Revitalisation of local economy by development of renewable energy

Good practices and case studies (REvLOCAL)

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Outline

- About IEEP and IEA-RETD
- About the project
- Case studies - overview
- Insights from the case studies
- Conclusions and recommendations
- Q&A
About IEA-RETD and IEEP

• **IEA RETD TCP** (International Energy Agency - Renewable Energy Technology Deployment – Technology Collaboration Programme)
  - Members: Canada, Denmark, France, Germany, Ireland, Japan, Norway, and United Kingdom.
  - Mandate: to address cross-cutting issues influencing the deployment of renewable energy and catalyse the market introduction and deployment of renewable energy technologies
  - Methods: provision of information and tools to policy makers, effective communication and outreach activities to enhance stakeholder dialogue

• **IEEP** (Institute for European Environmental Policy)
  - Independent not-for-profit research organisation advancing environmental policy in Europe and beyond
  - Over 40 years experience in advising EU institutions, national governments, NGOs and businesses
  - Interdisciplinary staff including economists, lawyers and natural and social scientists. Experienced Climate Change and Energy team
‘Revitalisation of local economy by development of renewable energy: good practices and case studies (REvLOCAL)’

- How to develop and implement renewable energy (RES) projects in a way that the local economy is revitalised?
  - jobs and business
  - case studies
    - dozens of interviews
  - successful experiences
    - what were the driving factors behind the successes?
- Recommendations for policy makers
  - what are the do’s and don’ts for the policy makers?
## Case studies - overview

### Six case studies across Europe and North America

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Case studies - overview

Bay of Fundy
Nova Scotia, Canada

Santa Cruz
California, USA

Furness Peninsula
England, UK

Le Mené
Brittany, France

Nord-Norge
Norway

St Dizier
Grand-Est, France

Hamburg
Germany
Renewable energy cluster in Hamburg (Germany)

• established in 2011 to foster the city’s position as a national, and potentially global, centre for wind energy products and services
• Vulnerable historic strengths in logistics, aviation and maritime services but synergies with RES sector
• Favourable local coastal geographical situation and climate
• 1,500 companies are now active in the field of RES in Metroregion Hamburg => more than 25,000 jobs
  • 2008-2012 +56% employment in RES sector supply chain management, legal teams, financial institutions, production sites
• Germany’s Renewable Energy Act (EEG), German Federal System allowing for autonomy of Hamburg, and local cluster policy
• Cluster approach to identify skills and training needs, and get them delivered by the regional infrastructure
'The [Hamburg Cluster] is a really good network. If you come to a city as a non-German company of course you need to do a lot of networking, and this is what the cluster provides. ‘ (Danish energy company)
Off-shore wind around the Furness Peninsula (the UK)

- four wind farms (nearly 1 GW => map on a next slide) provided a crucial **economic boost**
  - in the context of job losses, economic vulnerability and decline
- Since 2002 building on existing port **infrastructure** and engineering **expertise**
- around 150 long-term, well-paid **jobs**, with highly developed skills being transferred from the shipbuilding sector
- additional activities: **business and teaching** of offshore wind engineering at a local college
  - focus on availability of a skilled workforce, and on the availability of jobs for high-achieving STEM (science, technology and maths) students
- local stakeholders working **together**
- sustained local strategy, benefiting from national British policy schemes including the Renewables Obligation
Furness Peninsula Offshore Wind Parks

Production data on Sunday 21 August 3 p.m.

Source: www.thecrownestate.co.uk

www.iea-retd.org
‘We have stalls for our technicians where they are based, monitoring activities of weather conditions, administration, management etc. These long-term jobs are often overlooked. They are highly sought-after – people don’t tend to move on that quickly’ (Danish energy company)
In-stream tidal in the Bay of Fundy (Canada)

- research and demonstration projects, first commercial project of 4 MW to be brought online later this year,
- small and poor rural province (Nova Scotia) dependent on coal, but
- highest tidal range in the world, and fast tidal flows
- solid workforce specialised in
  - offshore operations and shipbuilding, and
  - oceans and marine energy research
- jobs in research, local manufacture and supply of underwater devices, vessel operation, maintenance engineering, consulting, business development and legal services
- position of an ‘early adopter’ and lower technology costs as preconditions to become the hub for technologies and know how
- ‘one-window committee’, federal, regional and local support, tailored legislation
’The province’s legislation that was designed specifically to move tidal energy projects forward in Nova Scotia really provides a pathway and predictability for the industry’ (industry association)
Renewable energy projects in Nord-Norge (Norway)

• range of different RES and sizes of installations in a remote and sparsely populated region

• condition for economic value-creation and diversification
  • extremely favourable the natural conditions
    declining oil and gas sector

• long experience with large-scale hydropower transferred to new RES

• direct and indirect jobs in the local economy, primarily during the construction phase
  • one of the most recent wind farms planned, a 1,000 MW installation, is said to generate 40-50 local jobs

• further grid expansion to protect economic activity and export benefits; but some local concerns about impact on prices

• local and regional strategies, national green electricity certificate scheme
‘by connecting Nord-Norge better to the domestic grid, it might be possible to push the electricity surplus to the country’s south and then export it to Europe.’

(local NGO)
RES cluster/ biomass heater in Le Mené and St Dizier (France)

- Le Mené
  - **strong** local policy framework and community motivation to deploy RES
  - cluster of RES (past 20 years)
  - use of local resources
  - some 100 local jobs positively affected. Around 10 permanent jobs created.
    - reputational reward ‘territoire à énergie positive’
  - principle of local development
  - supported at local, regional, national and international levels

- Saint Dizier
  - **weak** local policy framework or community motivation to deploy RES
  - biomass district heating (2015)
  - use of local resources
  - 10 permanent local jobs in wood industry and the biomass heater operation.
  - broader strategy for urban renewal and improvement of social cohesion
  - **national** level policy as a main driver ("Fonds Chaleur")
‘It’s not only about diversification of our energy mix, but about doing things together within a local community’ (CIGALES du Mené).
Solar PV in Santa Cruz

• success story of maximised local benefits from California’s solar revolution and the Million Solar Roof Initiative (MSRI) campaign
• target of 2,000 solar homes by end of 2016 (1001 solar systems connected to the grid by end of 2014)
• around 570 (2015) jobs in the installation of solar rooftops, many supportive jobs: e.g. component suppliers and solar services providers

• environmental and social drivers
  • reduced air pollution and GHG emissions
  • cheaper energy for the local population
  • links to sustainable transportation

• strong federal and state financial and regulatory support, local policies and incentives as the key enabler (low permitting fees; fast procedures)
  • Santa Cruz benefits appear to be greater than similar, less engaged, cities
‘low income communities are disproportionately impacted by air pollution so it only makes sense to really put time, attention and money towards developing solar in such communities’ (environmental NGO)
1. **Clear commitment of local political decision-makers** can ensure a positive spirit of cooperation and facilitation
   - commune leaders and the local population has established **Le Mené** (FR) as a national champion of local development through RES, recognised as a ‘territoire à énergie positive’ (‘Positive Energy Area’) by the national Government

2. **Clear local strategy for renewables** depends on identifying potential economic advantages, and an urgent need for action
   - where local areas face disadvantages, like in **Furness** (UK), RES can gain traction. Potential synergies with the economic needs should be identified in long-term local and national strategies

3. **Cooperation among a wide range of local stakeholders** helps overcome bureaucratic delays and find creative solutions
   - authorities, organisations and industry from **Santa Cruz** (US) work together and with regional allies to ensure state and federal incentives have a multiplier effect within the local economy over the long term
4. **Approaches based on local ownership and control** facilitate acceptance and maximise local benefits

- local control model in Le Mené (FR) increased entrepreneurship and enthusiasm in developing new projects and in identifying indirect business opportunities linked to RES

5. **Regions and localities need to identify and capitalise on their strengths**

- Bay of Fundy (CA) couples resource with a workforce specialised in offshore energy research and operations. Oil and gas industry skills translate to and enable becoming ‘makers not just customers’ of tidal industry

6. **Care needs to be taken to secure local support** for strategies and projects, on the basis of **impact assessments**

- careful planning in Nord-Norge (NO) is needed to ensure that new RES projects are suitable for their surroundings and relevant to the local community
7. **One-window approach** to applications is good for early deployment of RES but won’t work without **local commitment**
   - multi-level governance for the **Bay of Fundy** (CA) (where federal, provincial and local authorities are in charge of different regulatory aspects) is addressed through a ‘one-window committee’

8. **Strengths of the local skills pool** need to be identified, together with the investments in new skills relevant to RES deployment
   - **Hamburg** (DE) demonstrated how to make RES relevant to the public by creating skilled jobs for maritime workers, putting energy production back in public ownership and redeveloping brownfield RES sites

9. **Supportive national or state-level policy framework** coupled with **local commitment** may create synergetic impact
   - in **Furness** (UK) national policy schemes, e.g. the Renewables Obligation, and (until recently) exemption from the Climate Change Levy on electricity generation, were vital. However, recent changes and uncertainty may have a chilling effect on further investment
10. **Self-sufficiency and lower fuels bills are an important driver of local attitudes but it should be handled with care**

   - very low local energy prices make some stakeholders reluctant to connecting Nord-Norge’s (NO) plentiful RES capacity with wider markets if it leads to higher prices for local users

11. **Local economic benefits of RES investment are not a ‘zero-sum game’**

   - position of an ‘early adopter’ is key for the Bay of Fundy (CA) to become the hub for in-stream tidal technologies and know-how, bringing prosperity to the local communities. In-stream tidal technologies are still expensive, so bringing costs down is a priority

12. **People learn by seeing and doing, and demonstration by example can have a big impact**

   - trip taken by a group of farmers in Le Mené (FR) to visit a successful biogas installation, seeing the benefits, and learning from the people involved, encouraged them to replicate it on their own farms
Summary

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• Case studies - overview

• Insights from the case studies

• Conclusions and recommendations
Questions and answers

• Thank you
• Questions?
THANK YOU!

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