

Evaluating US Open Data for Discovery, Interoperability, and Innovation

Jeanne Holm February 2013





Data.gov

- Provides instant access to ~400,000 datasets in easy to use formats
- Contributions from 180 agencies, UN, and World Bank
- Encourage development of innovative applications
- Drive innovation and knowledge use across the globe



US Digital Strategy

- Ensure that as the government adjusts to this new digital world, we seize the opportunity to procure and manage devices, applications, and data in smart, secure and affordable ways
- Unlock the power of government data to spur innovation across our Nation and improve the quality of services for the American people



WhiteHouse.gov/digitalgov





Creating a Data Ecosystem

1. Gather data

 from many places and give it freely to developers, scientists, and citizens

2. Connect the community

 in finding solutions to allow collaboration through social media, events, and platforms

3. Provide an infrastructure

built on standards and interoperability

4. Encourage technology developers

 to create apps, maps, and visualizations of data that empower people's choices

5. Gather more data

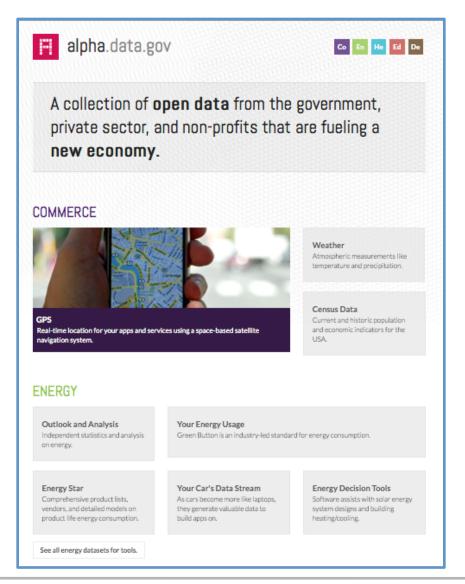
and connect more people



"A Strategy for American Innovation" published September 2009



Stories Around Open Data





An Official Web Site of the United States Government Thursday, September 29, 2011 | Text: A*A'A | Sibere SDATA.GOV / ENERGY BETA ▲ My account | • Logout Logged in as: Jeanne Holm WELCOME TO NTA ENERGY.DATA.GOV AMERICA'S HOME where data and insight are combined to facilitate public discussion and awareness of our Nation's energy activities. Whether you are interested in alternative fuels, managing buildings to be more **ENERGY EDUCATION ENERG** CHALLENGE energy efficient, or trying to manage energy in your own home, we have something for you. Look at the data, use the apps, join the conversation. Make a Suggestion Home Edit Panel Log Edit Broadcast Data/Tools Apps Challenges Resources **Energy Data Features** Challenges Welcome



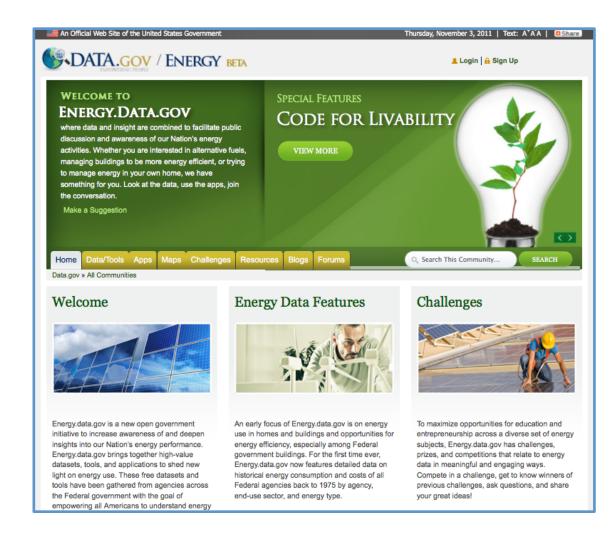
Open Communities

Community	
Developers	√
Safety	1
Energy	✓
Health	✓
Law	1
Education	✓
Ocean	1
Manufacturing	✓
Business	1
Ethics	✓
States	1
Counties	✓
Cities	1
Sustainable Supply Chain	✓
+ many more	



Energy Drives Innovation

 Energy.Data.gov connects innovators, industry, academia, and government at federal, state, and local levels





 Energy.Data.gov works with groups and challenges across the nation to innovate around federal data

Challenges Spark Ideas

CHALLENGES

Want to get involved in helping to solve an energy problem that you see in your home, community, or country? Join in on one of our challenges. Challenges range from brainstorming ideas to creating applications to proposing research. Not ready to jump in? Then come and see how others have responded and look at the winners of previous challenges.

Open Challenges



Code for Livability

The Partnership for Sustainable Communities is hosting a code-a-thon to brings together citizens, developers, and government personnel to work on solutions that bring

sustainability to the forefront of peoples' everyday lives. Join us on January 21-22, 2011 to make a difference!



2011 ENERGY STAR National Building Competition: Battle of the Buildings

It's an energy savings battle as 245 buildings compete to see who can be the most efficient.

Resources

- · CBECS CEUS
- EnergyIQ
- Portfolio Manager
- . NREL Renewable Energy Certificate and Green Power



America's Home Energy **Education Challenge**

Participate in three great ways:

Have your class or school join in the Home Energy Award by saving energy and win prizes for

- · Feeling artistic? Design a conservation plan and poster.
- . Shall we play a game? Compete in the Energy Fitness Award with online games, quizzes and activities to earn prizes for you and your school.

Resources:

- EnergySmart
- EnergySavers.gov



Build your own challenge for energy efficiency

You can use this platform and process to employ ENERGY STAR tools and resources in your energy improvement



Apps for the Environment

EPA challenges you to find new ways to combine and deliver environmental data in a new app. In the Apps for the Environment challenge, you

have free reign to make an app that uses EPA data, addresses one of Administrator Lisa Jackson's Seven Priorities, and is useful to communities or individuals. EPA encourages you to use other environmental, energy, and health data too. The winners will be honored at a recognition event in Washington, D.C. this fall and the winning apps will be publicized on EPA's website. EPA is counting on you to come up with exciting and useful new apps!



Rooftop Solar Challenge Be part of a national effort to

make clean solar electricity cost-competitive for your community.

efforts.



App Store > Business > Nobils, Inc.

Free App Category: Business Released: May 24, 2011

Requirements: Compatitie with Phone, Post touch, and Paul, Requires GS 3.0 or

Yerson 1.0 Sex 04 MB

Language: English Seller Robbis, Inc. 0:2011 Nobile, Inc.

SF Mobile

SF Weble Support >

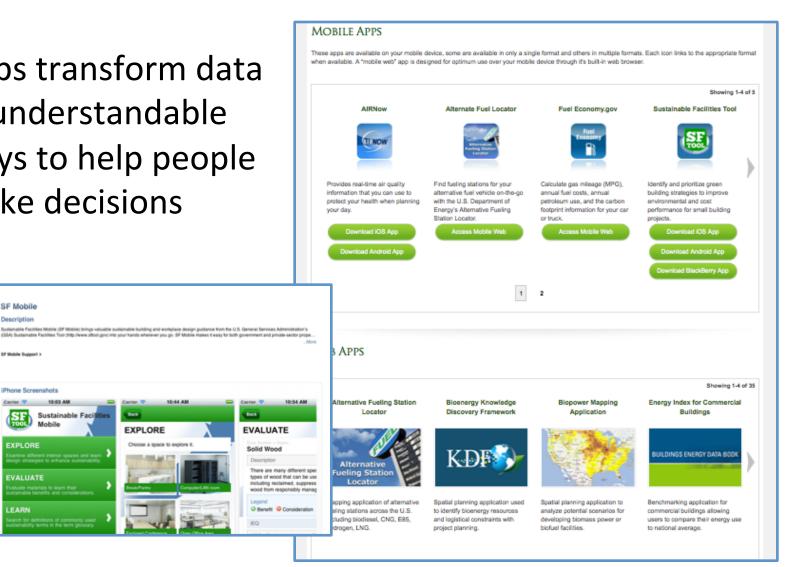
iPhone Screenshots

Sustainable Facil Mobile

EXPLORE

Data Drives Decisions

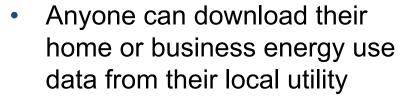
 Apps transform data in understandable ways to help people make decisions





THE GREEN BUTTON

Green Button



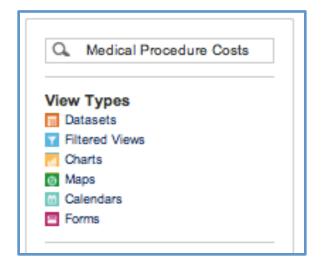
- Then use apps to manage their energy use to save money and go green
 - More at Energy.Data.gov



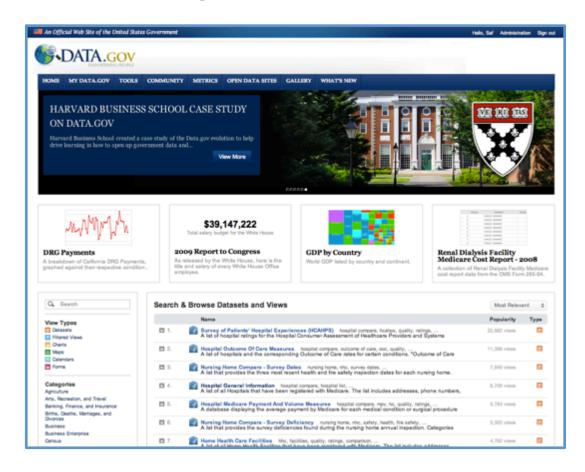




2009 ACRES AFS AQS ARRA Air Force Air Major Air Minor Army Bankruptcy Brownfields CA CAMDBS CERCUS California Case Chemical Chemical Pollution Chemical Release Chemicals Count Count Count Data DOC DUNS Defence Defense Department of Commerce DoD EPA EPCRA EPCRA 313 FRS FRS Data Final Rule Form A Form R House Hazardous ICIS IP LOG Labor Labor Organization Lake Levels Marine Corps Marines NAICS NCDB NCES NEI NEPA NURB NPDES NPL National Science Foundation New PBT PCS RCRA RCRAINFO RFS RMP Report Reservoir Levels Right to Know SDWS SIC SQS SSTS STATE Superfund TRI TRI 2009 Data TRI Data TRI Preliminary Data TRI Report TRI Reporting TRI State Data TRIS TSD TVA Lake Levels TVA Reservoir Levels Toxic Toxic Release Toxic Release Inventory Toxics Toxics Release Toxics Release Inventory Transporter U.S. Fish and Widdle Service U.S. Patent & Trademark Office U.S. Patent and Trademark Office U.S. Patent and Trademark Office U.S.P. USDC USAC USN USPTO Union United States United States Patent and Trademark Office XM. affiliation type alroyall bibliographic data biots children community community right to know comparison correctional facilities creditors critical habitat data gov education emergency services energy environment environmental interest type examine facilities facility facility registry identifier facility site federal data download federal datasets file grant he health has home health agencies hospital compare hospital list hospital type industries industry innovation intellectual

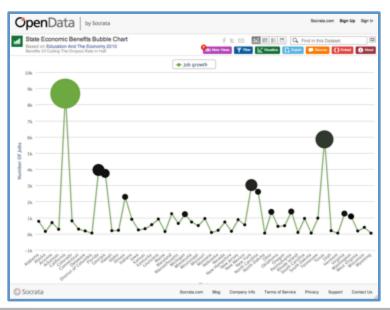


Easy to Find Data



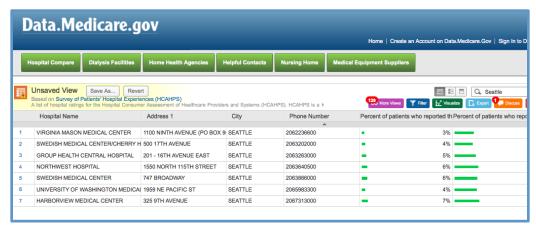


U.S. Seafood Imports and Exports, in ... | Seafood Imports and Exports and Exports and Exports, in ... | Seafood Imports and Exports and Expo



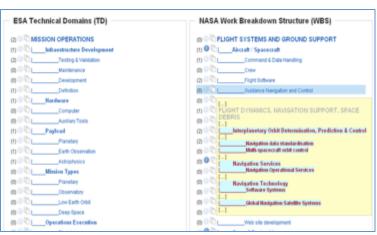
The Power of Visualizations











Powered Through Advanced Technologies

- Provides developers tools and raw data formats to develop new capabilities
- Partnership with
 - W3C: eGov Interest Group + activities, standards, and recommendations
 - RPI for research in semantic web and open linked data
- Data hosted in the cloud
- Open source platform
- Builds on ontologies developed in specific areas



A.GOV US Open Government Action Plan



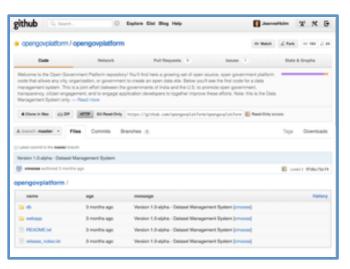


- On 20 September 2011, President Obama announced at the UN General Assembly...
 - Contribute Data.gov as a platform (Government of India and the U.S.)
 - Foster communities on Data.gov
 - Health, energy, and law plus new communities in education, research and development, and public safety



Open Government Platform (OGPL)





- Open source co-developed by Governments of India and US under a bilateral agreement with Department of State
- Data.gov will be on OGPL in December
- Coordinating with open data providers, platforms, W3C, World Bank, CKAN, and open source developers worldwide
- Public comments and tracker on Github
- Drupal 6 operational code available now
- Drupal.org formal project process underway
- Email, Github, Facebook, Drupal.org, and Twitter for discussion
 - https://github.com/opengovplatform
 - http://www.opengovplatform.org



Data.gov Capabilities

Present

- Dataset Management
 - Workflow engine and metadata editor
 - Extended Dublin Core
- Search
 - Keyword and faceted filtering
 - 6.7 billion triples
- Geo
 - Search, harvest, and visualize via <u>www.geoplatform.gov</u>
- Vocab.Data.gov
 - Vocabulary and schema engine for linked data
 - URIs for all health data



Future

- OGPL
 - Open source platform
 - Drupal + CKAN
- API key registry
 - API key authorization
 - Application statistics
- Enhanced search
 - Federated catalogs across agencies, cities, and topics
 - ADMS-based metadata
- Vocab.Data.gov
 - Federated ontologies
 - URIs for all data



5 Star Data





Partnerships for Better Data

- Ontologies and schema adoption and augmentation with
 - Schema.org, IEEE, ISO, AGU, OASIS, and others
 - Crowdsourced folksonomies
- RPI and Professor Jim Hendler
 - Lead for semantic web for Data.gov







International Partnerships for Better Data

- W3C leadership (w3c.org)
 - Government Linked Data Working Group
 - eGovernment Interest Group (join for free!)
- Government of India
 - Shared leadership in the Open Government Platform
- CKAN
 - Co-developing components of the Open Government Platform
 - Open Knowledge Foundation









Ontologists!

- Looking for suggestions and ideas from Ontolog members between now and the Summit on May 2 and 3
- Seeking good examples of ontologies for government data!
- Forming an open source community group to help define, identify existing instances, moderate, and grow a federal ontology for open data and management model
- If you are interested, contact Jeanne Holm
 - @JeanneHolm
 - jholm@jpl.nasa.gov



US Open Data at Cities, Counties, and States





A Global
Movement Has
Begun to Provide
Transparency and
Democratization
of Data

Don't see your site?
Update via @usdatagov







The Path Ahead

- Bring data up and out of government to the public *
- Make data accessible and linked ★★★★★
- Create communities to understand and apply data
- Connect and collaborate with small businesses, industry, and academia to drive innovation
- Continue to develop OGPL with community development
- Share with others to understand global issues

We need to securely architect our systems for interoperability and openness from conception.

—Digital Government



Let's work together to set the data free!

www.Data.Gov @usdatagov