Make Your Own Lithium Power Banks

Demand for Energy Equality

October 25, 2020

Introductory text

Contents

1 Introduction

1.1 The Demand Energy Equality project

Demand Energy Equality (DEE) is a UK based community energy project that seeks to provide practical energy education using solar photovoltaics. We are a group working for systemic change in the way energy is produced, distributed, controlled, delivered and used. These aims are within the context of rising energy inequality (in the UK, at least), rising fuel bills, climate change and the increasing cost of fossil fuel extraction. See our website to find out more about the project.

Through teaching hands-on energy skills we also aim to develop people's relationship with energy, and enable them to understand it better; where it comes from, how it is used and how it relates to their needs. Ultimately we aim for this to change behaviour, leading to better use of energy and overall reduced demand. Reduced energy use is an unavoidable fact of the relatively near future – far better to prepare now than be surprised later on.

1.2 Using this guide

This written guide explains the concepts and techniques involved in making small USB power packs using recovered lithium-ion battery cells. It assumes no prior knowledge of any kind relevant to completing a fully working project. The guide is designed to act as a learning aid for participants on the 'Make Your Own Lithium Power Bank' workshops run by Demand Energy Equality, and can be used alongside other DIY guides and resources provided by DEE.

The guide provides a summary of the basic concepts involved in energy systems, gives an explanation of what lithium cells are and how they can be used, and gives some tips on what you might need to know for larger DIY projects. Links to useful sources of further research are included at the end of the guide.

This particular version reflects the most recent iteration of the process of building a power bank as practiced by DEE, but it is likely that it may evolve and expand over time. Because we occasionally review and update our content, the guide may not always be in line with the other DIY resources published by DEE, and may not exactly reflect the format of current workshops. Contact DEE if you need an update on any recent changes.

You will find the latest version of this guide available to download from the DEE website, as and when this guide is updated, alongside our other guides and resources.

For a chance to gain practical experience of the material covered in this guide, please take a look at the workshops offered on the DEE website.

We encourage you to share the skills you learn with others through your own workshops, particularly if you are able to target and work with low-income communities. Please contact us for any support you feel you may need if you plan to do this.

1.3 Disclaimer

This guide is for general guidance only and whilst every effort is made to ensure that the information it contains is correct, it should not be relied upon as accurate. The information / advice contained within this guide is intended for use within the UK only and by persons of no less than 18 years of age. Use this guide at your own risk.

DEE will not accept any liability for any loss, damage, injury or negligence, direct or indirect, from use of the information / advice contained within this guide.