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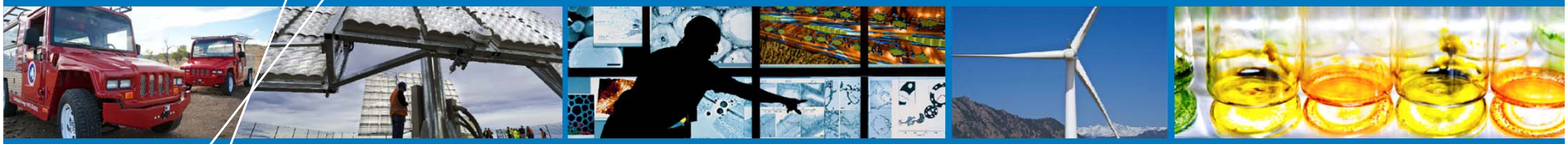
U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

eBooks: An Option for Government Publishing



Scientific and Technical Information Program (STIP) Annual Meeting

Scott Minos, EERE

Rob Finger, NREL

April 3rd, 2014

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

Overview

- **Lately there has been a renewed push to adopt eBooks by government agencies. This has been in part due to:**
  - The mandate to reduce the use of paper
  - The pressure to reduce printing costs
  - The need to compete with the modern publicity efforts of private stakeholders

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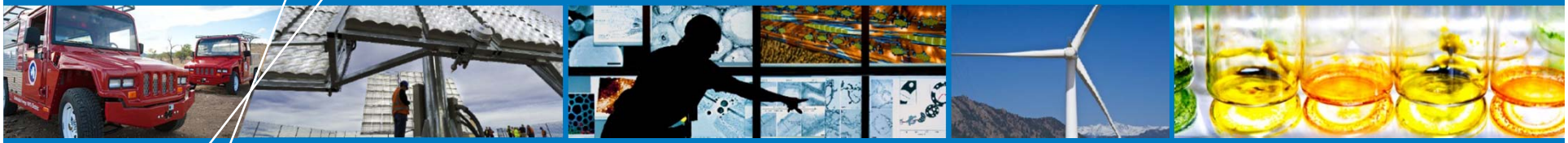


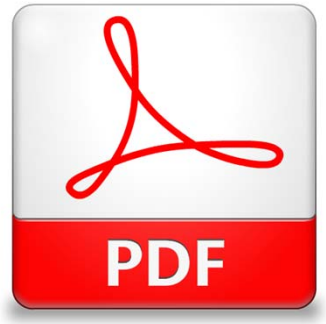
Types of eBooks and Distribution Outlets

The Big 4

ePub

AZW

MOBI



PDF

The Big 4

- **ePub**
  - Most commonly supported
  - Open source standard (free, publicly available)
  - Reflowable and fixed layouts
    - Android devices (tablet, phone)
    - Apple iOS and OS devices (iPad, iPhone, Mac)
    - Windows devices (computer, tablet, phone)
    - Barnes & Noble Nook
    - Amazon Kindle Fire

The Big 4

- **AZW**
  - Amazon's proprietary format
  - Reflowable and fixed layouts
    - Amazon Kindle (all versions)
    - Android, Apple, and Windows devices (given that the appropriate apps are downloaded)

The Big 4

- **MOBI**
  - Purchased by Amazon
  - Reflowable and fixed layouts
  - Less formatting support, but available on more devices
    - Amazon Kindle
    - Android devices
    - Apple iOS and OS devices (iPad, iPhone, Mac)
    - Windows (computer only)

The Big 4

- **PDF**
  - Adobe's format
  - The oldest and most used eBook
  - Fixed layout (allows for design control)
    - Android devices (tablet, phone)
    - Windows devices (computer, tablet, phone)
    - Barnes & Noble Nook
    - Apple and Amazon do not sell pdfs as eBooks

Fixed vs. Reflowable Layout

Fixed Layout

Pros

- Allows for **design control**
  - Ideal for books that have a lot of images, graphs, illustrations
  - Preserves the design quality of the printed page
- Since Apple and Amazon do not sell pdfs as eBooks, ePub with fixed layout is the next best option

Cons

- Can cost more because of the complexity of the files
- Conversion and approval process is trickier
- File must be coded differently for different e-readers (i.e., multiple files for one document)
- Fewer devices support fixed layout ePubs

Fixed vs. Reflowable Layout

Reflowable Layout

Pros

- Allows for **reader control**
  - Ideal for books that are mostly text and simple graphics
  - Reader can change size and style of font, adjust margins and spacing
  - Allows readers to search text, leave bookmarks, use dictionary
  - One file can be viewed across multiple e-readers
  - Ensures **maximum usability**

Cons

- Not as graphically interesting
  - Can’t wrap text around images
  - Can’t layer text on top of images

ePub 2 vs. ePub 3

ePub 2

- Does not support audio or video elements
- Ensures **maximum usability** as the majority of readers can view ePub 2

ePub 3

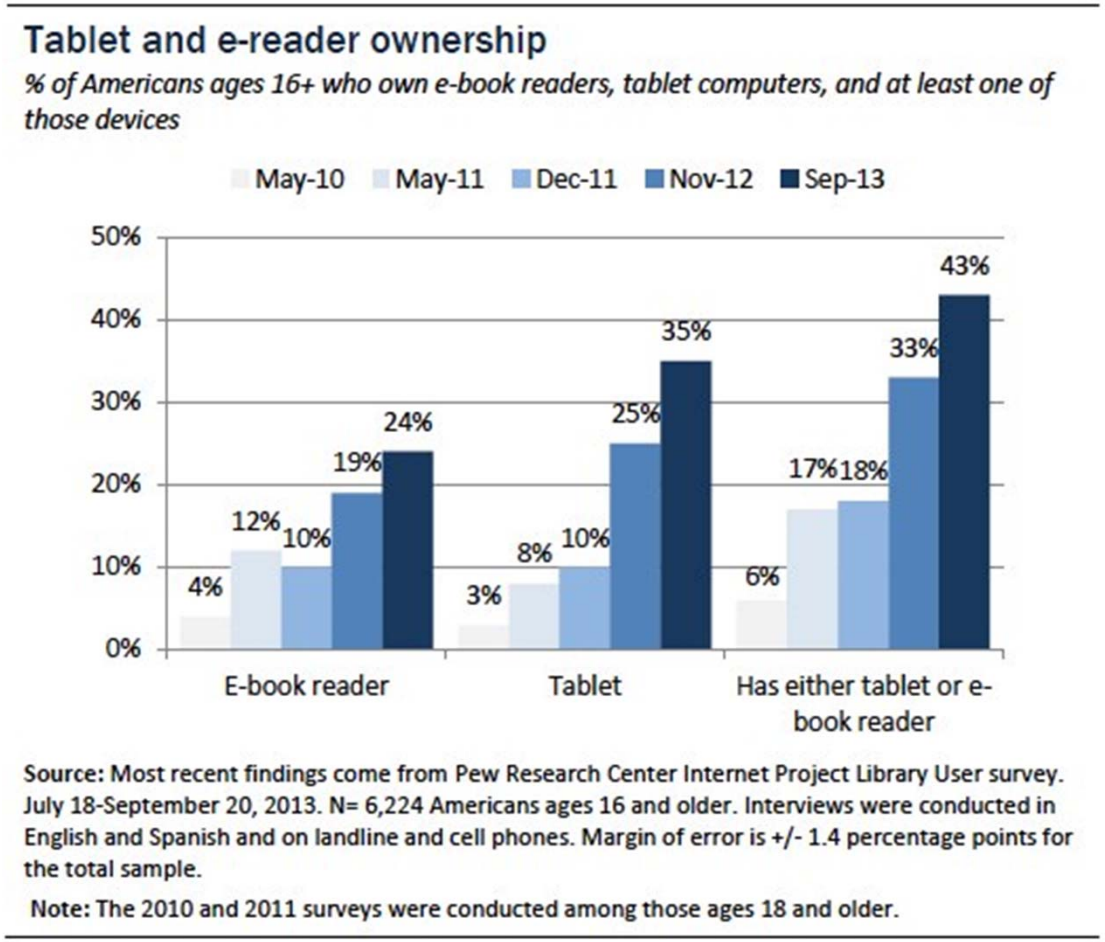
- Supports audio and video elements
- Multiple features to assist in accessibility for people with visual disabilities
- Better CSS and HTML control
- **Not supported by the majority of devices**
  - Unknown when this will change
  - As of August 2013, the IDPF stated ePub 3 is not ready due to lack of support

eBook Types – The Big 4 Comparison

	Open source		Proprietary	
	.epub	.pdf	.mobi	.azw
Amazon Kindle	(only on Kindle Fire)	✓[1]	✓	✓
Android Devices	✓	✓	✓[5]	✓[5]
Apple iOS & OS Devices	✓	✓	✓[5]	✓[5]
Barnes & Noble Nook	✓	✓		
Windows	✓	✓	✓[4, 5]	✓[5]
Layout	Reflowable & fixed	Fixed	Reflowable & fixed	Reflowable & fixed
Video support	✓[2]	✓[3]		✓

1 Not available on Kindle 1
2 With ePub 3
3 With embedded flash
4 Computer only
5 Third-party apps must be downloaded

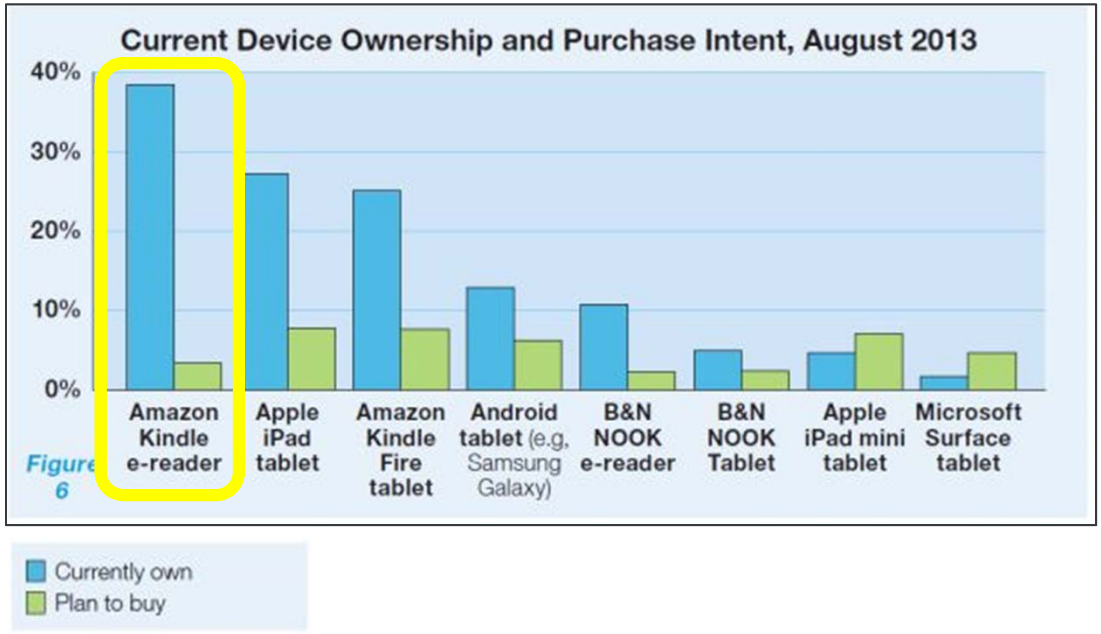
Device Ownership



- The number of Americans ages 16 and older who own tablet computers has grown to 35%, and the share who have e-reading devices like Kindles and Nooks has grown to 24%. **Overall, the number of people who have a tablet or an e-book reader among those 16 and older now stands at 43%.**

Device Ownership

- According to a new study from the Book Industry Study Group, **nearly 40% of U.S. adults who have said they read eBooks own a Kindle e-reader**, compared with about 27% who own an iPad.



Major Outlets

GPO eBook Publishing Options

- GPO Online Bookstore
- Enhanced Bookstore presence
- Google, Apple, and BN placement
- Placement in academic channels (EBSCO, Overdrive)
- Social media promotion
- http://bookstore.gpo.gov/

- No Amazon Placement (working on it)
- Fees

amazonkindle

- **The direct avenue to upload individual publications to the Kindle Library is through Kindle Direct Publishing at https://kdp.amazon.com/. This will require setting up an account. You may set up several accounts – one for your lab, for instance, and then one for each of your clients; say one for EERE and one for the Office of Science, and one for the lab.**

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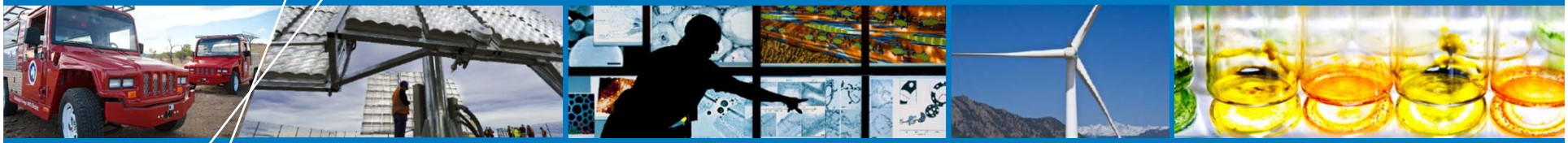

Test Case:

Energy Saver Guide

Test Case – Energy Saver Guide

- EERE and NREL have begun a collaboration to develop EERE's most popular and consumer focused publications in eBook formats.
- The first publication to be developed is EERE's main energy awareness document Energy Saver Guide to Saving Energy and Money at Home.
- Other documents being considered for development include the annual Fuel Economy Guide produced by ORNL for EERE's Clean Cities partnership and several consumer-oriented energy conservation fact sheets and pamphlets.

Test Case – Energy Saver Guide

- **ePub 2**
- **Reflowable**
- **Created in InDesign**
  - Used character and paragraph styles to create basic CSS
- **Edited with open-source software**
  - **Calibre** – library management, eBook conversion, eBook editor (http://calibre-ebook.com)
  - Sigil – edits eBooks in ePub format (https://github.com/user-none/Sigil)

Lessons Learned – Energy Saver Guide

- **If you create an ePub in InDesign, you need to have an advanced knowledge of the software**
  - InDesign creates unnecessary code
    - Used Calibre to remove and edit code (need knowledge of XHTML)
  - Design gets stripped down for ePub 2.0 – prepare client for ePub looking different from print piece
- **ePubs can be created and edited using paid or free software**
  - Creation:
    - $$: InDesign, Word, Pages, iBooks Author
    - $0: Calibre, Sigil, Smashwords
  - Editing:
    - $$: BBEdit, Coda, Dreamweaver, oXygen
    - $0: Calibre, Sigil

Lessons Learned – Energy Saver Guide

- **Validation**
  - ePubs must pass validation before distribution
    - Epubcheck (https://github.com/IDPF/epubcheck)
    - FlightCrew (https://code.google.com/p/flightcrew/)
    - Kindle Previewer (for Kindle only - http://www.amazon.com/gp/feature.html?docId=1000765261)
- **Quality Assurance**
  - Testing for QA is the final and most time-consuming step. The single ePub file may have to be modified to fit the specs of numerous e-reader devices.
- **Distribution**
  - Based on the vendor and whether or not the book is free for download, distribution can be instantaneous or take up to two weeks. This does not include the time taken if the book is rejected due to validation issues.

Tips

- eBooks render differently depending on the viewing device – some apps have a more robust CSS support than others
- An ePub is nothing more than a zipped website. HTML editing skills are necessary.
- Prepare for uploading issues – our firewall blocks access to iTunes Connect
- It can be time-consuming to take InDesign files and convert them to ePub. Consider building the document from scratch. Don't count on having one set of files that will work for both print and ePub.

Recommendations

- InDesign is fine for the initial creation of an eBook, although most of the work should be done in an HTML editor like Calibre
- If maximum usability is your goal, create a reflowable ePub 2
- Free eBooks are less complicated to distribute than paid eBooks

Records Management

- Without an approved records retention schedule, neither NREL or EERE can transfer any formats of eBooks to National Archives and Records Administration (NARA) records storage or archives.
- Can OSTI?
- In the interim NREL will accept these files for local (site specific) storage. Will OSTI?
- NARA has not yet authorized these formats as acceptable for permanent electronic records.
- If content is the same, is OSTI concerned with the difference in design? NARA?

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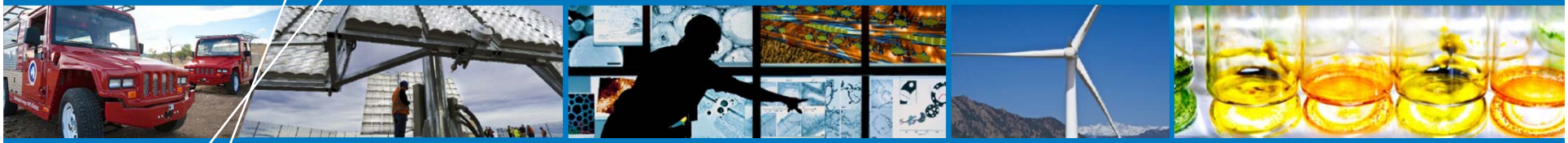

Wrap-up