

1 **COMMUNITY ENERGY: Price support allows communities to raise low-cost citizen finance**  
2 **for renewable energy projects**

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16 **Standfirst**

17 Community energy groups can raise citizen finance for renewable energy projects at lower interest  
18 rates than from commercial lenders, but they often depend on price guarantee schemes. Policies  
19 providing price stability and business model innovations are needed to realise the sector's potential  
20 contribution to the zero-carbon energy transition.

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23 **Messages for Policy**

- 24 • Schemes like the Feed-in Tariff provide price stability, thus de-risking community energy  
25 projects for citizen investors and allowing smaller projects to be funded by low-cost citizen  
26 finance.

- 27       • Without some price support, only a minority of current community renewables business  
28       models are likely to still be viable.
- 29       • Projects with an on-site customer for their power – typically solar rooftop photovoltaics on  
30       buildings with high daytime energy demand – are the ones that perform best without price  
31       support revenues.
- 32       • Growth of the sector could be supported by encouraging, or even mandating, public-sector  
33       bodies to purchase community-generated energy on long-term contracts.
- 34       • Alternatively, a floor price for exported electricity, or support for smaller projects in the UK  
35       power auctions scheme (the Contracts for Difference), could provide price stability for  
36       community energy.

### 37   **The policy problem**

38   Local energy projects delivered by community groups could play a pivotal role in realising the  
39   transition to a zero-carbon energy future. Community energy schemes offer an alternative to  
40   centralised large-scale energy provision, with various forms of community energy already found  
41   across Europe, North America and elsewhere. The sector in the UK has grown due to favourable  
42   government policies and the decreasing cost of renewable energy technologies. However, recently  
43   government has withdrawn most support for small-scale renewables, putting community energy  
44   business models under strain. Exploring which business models and financing mechanisms have  
45   worked for community energy projects across the UK can identify ways forward for the sector. A  
46   healthy community energy sector could not only help with the zero-carbon transition but also  
47   strengthen and empower communities, providing a broad range of co-benefits.

### 48   **The findings**

49   The UK community energy sector is dominated by renewable electricity generation. Activities  
50   addressing demand-side issues, such as energy efficiency or fuel poverty, are mostly cross-subsidised

51 from renewables revenue or grant funded, although a few groups do run financially self-sustaining  
52 demand-side projects. For renewables, two basic business models exist. First, larger projects  
53 supplying the grid, like wind or solar farms, are increasingly professionalised and ‘bankable’: they  
54 raise commercial loans alongside citizen finance. Second, rooftop solar photovoltaic projects,  
55 supplying an on-site customer as well as the grid, are small enough to be funded primarily through  
56 community share issues. In both cases, community shares represent a low-cost source of finance: we  
57 find that on average, they offer interest rates two percentage points lower than loans, making them  
58 the cheapest form of capital (other than grants). However, these two business models rely on price  
59 guarantee schemes, such as the Feed-in Tariff. Over 90% of the projects in our sample made a  
60 financial surplus in our single-year snapshot, but this falls to just 20% if we remove Feed-in Tariff  
61 income.

## 62 **The study**

63 Little is known about how community energy projects raise finance, so we conducted a new UK-wide  
64 survey of the sector. Our survey structure used the Business Model Canvas to analyse organisations’  
65 value propositions (what they offer the customer) and associated activities, customers, resources,  
66 and costs and revenues. We collected data on up to 200 variables per project, paying particular  
67 attention to financing mechanisms. We received substantive responses to our survey on 145  
68 projects from 48 organisations. We conducted cluster analysis to identify groups of similar business  
69 models. Descriptive statistical analysis allowed us to examine financial performance, the impact of  
70 removing price guarantee schemes on project revenues, and the prices different customers pay for  
71 community energy. We also used econometric analysis to examine the relationship between the cost  
72 of finance and financing mechanisms.

## 73 **Source research**

74 Braunholtz-Speight, T., Sharmina, M., Manderson, E., McLachlan, C., Hannon, M., Hardy, J., and  
75 Mander, S. (2020) Business models and financial characteristics of community energy in the UK,  
76 Nature Energy.

## 77 **Further Reading**

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- 82 2. Community Energy England and Community Energy Wales. State of the Sector Report 2018.  
83 2018. Sheffield and Cardiff: Community Energy England and Community Energy Wales. **The**  
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87 **behind the emergence and growth of the community energy sector in the UK.**
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89 wind energy schemes in the United Kingdom and Germany. *Energy Policy* 2013; 63: 543-552.  
90 DOI: <http://dx.doi.org/10.1016/j.enpol.2013.08.050>. **International comparative study of**  
91 **price support mechanisms for community energy in the context of wider policy and energy**  
92 **sector factors.**
- 93 5. Department for Energy and Climate Change. Community Energy Finance Roundtable: final  
94 report and recommendations. 2014. London: Department for Energy and Climate Change.  
95 **Policy report from the working group on community energy finance convened by the UK**  
96 **government.**

97 **Figure 1: Percentage of capital raised by different instruments in relation to scale of project capital**  
98 **expenditure.**

99 For each size category of project capital expenditure (CAPEX), the chart shows the proportion of  
100 total finance raised for all projects in that CAPEX range, broken down by different instruments.  
101 Smaller projects are financed primarily by community shares, while loan finance becomes more  
102 important as project size increases. Where less than 100% of CAPEX is shown as being raised, this is  
103 due to some instruments that only raised relatively small sums being omitted from the figure. Where  
104 more than 100% of CAPEX is raised, these organisations retain surplus funds for reinvestment in  
105 future projects, in agreement with investors. The chart is based on 111 energy generation projects  
106 with sufficient data on financing and CAPEX to perform the analysis. Reproduced from Brauholtz-  
107 Speight, T., et al. Business models and financial characteristics of community energy in the UK,  
108 Nature Energy.

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#### 113 **Competing interests**

114 Carly McLachlan is Chair of the Trustees of the climate change charity Possible (formerly 10:10), and  
115 a director of Community Energy North. Both of these roles are unpaid.

116 Matthew Hannon is an unpaid Trustee of South Seeds, Glasgow, a community environmental charity  
117 with a focus on energy.

118 Jeff Hardy is a Non-Executive Director of Public Power Solutions Limited, a renewable energy  
119 developer that has worked with community groups.

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