, M. 139, 148, 160–61, 177
Zahra, S. 150, 171
Zelewski, Stephan 239–61
Ziegler, M. 252
Zott, C. 41