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Oilthigh na Gàidhealtachd agus nan Eilean

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Aspects of economic impact from marine renewables

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Potential scope for an economic impact appraisal for a commercial (or trial) development project

- Estimation of employment, earnings and GVA impacts for the project development, construction and installation, operations and maintenance, and eventual decommissioning stages

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Potential scope for an economic impact appraisal for a commercial (or trial) development project

- Analysis at the national (UK), regional (Scotland), sub-regional (Highlands and Islands) and local (eg Orkney) levels
- Related harbour and other infrastructure investment by the developer and/or public bodies or harbour authorities

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Potential scope for an economic impact appraisal for a commercial (or trial) development project

- Employment benefits by source of labour, with scope for workforce development to maximise benefits within an area
- Complements environmental appraisal and can be combined in a single report
- For a local area, social impact analysis can be added – eg population increase impacts, improved facilities

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The value of economic impact analysis

- For a project, demonstrates to local and national governments the employment impact – during development and for 20 years plus through O&M
- Prior analysis can indicate ways in which impacts can be increased in an area – e.g. through shore site developments

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The value of economic impact analysis

- Shows relative contribution towards an area's economic growth – e.g. in an era of reducing public sector employment
- Projects can be combined to show the future contribution of a sector, e.g. tidal energy, to an area or country
- Helps governments to weigh economic benefit against cost of subsidising projects or a sector

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The value of economic impact analysis

- Different technologies can be compared in terms of their economic impact
- Impacts from how community benefit funds might be spent within an area
- Can include estimation of national savings on imported energy and contribution to diversity of energy supply

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Information requirements

- For a single development or set of developments by a particular developer – their supply chain, employment per megawatt installed, rates of pay, timescales
- Cost per MW installed, and how this might reduce through learning and economies of scale
- Sites likely to be used by the developer and supply chain companies

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Information requirements

- Best estimates, or ranges, of impact by country, region and area
- For a local area, baseline socio-economic data – population, employment, unemployment, etc
- The proportion of profit that accrues to the country (to help estimate GVA impact)

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Challenges

- Predicting the future where uncertainties include Government subsidies for research, development and installations, commitment to renewable energy, leaving the EU, investor confidence and international competition
- Modelling cost reductions over time in manufacture, installation and O&M

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Challenges

- Exporting energy to main centres of population
- How much to invest in training the workforce in advance with uncertainties
- Devising a meaningful range of impacts from future developments – especially over ten plus years

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Challenges

- Demonstrating independence and robustness in impact estimation
- Environmental and other local concerns that might limit the extent of development, and the costs of pre-development compliance
- Keeping impact models up-to-date in a changing support environment – particularly wave and tidal energy.

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Challenges

- Future discounting of benefits – net present value calculations
- Actual or perceived negative tourism impact – not as strong as for onshore and offshore wind. Tourism the largest industry in the Highlands and Islands

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Examples of impact estimates

- Tidal projects in the UK up to 2030 (mid 2016 assessment), medium scenario
  - UK: 37,000 full time equivalent job years, GVA £2.2 billion
  - Scotland: 14,000 FTE years, GVA £800 million
- Includes O&M impacts beyond 2030
- Wave currently too uncertain to estimate.
- European Marine Energy Centre, impacts 2003-2015
  - Orkney: 1,500 FTE years, £49 million earnings, £87 million GVA
  - Highlands & Islands: 1,800 FTE years
  - Scotland: 2,900 FTE years, £188 million GVA
  - UK: 3,800 FTE years, £250 million GVA
- All impacts include “indirect” (through the supply chain) and “induced” (through employee spending)

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