



Rob Arnold, PhD

Sustainability Research Director, EDHEC-Risk
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Rob Arnold is Sustainability Research Director at EDHEC-Risk Climate Impact Institute. He is an energy and environment specialist with extensive experience in industry, business, national governments, and international organisations. His expertise is in developing technology-led decarbonisation strategy and deriving value and business opportunities from implementing it. He has a strong track record of developing innovative technology and approaches in the low carbon energy, climate mitigation, sustainable industry, and clean transport sectors. A deep understanding of energy system planning, strategic carbon management and related environment and health impacts has helped him deliver large transformative sustainability programmes targeting business and industry.

EDUCATION

- 2010-2019 **PhD in Energy Environment**
Imperial College London
Technoeconomic modelling of the climate, environmental and public health impacts of new energy technologies, how these technologies deploy in future markets to decarbonise the energy system and on how models can be improved.
- 1997-1998 **MSc in Environmental Technology**
Imperial College London
Remote sensing of air pollution from biomass combustion and assessment of its contribution to climate change.
- 1992-1996 **BSc (Hons.) in Chemistry**
University of Manchester

PROFESSIONAL EXPERIENCE

- 01/23-Present **Sustainability Research Director**
EDHEC-Risk Climate Impact Institute
Leading the creation of a new body of knowledge on climate alignment and resilience in different sectors with an initial focus on infrastructure and contributing to the implementation of this knowledge in various research projects including asset pricing and macro/micro modelling of climate risks.

2016-2023 **Principal Engineering Advisor on Net-Zero Innovation**

Department of Business, Energy and Industrial Strategy, HM Government, UK
Leading cross-disciplinary teams in technical analysis, business strategy, and sustainability assessment of new technology and measures to decarbonise energy, infrastructure, industry, transport and land use.

- Engineering-led strategic analysis to identify the climate, economic and environmental value for technology options for the UK Government's Net Zero Innovation Programme.
- Developing relationships and leading projects with industry, partner governments and international organisations to develop global strategy for low-carbon energy deployment:
 - Steering and advisory committees for intergovernmental organisations on sustainable energy innovation, decarbonisation and investment.
 - Establishing collaborative initiatives on energy decarbonisation with key partner countries, bringing together business, industry and government.
 - Co-chairing a multinational team of experts to compile the research programme for a strand of the EU's Strategic Energy Technology Plan.
- Evaluating and managing a portfolio of innovation projects to build, demonstrate and bring to market promising low-carbon technology solutions across energy, green industry, buildings, transport and infrastructure.
- Working with project partners to quantify and communicate climate innovation projects' environmental and economic benefits and to ensure appropriate regulatory and GHG / carbon compliance and reporting.
- Establishing the Industrial Energy Transformation Fund, to identify and fund projects that build value for industry through sustainable decarbonisation.
- Technical development / strategy lead on advanced nuclear energy innovation.
- Managing technical assessment and sustainability due diligence for large-scale hydrogen supply projects.

2012-2016 **Principal Engineering Advisor – Climate and Energy**

Department of Energy and Climate Change, HM Government, UK

- Managing engineering and technoeconomic analysis of options to minimise the cost of decarbonising the energy economy and to maximise its environmental, climate and socioeconomic value.
- Leading hybrid government / contractor / industry teams to develop technology roadmaps for energy supply and manufacturing industry sectors to meet sustainability and carbon targets.
- Developing the engineering and technology basis for the UK's decarbonisation programmes, targeting investment in energy storage and distribution infrastructure, and in low-carbon power, heat and fuel.
- Strategic management and guidance for investment and research initiatives with governments, industry and international organisations to develop and deploy low-carbon power infrastructure.
- Communicating with broad audiences (e.g. national governments, industry, NGOs) on technologies' benefits and helping them understand how they can achieve economic, social and climate objectives.

- 2008-2012 **Senior Energy Science Advisor**
Department of Energy and Climate Change, HM Government, UK
- Leading technical strategy on sustainable approaches to reduce carbon emissions and natural resource impact from construction, business and the operation of commercial and residential buildings.
 - Developing sustainability modelling and information tools, including the National Energy Efficiency Data-Framework, the 2050 Carbon Calculator.
 - Leading sustainability development for the UK Bioenergy Strategy.
 - Developing partnerships in the UK and abroad on energy storage, demand-side electricity network management, sustainable heating, cooling and construction materials,
- 2004-2008 **Environmental Policy Scientific Advisor**
Department of Environment, Food & Rural Affairs, HM Government, UK
- Managing technically driven negotiations to successfully agree international environmental regulations, including UN treaties on air pollution from shipping and EU Directives on air and water quality.
 - Co-ordinating the science-evidenced response to EU legal actions against the UK on environmental issues.
 - Leading science-based policy on air pollution from transport.
 - Specifying, letting, and managing research to assess the environmental, public health and biodiversity impacts of water and air pollution.
 - Leading scientific research to deliver environmental regulatory compliance.
- 2003-2004 **Ministerial Advice & Policy Development**
Office of the Deputy Prime Minister, HM Government, UK
- Managing a policy advisory body that provided analysis on sustainability.
- 2002-2003 **Energy consultant**
- Technical consultancy on fuels, bioenergy and electricity markets.
 - Policy analysis for government on biomass cofiring in power plant.
 - Authoring studies and articles on behalf of clients for publication.
- 1999-2002 **Environment, Climate & Energy Specialist**
Greenergy, London, UK
- Technical and market development for sustainable transport fuel products and corporate carbon management services.
 - Successfully launching of one of the UK's first commercial-scale biodiesel products.

Professional memberships

MRSC – Member of the Royal Society of Chemistry

Languages and skills

Languages: English native speaker; proficient French; basic Polish.