



Overcoming barriers to electrical energy storage: Comparing California and Europe

EPRG Working Paper 1614

Cambridge Working Paper in Economics 1629

Francisco Castellano Ruz and Michael G. Pollitt

Abstract

Multiple market drivers suggest that electrical energy storage (EES) systems are going to be essential for future power systems within the next decade. However, the deployment of the technology is proceeding at very different rates around the world. Whereas the sector is progressing quickly in California, it is not gaining much traction, so far, in Europe. This research aims to clarify why the prospects for energy storage in Europe are not as good as they are in California. The market and regulatory framework in California and Europe are analysed critically, and changes to overcome the main barriers are recommended.

The research shows that the main barriers are: inadequate definition and classification of EES in legislation; lack of markets for some ancillary services; inadequate market design that benefits traditional technologies; and the lack of need for EES in some jurisdictions.

The prospects are better in California because regulation is more advanced and favourable for the technology, and regulators are collaborating with developers and utilities to analyse barriers and solutions for the technology. In Europe, there is a need to clarify the definition of EES, create new markets for ancillary services, design technology-neutral market rules and study more deeply the necessity of EES.

Keywords electrical energy storage, battery, market design

JEL Classification L98

Contact m.pollitt@jbs.cam.ac.uk

Publication April 2016

Financial Support EPSRC Business, Economics, Planning and Policy for
Energy Storage in Low-Carbon Futures project

www.eprg.group.cam.ac.uk