



## **“Local Ownership and Community Finance for Renewable Energy Projects”**

***Presentation to the #REMforum – Investing in Tomorrow’s Energy Markets, Today***

***St Gallen, May 12th, 2017***

**Dr. Celine McInerney, Joseph Curtin**

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**A TRADITION OF  
INDEPENDENT  
THINKING**



**University College Cork, Ireland**  
Coláiste na hOllscoile Corcaigh

# Outline

- Context
- Investment Considerations
- Case Studies on International Best Practice for Community Ownership
- Irish Survey on “Willingness to Invest”
- Community Participation Structures
- Crowdfunding Case Study
- Concluding Remarks



# Two Significant Challenges to Achieving COP21 2<sup>0</sup> Ambition:



## Challenge No.1

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The International Energy Agency (WEO 2016) estimate that US\$44 trillion of cumulative investment in energy supply and efficiency is required between 2016 and 2035 to have a chance of maintaining global temperature increases below 2°C

**Scale of capital required**

## Challenge No. 2



**Lack of community buy-in**

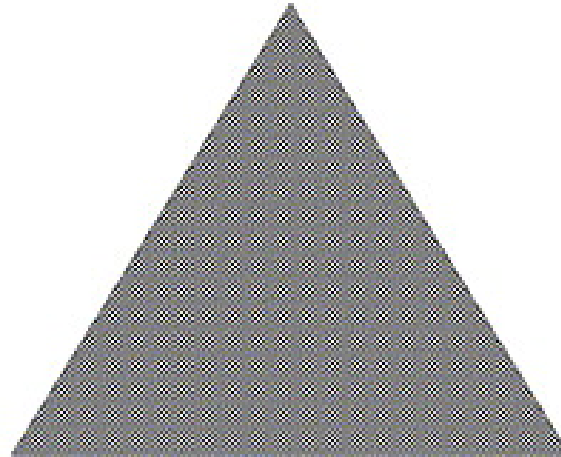
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# Wüstenhagen et al (2007) Social Acceptance of Renewable Energy Innovation Framework



## Socio-political acceptance

- Of technologies and policies
- By the public
- By key stakeholders
- By policy makers



## Community acceptance

- Procedural justice
- Distributional justice
- Trust

## Market acceptance

- Consumers
- Investors
- Intra-firm

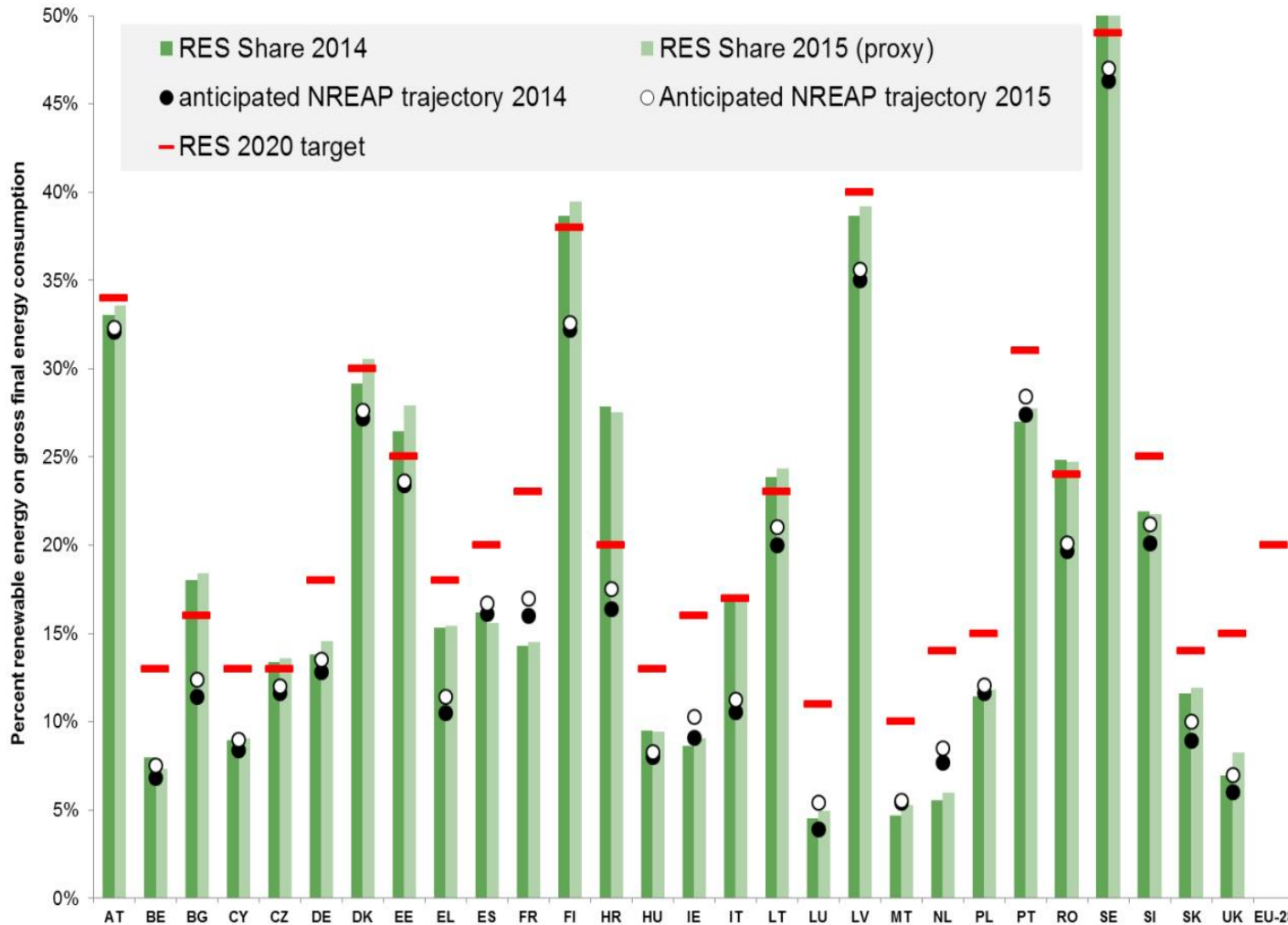
Energy Policy, Volume 35, Issue 5, 2007,  
2683 - 2691

# Thousands protest against pylons and wind turbines

Demonstrators march through Dublin in opposition to energy plans



# Community Acceptance Important to Achieving EU RE Targets...



Source: REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Renewable Energy Progress Report. 1.2.2017 COM(2017) 57 final.





# Considerations for Designing Community Investment Schemes



1. How do we define community – is investment open to everyone or do immediate community get preferred return? Denmark 4.5km radius of wind turbines
2. Exposure to development risk pre-financial close? could community investors lose money?
3. Taxation – income or capital gain, partnership structure? GmbH & Co. KG structure key enabler in Germany. Removal of EIS in UK saw big reduction in investment.
4. Regulated investment?
5. How to exit investment? Liquid secondary market for investments?
6. Time, financial, legal, technical and operational skills in community?

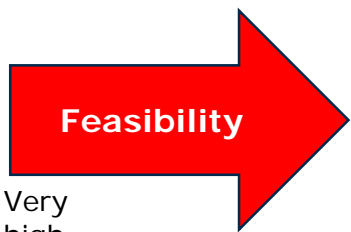
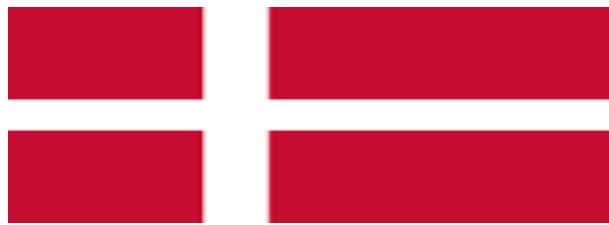
# Four International Case Studies of Community Investment in RE Projects



	Proportion of total electricity generation (% , 2014)			Local Ownership
	Renewables	Wind	Solar PV	
	25.8	9	5.0	Germany: Over half of total investment in wind and solar has come from community investors
	53	40.5	.2	Denmark: Over half of total wind investment from local community investors
	19.1	9.5	.6	UK: Low levels of community ownership, though increasingly since 2000 and especially since 2009
	28.7	4.4	Less than .1	Ontario: Low levels of community ownership, though increasingly rapidly since 2009



Timeline



1980s

Very high energy and carbon taxes

Grants: 30% of wind turbine (1979)

1990s

FiT for wind & income eligible for tax rebate (1992)

2000s

FIP (2003)

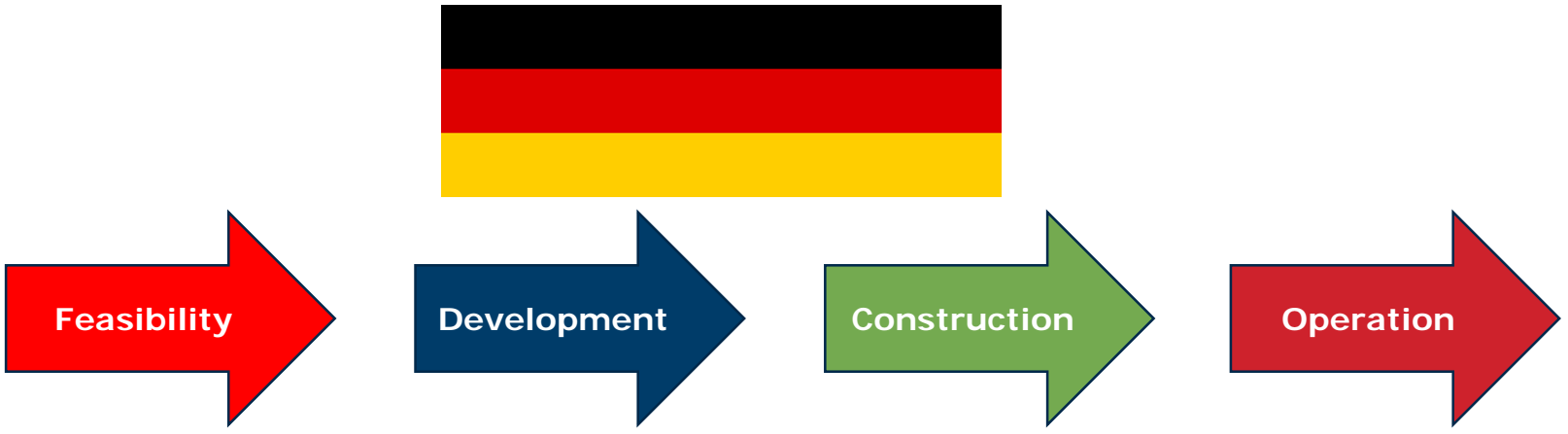
2010s

Guarantee scheme for loans for feasibility studies (up to €70,000) (2009)

Mandated equity offer to local community (2009)

Increased FIP (2009)

Timeline



1990s

**State/Regional-level programmes**

**Pilot soft loans & grants programme for Solar PV**

**Undifferentiated FIT & significant tax advantages from resultant income**

2000s

Local organizations & citizen associations encouraging energy communities

**Expanded soft loans (2%) programme for PV**

**Technology and size-specific FIT**

2010s

**All soft loan programmes consolidated: up to 100% of Investment costs**

**Tender scheme for large projects**

Timeline



1990s

30-50% tax relief to investors in new companies, early stage startups and social enterprises (ended 2015)

Non Fossil Fuel Obligation

2000s

Grant support (CRI)

Renewables Obligation

2010s

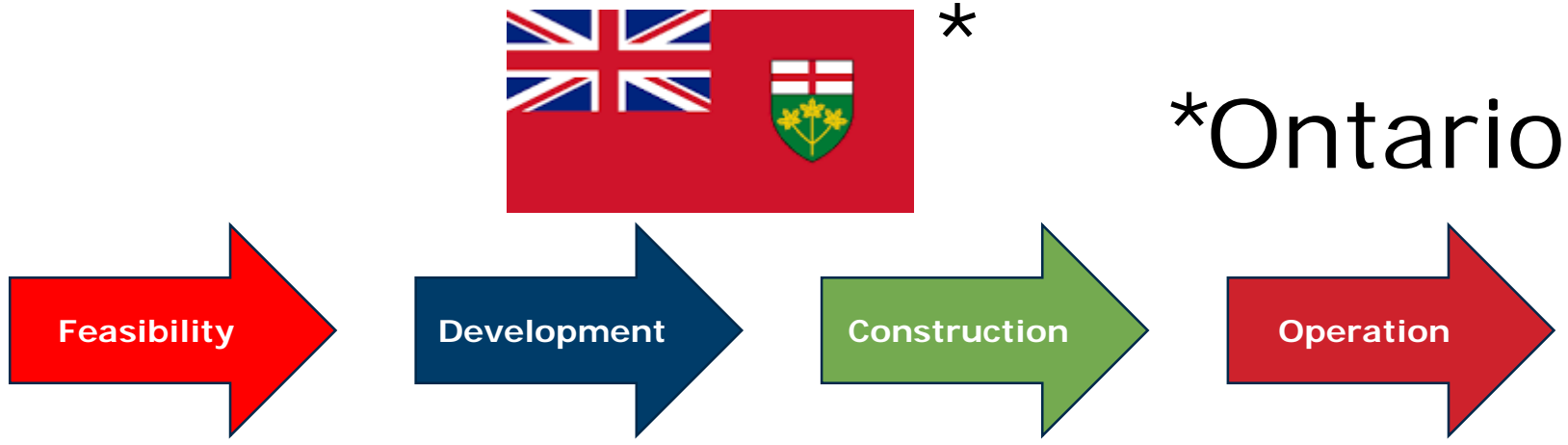
Grant for feasibility studies (up to £26,000)

Grant for pre-planning development work (up to £167,000)

Grant support: low carbon community challenge  
Voluntary equity offer

FiT for smaller projects under 5/10MW  
Contract for Difference

Timeline



2000s

**Tax exemption for  
Aboriginal communities**

2010s

**Energy Partnership Program: Grant funding and access to finance to cover feasibility assessments**

**Energy Partnership Program: grant funding and finance to cover planning applications and other studies (covering legal, technical, financial and due diligence and soft costs)**

**FiT: Technology and size differentiated + ADDER  
2011: 25/25MW set aside**

**2014: competitive tendering process with local ownership as important criteria**

# Key Enabling Factors Internationally



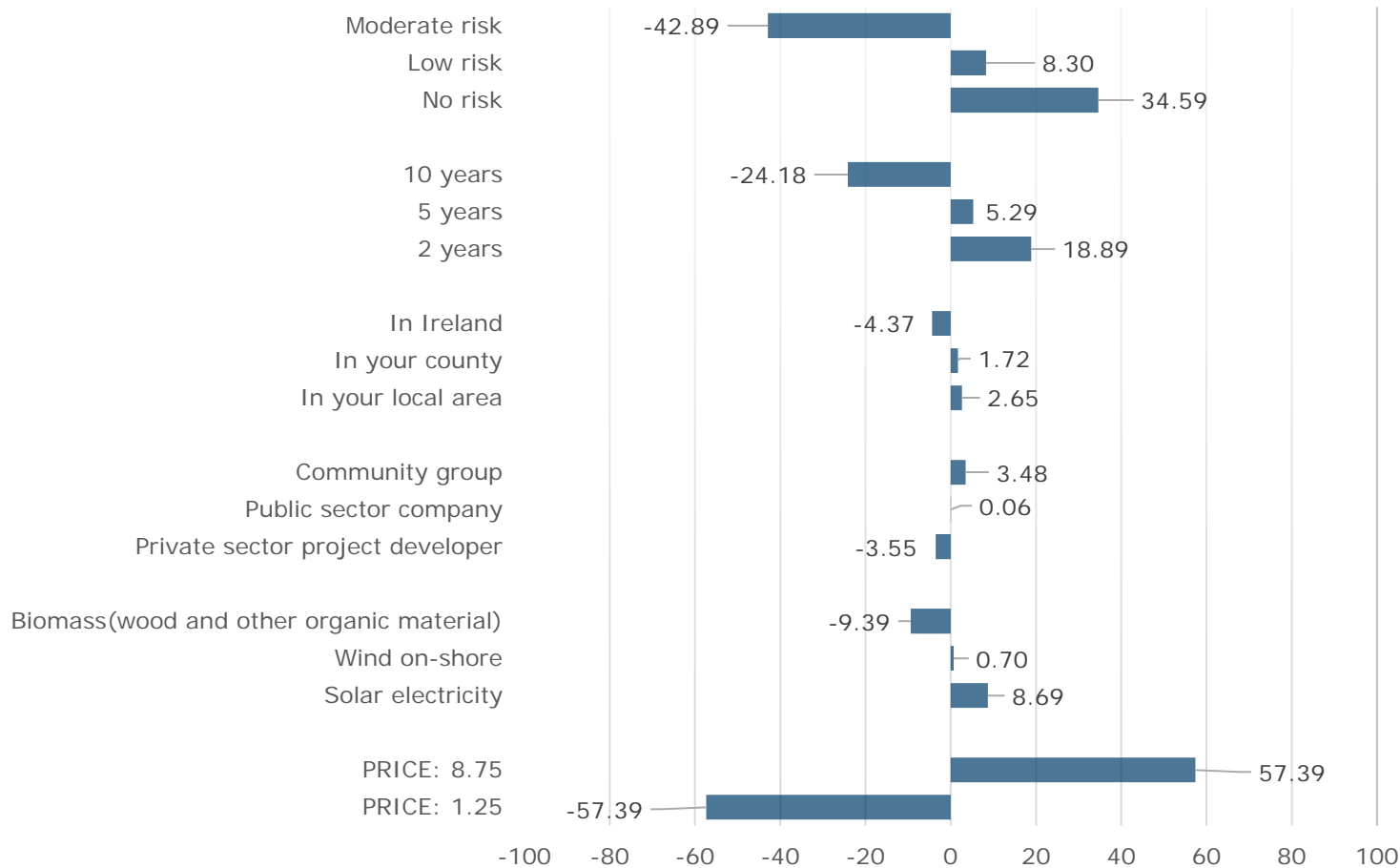
1. Co-operative tradition particularly in Denmark and Germany
2. Grants for feasibility / early stage project development, part of construction cost
3. Role of agencies providing support with: time, financial, legal, technical and operational skills
4. Planning certainty essential enabler
5. Availability of soft loans, i.e. KfW in Germany, and 'ethical' banks Faelleskassen in Denmark
6. Tax treatment GmbH & Co. KG in Germany, guild structure in Denmark
7. Mandated percentages for community ownership

# Irish Survey of Willingness to Invest in Renewable Energy Projects: Example of Choice Task

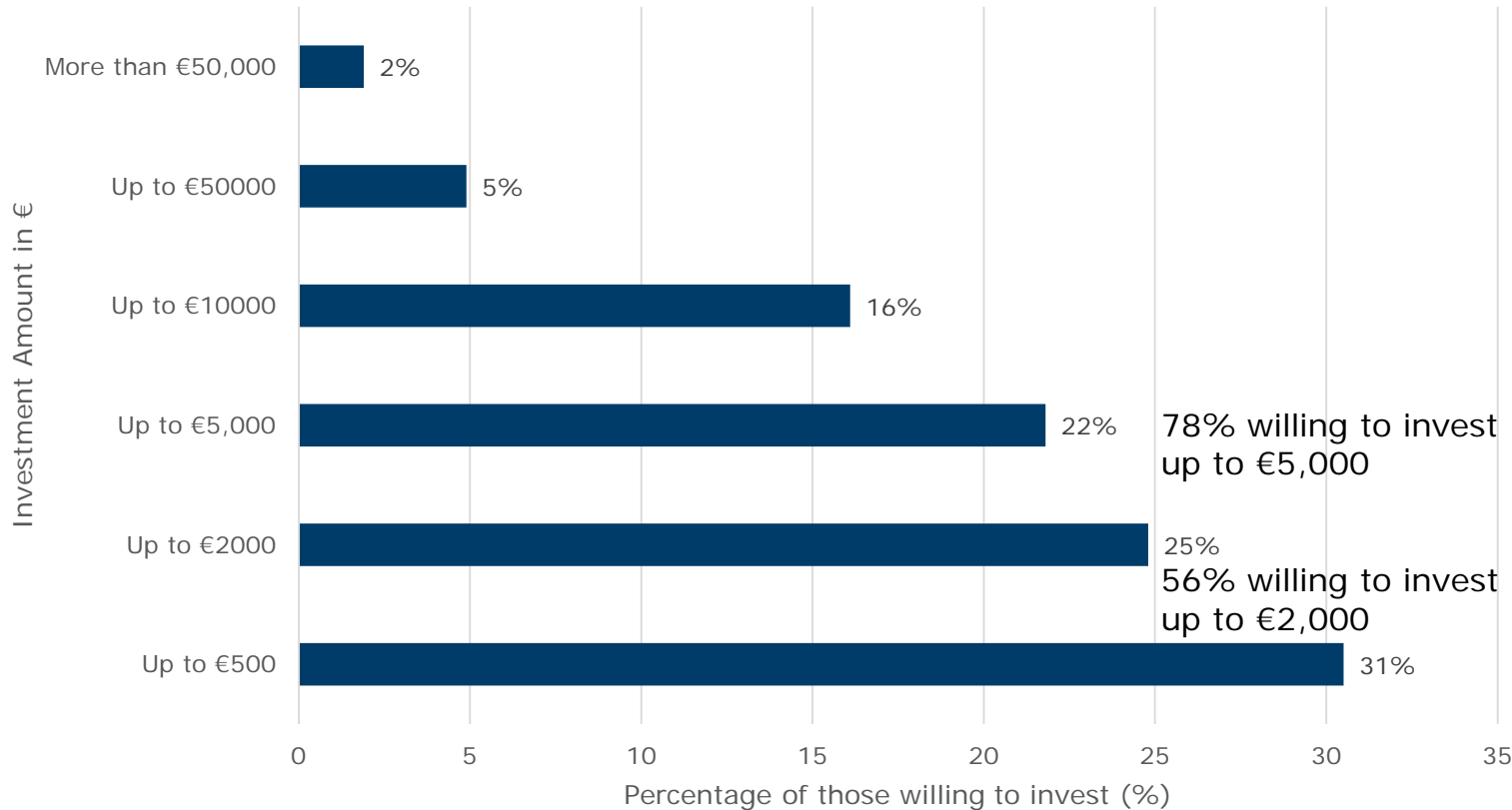


<b>Return on Investment</b>	2%	4%	7%	8%
<b>Renewable technology</b>	Solar electricity	Solar electricity	Solar electricity	Biomass(wood)
<b>Project Partner</b>	Community group	Public sector company	Private sector project developer	Private sector project developer
<b>Location</b>	My local area	Anywhere in Ireland	My county	Anywhere in Ireland
<b>Minimum holding period</b>	5 years	2 years	5 years	2 years
<b>Risk of losing some of your investment</b>	Moderate risk	No risk	No risk	Low risk
	<input type="radio"/> A possibility <input type="radio"/> Won't work for me	<input type="radio"/> A possibility <input type="radio"/> Won't work for me	<input type="radio"/> A possibility <input type="radio"/> Won't work for me	<input type="radio"/> A possibility <input type="radio"/> Won't work for me

# What are Investors Most Concerned About? Zero-Centred Utilities



# How Much Would You be Willing to Invest?





# Structures for Community Participation



1. Community Benefit-type Schemes
  - Leases
  - Community benefit / near-neighbour schemes
  - Subsidised electricity
2. Debt / Mezzanine
  - Crowdfunding using equity / debt instruments
  - Mezzanine – loan with fixed return
3. Equity
  - Enhanced tariffs for projects with community ownership (Ontario)
  - Joint Venture – project is jointly owned
  - Split Ownership – community owns 1 of 4 turbines, share grid access
  - Revenue Sharing – community invests 5% of capital, get fixed return but do not own asset
  - 100% Community Owned

# Trillion Fund: Crowdfunding Case Study



The screenshot shows a crowdfunding campaign for E5 Energy. At the top left, there is a green starburst icon with the word 'FUNDED' in white. Below this is a photo of a man in a plaid shirt. The campaign is categorized as 'Wind' and is located in the 'United Kingdom'. The title is 'E5 Energy' by 'E5 Energy Ltd'. The terms are '7% fixed interest for three years secured against operational wind turbines.' The minimum investment is £50, the type is 'Loan', and the return is 7.00% (Annual Interest Rate). A progress bar shows a 'TIPPING POINT' of £2.5MIL, with the current amount raised being £1,750,000. At the bottom, it indicates '0 HOURS LEFT' and '407 LENDERS'.

However there are Risks to Investors:

1. Ranking of investment as debt or equity in event of failure
2. Assets are 50% owned by Endurance the turbine manufacturer
3. Price of electricity may fall
4. Bank loans secured against assets generating cash flows
5. Regulatory risk
6. Loan is not covered by the Financial Services Compensation Scheme
7. Company may not have funding to repay loan of wind output is low

# Concluding Remarks



- Development risks are significant for community investors
- Community investors need exit option – how do they get their money back if they invest?
- Tax treatment can significantly increase investor return
- Early stage funding is high risk – international experience shows early stage grants effective
- Consistent planning process is a key enabler
- Community projects will not get off ground without agency support to provide, technical, financial, legal and other skills
- Targeted policy supports required to overcome investment hurdles at each development stage...

# Thank You – Questions?

c.mcinerney@ucc.ie



## Renewable and Sustainable Energy Reviews

Available online 1 December 2016

In Press, Corrected Proof — Note to users



Case Study paper:  
under review in  
Journal of Cleaner  
Production

Financial incentives to mobilise local citizens as investors in  
low-carbon technologies: A systematic literature review

Joseph Curtin<sup>a</sup>,  , Celine McInerney<sup>a</sup>,  , Brian Ó Gallachóir<sup>b, c</sup>,  



CORK  
UNIVERSITY  
BUSINESS  
SCHOOL

## Citizen Investment in Renewables Survey

Welcome to this survey. We will ask you some questions on **your interest in investing in renewable energy projects**. It includes some questions about yourself and an interactive part. You do not need any prior experience or knowledge with renewables investment to complete the survey. It will take **approximately 10 minutes**. Thank you.

