



Resource and Environment Issues for Actuaries: Outline topics to guide CPD provision

The Resource and Environment Research and CPD Committee of the Institute and Faculty of Actuaries (IFoA) has put together this list of topics as a guide to inform the provision of continuing professional development (CPD) opportunities for actuaries. This is a working draft and we welcome feedback, for example on topics we have omitted and which topics we should prioritise.

Throughout, our focus is on the financial and economic aspects of the topics listed, particularly as they relate to the employers and clients of actuaries.

Climate change

- Science of climate change
- Physical, transition and liability risks
- International and national policy commitments and frameworks
- Geopolitical impacts of climate change (pressures on migration, country stability, market stability)
- Policy, technological and behavioural solutions, including carbon pricing
- Fossil fuels – supply, demand and pricing, stranded assets, divestment debate
- Energy technologies and economics, including renewables and nuclear
- Kaya identity (emissions = population x affluence x energy efficiency x carbon intensity)
- Financing the transition, including climate bonds
- Investment options – asset allocation, indices, manager/fund selection, stock selection, engagement
- Insurance implications – insurability, product design, underwriting, capital requirements, building resilience
- Measurement and disclosure, including TCFD recommendations
- Scenario analysis
- Health and mortality impacts
- Communication (engaging colleagues and clients), including lessons from psychology
- Actuaries Climate Index and Actuaries Climate Risk Index

Other R and E issues

- Planetary boundaries and “doughnut economics”
- Feasibility of decoupling environmental impact and resource use from economic growth
- Natural capital – concept, relevance, valuation, accounting
- Resource constraints – fossil fuels, metals and minerals, rare earth metals, circular economy
- Energy security



- Food security
- Water scarcity
- Pollution, including impacts on health and mortality
- Biodiversity
- Land use, including degradation and regeneration

Sustainability

- Concept and definitions of sustainability (environmental, social, economic)
- Roles of government, companies and civil society
- Sustainable Development Goals
- Sustainability reporting, including integrated reporting, SASB, GRI
- Measurement – monetary and other quantitative measures, advantages and limitations, alternatives to quantification
- Choice of discount rate, including the distinction between social and private discount rates
- Property rights, including public and private goods, tragedy of the commons, collective solutions
- Environmental policy instruments – regulation, taxes and subsidies, trading schemes, disclosure, voluntary initiatives
- Greenwash/CSR risks
- Intergenerational fairness
- Future generation representation (on board, in legislation)

Broader context

- Fiduciary duties, ethics and professional responsibilities (pensions, insurance, investment)
- Risk and uncertainty
- Systems thinking
- Sustainability of the financial system, including systemic risks and purpose
- Critiques of conventional economic models (eg dynamic stochastic general equilibrium models) from a sustainability perspective
- Alternative economics perspectives, including complexity, ecological, environmental and post-Keynesian economics
- Monetary system, including the role and creation of money
- Short-termism in the financial system – causes, consequences, solutions