SMART DISCLOSURE AND CONSUMER DECISION MAKING:
REPORT OF THE TASK FORCE ON SMART DISCLOSURE

Executive Office of the President
National Science and Technology Council

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May 30, 2013

Dear Colleague:

Since its earliest days, the Obama Administration has worked to unleash troves of "open data" from the vaults of government as fuel for innovation, jobs, and societal benefit. Building on this work and recognizing that data is a powerful tool to inform consumer decision making, the Administration has also focused on advancing the "smart disclosure" of data—the act of making data more readily available and directly useful to consumers in the marketplace.

The enclosed report, *Smart Disclosure and Consumer Decision Making: Report of the Task Force on Smart Disclosure,* is the first comprehensive description of smart disclosure approaches being used across the Federal Government. It provides an overview of the ways in which smart disclosure can empower consumers and increase market transparency; describes smart disclosure activities being undertaken by Federal agencies and partners; provides context about government policies that guide and support those activities; and presents examples of concrete steps already being taken by Federal agencies to advance smart disclosure in domains such as health, education, energy, finance, and public safety.

This Report was developed by the Task Force on Smart Disclosure: Information and Efficiency in Consumer Markets, an interagency body chartered in July, 2011, under the National Science and Technology Council's Committee on Technology. Its publication marks an important milestone for the Administration's policy of liberating data for the benefit of the economy and society—a policy that was strengthened and codified in May, 2013, by an Executive Order and associated policy memorandum requiring that, going forward, government data be made available in open, machine readable formats, while appropriately protecting privacy, confidentiality, and security.

I look forward to this Administration's continued work with colleagues in the public, private, academic, and nonprofit sectors to leverage data as fuel for economic growth, job creation, and—through the smart disclosure of data—more informed consumer decision making.

Sincerely,
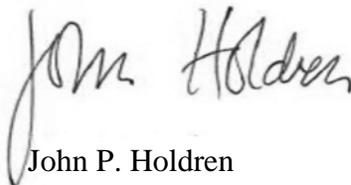
John P. Holdren
Assistant to the President for Science & Technology
Director, Office of Science & Technology Policy

About the National Science and Technology Council

The National Science and Technology Council (NSTC) is the principal means by which the Executive Branch coordinates science and technology policy across the diverse entities that make up the Federal research and development enterprise. A primary objective of the NSTC is establishing clear national goals for Federal science and technology investments. The NSTC prepares research and development strategies that are coordinated across Federal agencies to form investment packages aimed at accomplishing multiple national goals. The work of the NSTC is organized under five committees: Environment, Natural Resources and Sustainability; Homeland and National Security; Science, Technology, Engineering, and Math (STEM) Education; Science; and Technology. Each of these committees oversees subcommittees and working groups focused on different aspects of science and technology. More information is available at http://www.whitehouse.gov/ostp/nstc.

About the Office of Science and Technology Policy

The Office of Science and Technology Policy (OSTP) was established by the National Science and Technology Policy, Organization, and Priorities Act of 1976. OSTP's responsibilities include advising the President in policy formulation and budget development on questions in which science and technology are important elements; articulating the President's science and technology policy and programs; and fostering strong partnerships among Federal, state, and local governments, and the scientific communities in industry and academia. The Director of OSTP also serves as Assistant to the President for Science and Technology and manages the NSTC. More information is available at http://www.whitehouse.gov/ostp.

About the Task Force on Smart Disclosure

The Task Force on Smart Disclosure: Information and Efficiency in Consumer Markets (TFSD) was established by action of the National Science and Technology Council Committee on Technology on July 25, 2011, and completed its mandate on November 30, 2012. The TFSD was constituted in order to recommend approaches that Federal entities could take to facilitate the smart disclosure of data about consumer markets. The Task Force studied diverse issues that affect the feasibility and effectiveness of smart disclosure, including: current best practices; technical considerations for data disclosure; legal issues; protection of proprietary information; privacy issues; cost-benefit considerations; and other issues. In addition to producing *Smart Disclosure and Consumer Decision Making: Report of the Task Force on Smart Disclosure*, the Task Force conducted outreach to federal and external stakeholders; supported the White House in the creation of the Smart Disclosure Community, a centralized platform for federal smart disclosure data, available at www.consumer.data.gov; and supported the White House and National Archives and Records Administration Summit on Smart Disclosure in March 2012.

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Executive Summary

This Report is a product of the Task Force on Smart Disclosure: Information and Efficiency in Consumer Markets (Task Force), an interagency body chartered in July 2011 under the National Science and Technology Council Committee on Technology. The Task Force worked to advance the Administration's efforts to promote smart disclosure—the act of making data more readily available and accessible, both to consumers directly and to innovators who can use it to build tools that help consumers make better informed decisions, and create more transparent, efficient markets for goods and services.

Smart disclosure involves providing consumers access to data in user friendly electronic formats, in order to fuel the creation of products and tools that benefit consumers, including tools that will help them make important marketplace decisions. While the Federal Government has promoted access to data for consumers for some time, the growth of the Internet as both a center of commerce and a source of information has made more effective and interactive data access possible. Smart disclosure has received increasing attention in recent years as a distinct policy approach that draws on digital technology, and the approach has begun to gain significant momentum. Agencies across the Federal Government have begun to use smart disclosure in a variety of areas, including health, education, energy, finance, public safety, and more.

Smart disclosure empowers consumers to make better-informed decisions when facing complex marketplace choices. Whether consumers are searching for colleges, health insurance, credit cards, airline flights, or energy providers, it can be difficult for consumers to identify the product or service that best suits a particular need. In some cases, the effort required to sift through all of the available information is so large that consumers default to decision making based on inadequate information. As a result, they may overpay, miss out on a product better suited to their needs, or be surprised by fees.

In some cases, poorly organized or inaccessible information can also make consumer markets less efficient, less competitive, or less innovative. And, collectively, consumers' uninformed decisions about topics such as higher education, energy consumption, or financial services can affect the Nation's competitiveness, security, and fiscal health.

Smart disclosure is the provision of data about consumer products and services, the companies that supply them, or about consumers themselves (personal data). Data about products, services, and companies can generally be made available publicly, while personal data is provided securely and privately to the individual who is the subject of that data or to recipients chosen by the consumer. Smart disclosure usually requires making data "machine readable," so that information is provided in formats computer programs can analyze, combine, and present in ways that are directly useful to consumers and developers. An increasing array of data-driven products and services are applying the principles of smart disclosure to directly benefit consumers. "Choice engines," for example, help consumers make informed decisions in the marketplace through platforms such as product-comparison websites, mobile shopping applications, and government information platforms.

While the Obama Administration has promoted consumer access to data from its earliest days, recent technological advances have made consumer- and developer-friendly interactive data increasingly accessible. As a result, smart disclosure is gaining traction within government—with a number of Federal agencies already applying smart disclosure data provision approaches in sectors such as health, education, energy, finance, and public safety.

This report summarizes the Federal Government's efforts in the smart disclosure domain. It also provides recommendations for expanding the use of smart disclosure and promoting effective smart disclosure policies across the Federal Government. Between July 2011 and November 2012, the Task Force conducted a series of outreach activities to solicit input for this report, including discussions with more than 25 Federal agencies and offices and 40 private-sector stakeholders, such as companies using smart disclosure data and consumer advocates. The Task Force also conducted its own research, including reviewing relevant Federal policies, and drew from research conducted by the Science and Technology Policy Institute on behalf of the White House Office of Science and Technology Policy (OSTP).

In addition, the Task Force supported the White House and National Archives and Records Administration in hosting a Summit on Smart Disclosure in March 2012. The Summit brought together 300 participants from the Federal Government, the private sector, and the nonprofit community.

The resulting recommendations, which are described in detail in Section VIII, include: (1) agencies should incorporate smart disclosure as a core component of their efforts to institutionalize and operationalize open data practices and (2) a government-wide community of practice for smart disclosure should be established.

I.   The Benefits of Smart Disclosure

Smart disclosure can help consumers make more informed choices; give them access to useful personal data; power new kinds of digital tools, products, and services for consumers; and promote efficiency, innovation, and economic growth.

Promoting Consumer Choice. Smart disclosure benefits consumers by enabling the creation of Web-based tools and mobile apps that help consumers make smarter choices in the marketplace. For example, entrepreneurs and others have created online and mobile "choice engines"—tools that help consumers make important and difficult choices in sectors such as health care, education, personal finance, energy, transportation, and telecommunications. Choice engines include specialized search engines that consumers can tailor to their own needs, comparison shopping websites, and mobile shopping applications. Air-travel search sites, for example, are a widely used form of choice engine.[1] They allow consumers to filter through thousands of possible flights by using information about their preferred airlines, travel times, price range, and other factors to find a small selection of flights that meet their needs.

Digital tools, such as search engines, have become a ubiquitous part of the consumer shopping experience. Increasingly, mobile devices are allowing consumers to access a wide range of shopping tools, including choice engines, in real time, as they browse in stores. Users of certain

mobile apps and Web services can avoid purchasing a dangerous or poorly reviewed product, for example, or take advantage of group purchasing strategies to bargain for discounts. Survey data show that a large number of consumers are using online and mobile tools for consumer decision making.[2] Ninety-one percent of adult Internet users use search engines.[3] Seventy-eight percent of adult Internet users look for information online about a service or product they are thinking of buying, and 28 percent do so on a typical day.[4] Seventy-one percent of adult Internet users actually buy products online.[5]

In order to be effective, choice engines need access to large amounts and many types of data and information. While choice engines have become common in some domains where data are readily available, such as travel, in other domains the options available to consumers are limited. Smart disclosure policies can help expand access to data that private companies and others can use to create a richer array of choice engines for consumers.

Empowering Consumers with Their Own Personal Data. Access to one's own information in usable data formats can make consumer choices dramatically easier. Consumers increasingly have access to new kinds of choice engines and tools that analyze their own data to provide personalized recommendations about a product or service. For example, patients can use their own medical-claims data to choose new health coverage. Homeowners can use their energy usage data to find ways to save on utility bills. And consumers can use personal financial management tools to get individualized advice on how to manage their finances.

New Data-Driven Services. Beyond choice engines, smart disclosure data can also be used to create new kinds of products and services that benefit the public. One example is a startup company that helps consumers monitor their credit and debit cards for suspicious charges. The company draws on the Consumer Financial Protection Bureau's credit card complaint database, which is publicly available online.[6]

Broader Economic Impact. By making it easier for consumers to make informed choices, smart disclosure policies and tools help markets operate more transparently and efficiently. Smart disclosure can also spur new innovations in the marketplace based on consumer data, which, in turn, can help promote economic growth and job creation.

II.   Smart Disclosure in the Federal Government

One role for the Federal Government in expanding the use of smart disclosure is to improve and promote access to smart disclosure data, which agencies can do in a variety of ways. For example, agencies can begin to release data they collect (e.g., airline on-time performance data) that were not previously available to the public. The Federal Government can also encourage sellers to make more information about their products and services directly available to the public (e.g., through Web application programming interfaces, known as APIs, or mobile use). Additionally, Federal agencies can make the personal data they collect securely available to the individuals to whom the data pertain, and can encourage companies to do the same. Lastly, government can create its own consumer-facing choice engines that use smart disclosure data.

Beyond releasing and presenting data, government agencies play other roles that enable or complement the goals of smart disclosure. The Government can promote technology standards, such as data standards, which lay the foundation for smart disclosure; the Government can monitor and promote the integrity of markets for choice engines, so they operate fairly and transparently; and the Government can invest in research, infrastructure, and innovation that facilitate the availability of smart disclosure data and use of choice engines (e.g., by expanding access to broadband).

The following sections summarize Administration efforts to promote smart disclosure and related Federal Government activities in this arena and provide additional detail on Federal smart disclosure activities.

Administration Efforts to Promote Smart Disclosure

The Obama Administration has taken an array of steps to promote smart disclosure across the Federal Government. The Task Force on Smart Disclosure was established under the National Science and Technology Council in July 2011 and concluded its tenure in November 2012, after working to study smart disclosure in the Federal Government, conduct outreach to Federal agencies and key stakeholders, and craft this report. In addition, the United States committed to promoting the use of smart disclosure in its September 2011 Open Government National Action Plan.[7] Also in September 2011, the White House Office of Management and Budget released guidance to agencies on informing consumers through smart disclosure.[8] In March 2012, the White House and the National Archives and Records Administration held a Smart Disclosure Summit in Washington, D.C., which gathered Federal agencies and key stakeholders for a discussion of emerging smart disclosure developments.[9] In February 2013, the White House Office of Science and Technology Policy released guidance to agencies on increasing access to federally funded scientific research.[10] In May 2013, the White House released an Executive Order on "Making Open and Machine Readable the New Default for Government Information."[11]

The Administration has also led policy initiatives in a number of areas that promote or complement smart disclosure. For example, the Administration has encouraged agencies to release valuable data sets of all kinds as a part of its Open Data agenda, including through the centralized Data.gov platform. And the Administration has promoted the ability of individuals to securely access their own data through the MyData initiative.

Federal Smart Disclosure Activities by Four Major Data Categories

Federal smart disclosure activity can be divided into four major categories based on what entity is making data available and the subject of those data (Fig. 1). The entity making data available can be a public-sector entity, such as an agency, or a nongovernmental entity, such as a company. The data can be about a product or service (e.g., price or quality), in which case it is generally disclosed broadly to the public, or it can be about an individual, in which case an individual is given secure and private access to his or her own data. In the smart disclosure of personal data, it is critical to ensure that the individual seeking access to data is properly authenticated.

Figure 1: Types of Smart Disclosure Data

What Are the Data About?

What Kind of Entity Makes the Data Available?	The Product or Service	The Individual
Public Sector	II	I
Nongovernmental Sector	III	IV

Individual Data – Public Sector (I). Certain agencies maintain data on individuals in connection with governmental activities, such as programs like Medicare. Smart disclosure involves making such data available in a secure manner to the authenticated individual to whom the data relate. There have been several prominent recent efforts in this area, including initiatives to give veterans, Medicare beneficiaries, and military service members access to their electronic health records, and to give students access to information related to Federal student aid and student loans. Providing individuals secure access to personal data held by agencies, with appropriate security and authentication of the individual, is consistent with a basic tenet of the Privacy Act of 1974—the individual's right to access, monitor, and correct the personal information being collected and maintained about him or her by a Federal agency. Smart disclosure could help alleviate the burden on agencies to respond to requests for access to records under the Privacy Act and the Freedom of Information Act, assuming the availability of resources to implement the technology for disclosing personal data and ensuring appropriate safeguards.[12]

Product/Service Data – Public Sector (II). Agencies already house significant amounts of information relevant to consumers. Smart disclosure involves giving consumers access to these data by, for example, making it freely available to the public in machine readable formats. The Federal Government has long made data of this nature available, and the Administration has emphasized increasing the amount of data that agencies make accessible to the public. Examples include data that agencies publish on colleges, product recalls, hospital and physician quality, broadband services, airline on-time performance, and the energy efficiency of appliances.

Product/Service Data – Nongovernmental Sector (III). Companies and organizations can also release smart disclosure data. For example, companies can voluntarily release information on the products they sell, such as feature and pricing information, in machine readable formats so that consumers can find them more easily. Government can play a role in promoting these private-sector efforts by encouraging firms to adopt smart disclosure policies or by helping to establish machine readable data standards for broad use.

Personal Data – Nongovernmental Sector (IV). Many companies and other organizations maintain data about individuals that can be made accessible to those individuals. Private entities often make these data available as a customer service. The Administration has worked to

promote individuals' ability to access much of their own personal data, while maintaining appropriate safeguards. For example, the Administration has led several partnerships with the private sector to encourage companies that have personal health care, energy, and education data to make those data available to individuals. This helps expand consumer access to tools that help them obtain personalized advice. In addition, the Administration has advocated for legislation to expand consumers' access to their own personal data held by companies in the commercial sector.

Promoting Smart Disclosure across Sectors

Education. The Federal Government makes available extensive information related to education, including information on schools, colleges, and financing the cost of education. There have been several recent Federal initiatives to expand access to usable education data, and many Federal data sets related to education and education resources are now available through a centralized portal on the Federal website Education.Data.gov. [13]

The Department of Education makes data sets and online tools available to help students and families choose a college and decide how to finance their children's education. The Department's College Affordability and Transparency Center and College Navigator, for example, gives students and their families information on college value and costs. The College Navigator website includes net price calculators that allow prospective students to enter information about themselves in order to find out what students with similar characteristics paid to attend each institution in the previous year, after taking grants and scholarship aid into account.[14] The Department has also launched a public-private partnership to expand individuals' access to their personal education data.[15]

Energy and the Environment. The Federal Government has expanded consumers' access to more usable information about energy and the environment, including data about the energy efficiency of products, environmental compliance and enforcement, and consumers' own personal energy usage. The Government has promoted the transition to a modernized electric grid, or "smart grid," which makes it possible for individuals to access their own energy usage data.[16] The Administration has led the Green Button initiative to encourage private energy suppliers to make personal energy usage data available to their customers.[17] The Federal Government has also expanded access to energy efficiency data on vehicles and products, including under the ENERGY STAR program.[18] The Environmental Protection Agency has launched a database of compliance and enforcement history relating to the Clean Water Act, Clean Air Act, and hazardous waste laws, as well as data related to the Safe Drinking Water Act, the Toxics Release Inventory, National Emissions Inventory, and water quality.[19] And the Administration has launched the Energy.data.gov initiative, which provides a centralized portal for energy and environmental data.[20]

Finance. Many consumers use digital channels such as websites and mobile apps to access information about financial products and services, and to make transactions. Thirty-seven percent of adult Internet users report that they obtain financial information on the Web, including information about mortgage interest rates or stock quotes,[21] while 61 percent report that they do

their banking online.[22] Eleven percent of adult Internet users report that they buy or sell stocks, bonds, and mutual funds online.[23]

The Federal Government makes data available for financial consumers and investors, including data about financial institutions and financial products. A centralized portal to access these data sets can be found at the U.S. Department of Treasury's Finance Data Directory, available at www.treasury.gov/financedata. For instance, important information reported by companies and mutual funds is now publicly available in standardized, machine readable formats. The Securities and Exchange Commission now collects and releases data using eXtensible Business Reporting Language (XBRL), a computer language that makes it possible to embed large amounts of data in a form that can be easily searched and analyzed electronically.[24] Investors can use these data sets directly or through third-party tools.

The Administration is also working to promote a global legal entity identifier (LEI) system for entities that are parties to certain financial transactions, which will make it easier for investors to link and analyze data about financial market participants. In addition, the Consumer Financial Protection Bureau makes available a database of complaints about financial products and services that can be downloaded and used through an API.

Smart disclosure is also helping employers and employees make decisions about 401(k) and other workplace retirement plans. The Department of Labor makes data on employer-sponsored retirement plans available electronically.[25] These data sets can help employees better understand their retirement options and employers better understand the quality of the plans they offer, with the help of third parties that analyze the data. One startup, for example, maintains a public, searchable database of information on retirement plans and creates quality ratings for the plans.

Food and Nutrition. The Federal Government provides extensive consumer information about food, including nutrient profiles for common foods, inspection and other food-safety data, and location-based data about food options, such as the locations of farmers markets.[26] One notable example is the U. S. Department of Agriculture's Food Environment Atlas, which collects a wide variety of nutritional statistics and allows researchers and consumers to learn about food and nutrition patterns across the country through a data visualization tool that maps the statistics.[27] The Food Environment Atlas received over 120,000 visits in its first year. Toward similar ends, the Federal Government uses smart disclosure data to provide consumer tools such as the USDA's "What's in the Foods You Eat" search tool and "Choose My Plate" website.[28]

Health Care. Consumers rely heavily on digital channels, such as the Web, for their health care decisions: Eighty percent of adult Internet users go online to find health information.[29] The Department of Health and Human Services (HHS) and other Federal agencies have made extensive data sets available to the public and made data easier to use, including through HealthData.gov, a centralized portal for Federal health data. Developers can use the data to create applications that make health information more useful to consumers, communities, and service providers in areas such as disease prevention, health promotion, and the measurement of health care quality and performance. Federal agencies such as HHS also offer interactive consumer tools that use smart disclosure data. For example, Healthcare.gov and Medicare.gov help consumers compare insurance plans and the quality of health care providers. The

Administration has also promoted the Blue Button initiative, a public-private partnership through which agencies and companies give individuals access to their personal electronic health records.[30]

Safety. The Federal Government has made safety-related data available, including data on recalls, transportation, consumer products, food, health, the environment, and the workplace. For example, the Consumer Product Safety Commission makes important product safety data available on Saferproducts.gov, which publishes all reports of harm involving consumer products that the Commission receives from consumers, child service providers, health care professionals, government officials, and public safety entities. Manufacturers have the opportunity to respond to these reports and the ability to post their comments online. Recall information on unsafe, hazardous, or defective products is also available at Recalls.gov and through a companion mobile app. The Administration has also launched a virtual Safety Data Community on Data.gov that brings together more than 700 data sets related to safety from across the Federal Government.[31]

Telecommunications. Federal agencies have made usable data available about wireless and fixed telephone line carriers, broadband services, and broadcasters. For example, the National Telecommunications and Information Administration, working with the Federal Communications Commission, has developed a National Broadband Map showing broadband services available down to the census-block level. The map is based on data reported by Internet service providers and collected by the states. The Broadband Map has been used by the Department of Education to show broadband availability in different school districts. Additional telecommunications data are available on Data.gov as well as on agency websites.[32]

Transportation. Consumers make transportation decisions through a variety of digital channels, such as comparison shopping sites for vehicles and travel search apps. The Department of Transportation (DOT) and other Federal agencies publish data that can help power third-party tools that help consumers make transportation decisions.[33] For example, the DOT publishes data on airlines' on-time performance and consumer complaints against airlines. The DOT also now requires airlines to advertise the full price of flights, including taxes and fees, so that consumers can accurately assess their costs through travel websites and other means.

Special Types of Smart Disclosure Data

Smart disclosure activities can also be grouped by types of data that cut across different consumer sectors. Some of the notable cross-cutting types of smart disclosure data include:

Location-Linked Data. In many domains, consumers are interested in finding out about products, services, and issues near where they live or in other specific locations. For example, smart disclosure data about local schools, recreation facilities, environmental quality, and other factors can help consumers decide where to buy or rent a home. Smart disclosure of location-based information can enable the creation of specialized search engines and other consumer tools, such as location-based mobile search apps. Internet search is already the most common method consumers use to find information on local businesses.[34] Federal agencies also provide data on the quality of local health care providers, the location of bank branches of FDIC-insured institutions, the performance of local broadband services, and other local consumer topics.

Consumer Feedback. A number of Federal agencies, such as the Federal Trade Commission and the Federal Communications Commission, maintain records of consumer complaints and other feedback on products and services. Several agencies are now making feedback and complaint information available to the public in digital formats, including searchable databases and downloadable data sets.

- *Airlines*. The Department of Transportation (DOT) releases public rankings of airline carriers based on the number of complaints it receives in 12 different categories. DOT also investigates disability or civil rights violations and cases where travelers do not receive proper refunds. The Department then publishes monthly data on the number and types of complaints against each airline at Airconsumer.dot.gov.
- *Automotive Safety*. The National Highway Traffic and Safety Administration (NHTSA) conducts defect investigations, administers automotive recalls, and enables consumers to file complaints. NHTSA's Safety Complaints Search Engine allows the public to search safety-related complaints about motor vehicles and motor vehicle equipment by make, model, and year.
- *Consumer Product Safety*. The Consumer Product Safety Commission (CPSC) has created a public portal and a publicly accessible, searchable database of consumer product incident reports. CPSC launched Saferproducts.gov in March 2011, both to make product recall data more easily available and to allow consumers to submit complaints and review complaints that others have made.
- *Financial Products*. The Consumer Financial Protection Bureau launched the Consumer Complaint Database in June 2012 with credit card complaints, and has expanded the database to include other products, including bank accounts, mortgages, and student loans.[35]
- *FTC Complaints*. The Federal Trade Commission releases an annual "Data Book" with a list of top consumer complaints received by the agency in the previous year, along with aggregated information about the complaints. The Data Book also breaks out data geographically on a state-by-state basis and contains data about the 50 metropolitan areas reporting the highest per capita incidence of fraud and other complaints.[36]

Agencies are constantly learning how to improve these kinds of services and are gradually developing best practices. Key issues that agencies have encountered thus far in this domain include: how to design user-friendly interfaces for consumers to submit or search for feedback; how to address the concerns of businesses, such as the need to safeguard against abuses of the complaint system by competitors; how to give companies an opportunity to review complaints before they are posted, if appropriate; and how to collect or transform data in ways that make it more usable, such as by coding complaints according to categories. An overall concern is protecting consumer privacy as appropriate, which requires more than simply redacting the consumer's name from public complaints, given that other information submitted with consumers' complaints can also be used to identify them.

Enforcement and Compliance Data. Enforcement and compliance data are often relevant to consumers—for example, when a consumer wants to find out whether a product manufacturer has complied with health or safety rules. The President issued an Executive Memorandum in January 2011 directing the executive branch to take steps to make regulatory data more easily accessible by the public, encourage accountability, help agencies identify and address

enforcement gaps, and "provide Americans with information they need to make informed decisions."[37] Agencies have made information available via channels such as Data.gov and agency-specific tools, such as http://enforcedata.dol.gov and http://www.epa-echo.gov. In 2011, the Department of Labor held a contest for apps that make use of Federal compliance data related to safety and labor rules. The winning app lets consumers search for local businesses and read about their health, safety, and labor practices.[38]

Unique Identifiers. Common naming conventions for companies, places, and other entities— sometimes referred to as unique identifiers—are important for making smart disclosure data more usable. When a single company is represented in different data sets under different names—for example, as "XYZ Corporation" and "XYZ Corp" —it is difficult to connect different kinds of data to get a full picture of the company's activities, products, and services. Common naming conventions make it easier for the public to link disparate data sets about the same product or provider. The Administration has led an effort to establish a legal entity identifier (LEI)—a unique, global standard for identifying entities that are parties to certain financial transactions, in order to increase the transparency of the financial system.

III.   Secure Smart Disclosure of Personal Data

One important form of smart disclosure is providing consumers access to their own personal information in machine readable formats, with the appropriate safeguards to ensure data security and privacy. There have been several efforts to expand consumers' access to personal data, including in health, education, and energy, consistent with smart disclosure principles, many of them involving Federal engagement to ensure privacy protection.

Foundations for the Smart Disclosure of Personal Data

Laws, regulations, and company and organizational policies establishing consumers' rights to access their own personal information are an important foundation for the smart disclosure of personal data. While they may not specify that a consumer can access his or her information in machine readable formats, in some cases they can form the basis for smart disclosure efforts.

Information Housed by Businesses and Other Non-Governmental Entities. Several kinds of laws and regulations have given individuals the ability to access information about them that is held by private entities. In privacy rules, the right to access information is closely connected to the right to monitor what personal information is being collected and correct inaccuracies. Similarly, in some contexts, consumer protection law gives consumers the right to access information so they can make informed decisions about products and monitor and correct errors, such as improper charges. Consumers have rights to access their personal information in a number of important areas, including:

- *Sector-Specific Rules About Access to Personal Records.* While U.S. citizens have no generalized right to access personal information held by third parties, there are specific privacy and personal information laws that give individuals the right to access personal information in certain areas, including health records, educational information, and credit reports.[39]

- *Privacy Codes of Conduct.* In sectors that are not covered by Federal data privacy laws, some businesses and organizations have adopted privacy codes of conduct. If a company publicly states that it complies with such a code, then failure to comply may constitute a deceptive practice under the Federal Trade Commission Act. These types of codes can include provisions allowing individuals to access their own data. The FTC has long supported Fair Information Practice Principles, including a right of consumers to have reasonable access to their data.[40] The National Telecommunications and Information Administration (NTIA) convenes a transparent consensus-based process to encourage companies, privacy advocates, and other stakeholders to develop such codes of conduct.
- *Product Information Rules.* Some consumer protection rules require providers to give individuals personal information maintained in connection with specific products. For example, lenders of open-end consumer credit and mortgage servicers must provide periodic statements to borrowers.[41]

Information Housed by Federal agencies. At the Federal level, the Privacy Act of 1974 gives individuals a general right to obtain personal information from Federal agencies on request, with certain limitations. Individuals may also request personal information under the Freedom of Information Act.

In addition to making personal information available to individuals upon request, agencies also make information available proactively. One increasingly common approach is to make information available via secure online agency accounts, such as the MyMedicare portal (allowing access to personalized Medicare information, such as claims, plans and coverage, and benefits and entitlements), the MyHealth*e*Vet portal (allowing access to personal health records maintained by the Department of Veterans Affairs), and the *my*SocialSecurity portal (allowing access to online Social Security Statements).[42]

Federal Efforts on Smart Disclosure of Personal Data

In recent years, the Federal Government has led a number of initiatives to expand individuals' access to their own personal data in machine readable formats, including as part of the Administration's MyData initiative. In many cases, these efforts have built on existing laws and regulations related to the rights of consumers to access personal records. The Administration has also led several public-private partnerships to expand access to important kinds of personal data, including in health, energy, and education, including:

Health Data: Blue Button. Blue Button is a public-private initiative that has expanded access to personal health data. Under this initiative, several Federal agencies give individuals the ability to download their personal health data by clicking on a "Blue Button" on the website of the institution that is providing access to the data (e.g., a Federal agency or health care company).[43] Individuals including veterans, Medicare beneficiaries, and military service members can download and share their federally housed health data in a variety of ways, including sharing data with their health care providers or using an increasing number of services that use the data, such as personal health apps. A growing number of private entities have also begun to voluntarily adopt the Blue Button, including some of the Nation's largest health care insurers and providers.

Energy Data: Green Button Initiative. The Green Button gives consumers timely access to their own energy usage and utility bill data in machine readable form, via the click of a "Green Button." Armed with usage information, consumers can use a growing array of new Web and smartphone tools to make more informed energy decisions.[44] The energy industry launched Green Button Download My Data in response to an Administration challenge in September 2011.[45] These efforts will provide more than 11 million customers with an easy and secure way to automatically and routinely participate in energy saving opportunities[46].

Education Data: MyData Initiative. The MyData initiative is a public-private partnership to provide students access to their own education and financial aid data.[47] Through the MyData initiative, Federal agencies and private sector entities have committed to enable students to download their personal education data in machine readable and human readable formats. With the downloaded data, students can create a personal learning profile and choose to securely share their data with other tools and systems to generate learning recommendations based on their past performance and future goals. They can also use their personal Federal financial aid data with online services that harness the data to provide customized assistance with finding scholarships, choosing schools, or repaying loans.

Beyond these separate initiatives, the Administration has taken broad steps to promote the consumer's right to access personal data in the commercial sector. The Administration has recognized the need for a basic set of privacy principles that apply to the commercial world, and put forward a framework for protecting privacy and promoting innovation in the global digital economy in February 2012.[48] Specifically, the Administration has proposed a consumer privacy bill of rights that asserts that "[c]onsumers have a right to access and correct personal data in usable formats, in a manner that is appropriate to the sensitivity of the data and the risk of adverse consequences to consumers if the data is inaccurate."[49] In addition, the bill of rights provides that "[t]o help consumers make more informed choices, the Administration encourages companies to make personal data available in useful formats to the properly authenticated individuals over the Internet." The Administration has called for legislation that applies this bill of rights to the commercial sector and has undertaken a public-private initiative that will facilitate the voluntary adoption of codes of conduct based on the consumer privacy bill of rights. Commitments to follow these codes of conduct will be enforceable by the Federal Trade Commission.

The Administration has also led efforts to facilitate the secure exchange of information in cyberspace, including personal information. The National Strategy for Trusted Identities in Cyberspace is an Administration initiative focused on collaboration between the public and private sectors to raise the level of trust associated with the identities of individuals, organizations, networks, services, and devices involved in online transactions.[50]

Finance Data. As part of the financial reforms of 2010, Congress gave consumers the right to request access to their own personal financial information, such as information about financial products, transactions, or usage data, subject to some exceptions.[51] The law indicates that the information shall be made available "in an electronic form usable by consumers" and directs the Consumer Financial Protection Bureau to promulgate a rule to promote the development and use

of standardized formats for this information, including through the use of machine readable files. The law provides that several types of information—confidential commercial information, information collected to prevent fraud or money laundering, information that is legally required to be kept confidential, and information that cannot be retrieved in the ordinary course of business—are not subject to this right of access.[52]

Energy Data. The Energy Independence and Security Act of 2007 contains provisions to make energy usage information more accessible.[53] The Act requires that state regulatory authorities and nonregulated electric utilities consider the Federal standard that "[a]ll electricity purchasers shall be provided direct access, in written or electronic machine readable form as appropriate," to prices and usage information. The Federal standard further provides that "[p]urchasers shall be able to access their own information at any time through the Internet and on other means of communication elected by that utility for Smart Grid applications."

IV.   Smart Disclosure Activities Outside the Federal Government

The Task Force was primarily focused on Federal smart disclosure policies, but there are a growing number of smart disclosure efforts outside the Federal Government, including:

State and Local Data. State and local entities possess diverse kinds of data that can be released in usable formats to benefit consumers, such as data related to transportation and local merchants. San Francisco, New York City, Washington, D.C., and a number of other cities and states have recently made more data sets available and launched centralized portals for government data, similar to Data.gov.[54] As the use of smart disclosure continues to expand, it will become increasingly important to link Federal data with state and local data sources.

International Examples. Other countries have begun to adopt the smart disclosure approach.

- In January 2012, the European Commission proposed to modernize its data protection rules to add a broad right of personal data access and portability, among other changes.[55] Under the proposal, individuals would have the right to access personal data in structured electronic formats and transfer the data to another service provider or into any other system of their choosing, such as a choice engine.
- The UK has worked to promote access to personal data in machine readable formats. In 2011 the UK launched *midata*, a public-private partnership in which companies voluntarily commit to giving individuals access to personal data in usable forms.[56] The UK government also consulted the public on further efforts in this area, including a potential requirement for suppliers of services and goods to provide their customers with access to their own transaction and consumption data in machine readable formats.[57]
- The UK government has also launched smart disclosure-related initiatives that include product and service data. The government has published more than 6,000 data sets, available for free in machine readable formats, on data.gov.uk.[58] UK agencies have also made consumer complaint information public.[59]
- Several governments have begun online programs to help their citizens choose between telecommunications services. The Belgian and Irish governments, for example, provide such

online tools for their citizens—allowing users to input information on their own usage patterns so they can find the plan that best meets their needs.[60]

- The use of XBRL by the U.S. Securities and Exchange Commission (SEC) has been a model for other countries. The SEC began to require the use of XML (a similar computer language) in reporting on certain securities holdings and transactions in 2003, and required public reporting in XBRL for certain disclosures regarding all U.S.-listed operating companies, mutual funds, and credit rating agencies in 2009.[61] Governments in Australia, Belgium, China, Ireland, Japan, Singapore, Sweden, and the United Kingdom have similar requirements. In some countries, such as South Africa, companies are required to use XBRL to report data on their environmental and social impact in addition to financial data. This type of reporting, known as ESG (Environmental, Social, and Governance) reporting, is of increasing interest to investors both in the United States and abroad.[62]

V.   The Policy Context for Smart Disclosure

Since 2009, the Administration has begun several government-wide policy initiatives that provide important context for smart disclosure policies. These initiatives are important both to agencies implementing smart disclosure policies and to members of the public interested in the broader policy context in which the Administration's support for smart disclosure has developed. Among the relevant initiatives are:

Open Government. On January 21, 2009, the President issued the *Memorandum on Transparency and Open Government*, which called for the establishment of "a system of transparency, public participation, and collaboration."[63] The Memorandum identifies information maintained by the Federal Government as a "national asset" and states that "[e]xecutive departments and agencies should harness new technologies to put information about their operations and decisions online and readily available to the public."

Open Government Directive Agency Plans. The Office of Management and Budget *Open Government Directive*, released in December 2009, instructs executive departments and agencies to take specific actions to implement the principles of transparency, participation and collaboration.[64] The Directive states that "agencies should publish information online in an open format that can be retrieved, downloaded, indexed, and searched by commonly used web search applications," to the extent practicable and subject to valid restrictions.[65] The guidance also directs agencies to publish high-value data sets through Data.gov, the centralized government platform that helps people readily find and use government data.[66] As part of the Directive, agencies must create annual Open Government Plans that detail their open government activities.[67]

The Open Government Partnership. Responding to a call from President Obama in his address to the United Nations General Assembly in September 2010, governments and civil society organizations came together to form the Open Government Partnership (OGP), a multilateral initiative that supports national efforts to promote open government.[68] The United States has made targeted commitments to open government as part of its participation in the OGP, including a commitment to expand smart disclosure.[69]

The Open Government National Action Plan Self-Assessment. In March 2013, the Obama Administration released a *Self-Assessment Report* documenting progress made to implement its *Open Government National Action Plan* (NAP). The Report found that there has been substantial progress made to date, with 24 of the 26 commitments already fulfilled, and that work to make further progress must continue over the longer term. The Administration has pledged to develop a second National Action Plan that will update actions still in progress from the first NAP, and feature new initiatives designed to make the U.S. Government more transparent, participatory, and collaborative.

Regulatory Tools. The Office of Management and Budget (OMB) has released guidance on disclosure as a regulatory tool and on smart disclosure specifically. The Open Government Directive instructs the Administrator of the Office of Information and Regulatory Affairs (OIRA) within OMB to review existing policies and "to identify impediments to open government and to the use of new technologies and, where necessary, issue clarifying guidance and/or propose revisions to such policies, to promote greater openness in government." In addition, Executive Order 12866 provides that "[e]ach agency shall identify and assess available alternatives to direct regulation, including… providing information upon which choices can be made by the public."[70] Executive Order 13563, issued January 18, 2011, also directs agencies to "consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public. These approaches include warnings, appropriate default rules, and disclosure requirements as well as provision of information to the public in a form that is clear and intelligible."[71]

On June 18, 2010, OIRA issued a *Memorandum on Disclosure and Simplification as Regulatory Tools*, which set out guidance to "inform the use of disclosure ... in the regulatory process."[72] That memorandum describes two general types of disclosure regulation that Congress may require or permit, which it terms summary disclosure and full disclosure, stating that "the central goals of full disclosure are to allow individuals and organizations to view the data and to analyze, use, and repackage it in multiple ways." The memorandum sets forth principles for full disclosure as a regulatory tool, including that disclosed information should be as accessible as possible and as usable as possible.

In September, 2011, OIRA released a *Memorandum on Informing Consumers Through Smart Disclosure*."[73] The memorandum encourages agencies to promote smart disclosure, lays out the benefits of smart disclosure, and describes the different types of smart disclosure data. The memorandum also lays out seven key characteristics of smart disclosure that agencies should consider: accessibility; machine readability; standardization; timeliness; responsiveness to market adaptation and innovation; interoperability; and personally identifiable information and privacy protection.

Digital Government Strategy. The President has directed agencies to implement the Digital Government Strategy laid out by the U.S. Chief Information Officer, a comprehensive government-wide strategy to build a 21st century digital government that delivers better digital services to the American people.[74] That strategy includes as one of its three objectives that the Federal Government "[u]nlock the power of government data to spur innovation across our Nation and improve the quality of services for the American people."[75] The strategy further states that "[w]e must enable the public, entrepreneurs, and our own government programs to

better leverage the rich wealth of Federal data to pour into applications and services by ensuring that data is open and machine readable by default." Smart disclosure initiatives that involve the release of Federal data – consistent with upholding national security concerns and other applicable laws and practice – are one example of how government data can be used to benefit the public.

Freedom of Information Act (FOIA). The Administration has given increased emphasis to the proactive disclosure requirements of the Freedom of Information Act (FOIA).[76] The President issued a *Memorandum on the Freedom of Information Act* on January 21, 2009, that directs agencies to adopt a "presumption in favor of disclosure" and to take "affirmative steps to make information public" and use "modern technologies."[77] New Department of Justice guidelines set forth that "agencies should readily and systematically post information online in advance of any public request. Providing more information online reduces the need for individualized requests and may help reduce existing backlogs."[78] Smart disclosure initiatives are another way that agencies may release information proactively and reduce the need for FOIA requests.

An initial partnership between the Environmental Protection Agency, the National Archives and Records Administration, and the Department of Commerce was formed in late 2011 to create a cost-effective multi-agency shared solution to assist agencies in meeting their FOIA responsibilities. The partnership has grown and has been deployed for partner use and was made available to the public in October 2012. This system, the *FOIA Module*, helps streamline and automate agency processing of FOIA requests, allowing agencies to post responsive documents approved for public release to a publicly accessible repository that may satisfy or inform future requests.

Customer Service. The President issued an Executive Order on Customer Service in April 2011, which emphasizes the use of technology to improve customer service.[79] Smart disclosure initiatives can help improve how agencies serve their customers and how they deliver government services online. For example, Federal website privacy policies must be disclosed in machine readable formats that can be interpreted by Web browsers, so that the browser can alert users automatically about whether site privacy practices match their personal privacy preferences.[80]

VI.   Implementing Smart Disclosure

The Federal Government has made considerable progress implementing smart disclosure, and continues to identify new opportunities to encourage and support the goals of smart disclosure.

Making Information Available in Usable and Accessible Formats

Smart disclosure involves making information available in formats that are usable and accessible by consumers and third parties that use the data to build products and tools that benefit consumers.[81]

Machine Readability. Agencies have taken a variety of approaches to machine readability—the ability of digital information to be analyzed by a computer. For example, the Securities and Exchange Commission (SEC) has collected and disseminated certain financial disclosure

information in XBRL format using specially designed systems of terms to describe the data elements.[82] The Department of Veterans Affairs uses simple, universally readable text files to deliver structured health records through the VA Blue Button.[83] The National Institute of Standards and Technology and the Department of Energy have contributed XML-based format files based on industry consensus standards for the Green Button Download My Data program.[84]

Metadata. Metadata—information that describes data structure and content, and makes data more readily understood and processed by computers—is another important element that agencies are employing to make smart disclosure data more usable. One example of metadata usage is the metadata standard for Reports of Condition and Income (using the XBRL format), a central source of the information banks report to their regulators and which is then made available to the public in machine readable form.[85] Another example is the set of SEC XBRL disclosure standards for financial data from public companies and mutual funds. Both of these efforts have made it much easier for consumers, investors, and other stakeholders to access critical information on financial institutions and products.[86]

APIs. Agencies are increasingly using APIs—a set of specifications that allow software programs to more readily communicate with each other and the public to more easily access and use Federal data. Data.gov, for example, includes a number of smart disclosure data sets available via API, such as data about public schools and medical care providers.[87]

Unstructured, Semi-Structured, or "As is" Information. "As is" electronic disclosure generally refers to making existing information available and more easily accessible over the Internet without the machine readable structure associated with smart disclosure. This kind of information is generally more difficult and expensive to process and reuse. However, in some cases, making information available electronically in an unstructured format may be a more cost effective alternative to turning information into machine readable data and may also be a useful intermediary step in contexts where agencies do not have authority to specify that information be made available in machine readable formats. One recent example of the electronic disclosure of unstructured information is the national database of credit card agreements created in the Credit CARD Act of 2009.[88] The CARD Act specifies that the agreements be searchable and accessible, and the current version of the database allows the public to search by card issuers and the full text within the agreements.

Promoting Standards and Interoperability

The value of data sets—including smart disclosure data sets—comes not only from the quality of the data they contain, but from their ability to be interpreted and used together with other data to develop new information and insights. A number of Federal agencies and stakeholders interviewed by the Task Force cited these issues as essential to effective smart disclosure policy.

Technical Standards. While standards development in the United States is generally led by the private sector, Federal agencies engage in standardization in a range of mission-specific roles, including contributing to the development of standards in the private sector for use in regulatory or policy actions. The National Institute of Standards and Technology (NIST) has been involved in standards initiatives that relate to smart disclosure.[89] For example, NIST is playing a convening role in the growth of the smart grid, bringing together manufacturers, consumers, energy providers, and regulators to develop interoperable standards.[90] And, at the agency level, the Securities and Exchange Commission's interactive investor disclosure initiative required the

development of new data standards to meet regulatory purposes. As part of this initiative, the Commission facilitated the development of XBRL taxonomies, which are standard lists of tags necessary to make reporting consistent with U.S. Generally Accepted Accounting Principles and Commission regulations (in the case of public companies), and for risk and return information (in the case of mutual funds). These standards have given rise to new data tools for data aggregators, investors, and other users of financial information.

Interoperability of Federal Data Systems. Agencies have indicated to the Task Force that interoperability has been a challenge for smart disclosure initiatives that involve the release of Federal data. Legacy Federal information systems may not be interoperable, for example, either within or between agencies. In some cases, agencies have worked together to put their data on common, interoperable platforms. One successful example is the project led by the Consumer Product Safety Commission to bring together recalls information from several agencies on Saferproducts.gov and Recalls.gov, also available via a mobile app.

Consumer Privacy

Strong privacy protections are integral to effective smart disclosure. The privacy issues that arise in the context of smart disclosure are different depending on the type of data concerned. In some cases, smart disclosure data is not related to specific people, such as when agencies publish information on the prices of consumer services or the locations of companies. Such cases may not implicate privacy issues.

In other cases, smart disclosure may involve providing aggregated or anonymized information to the public, which does not contain information identifiable to any specific individual. Examples of this category of data include the Consumer Expenditure Survey from the Bureau of Labor Statistics and anonymized consumer complaint information published by an agency. In these cases, agencies must remain attentive to complex issues raised by the Office of Management and Budget in its guidance on *Informing Consumers Through Smart Disclosure*, which notes that even a data set that does not contain identifying information can nevertheless sometimes be used "to identify an individual by extrapolation or through combination with other available information."

Finally, in some cases, smart disclosure involves providing personal data to the authenticated individual to whom the data pertains. In these cases, agencies must ensure strong privacy and security safeguards are in place to ensure that the data is made available only to the authenticated individual.

Data Quality

The integrity and quality of data is a central issue for smart disclosure initiatives. Agencies have engaged in a variety of strategies to ensure data quality. Under the Data Quality Act, for example, some agencies—including agencies that participate in smart disclosure—have issued guidelines that seek to promote "the quality, objectivity, utility and integrity of information (including statistical information) disseminated by the agency" and allow individuals and companies to seek corrections to agency-held information when it does not meet those standards.[91] In some cases, new data quality and integrity issues may emerge when data sets are made public or are used by the public in new ways. For example, existing data quality

procedures may have been designed for one specific purpose, but when the data set is used by the public in new ways, new data quality procedures may be necessary.

Identifying Smart Disclosure Opportunities and Priorities

Agencies have used a variety of approaches to identify smart disclosure opportunities and priorities. One important source of information is stakeholder engagement. Many individuals and entities are affected by smart disclosure, including consumers, industries, and companies that use smart disclosure data to build new kinds of products and services for consumers.

Future smart disclosure initiatives can draw on approaches that have been used in the context of smart disclosure as well as in other domains. Traditional channels for engagement include requests for public comment in the Federal Register, convening Federal Advisory Committees, holding meetings with stakeholders, and convening technical review panels. The Open Government initiative has also promoted emerging channels for public participation that take advantage of technology. For example, for smart disclosure initiatives that involve regulations, agencies can use Regulations.gov, an online portal that allows the public to view and comment on pending regulations in an open format that can be easily searched and downloaded.[92] Federal agencies have used wikis to solicit public input.[93] In addition to stakeholder engagement, agencies have used a variety of other channels to identify smart disclosure priorities. Potential avenues available to agencies include monitoring consumer complaint data and analyzing Freedom of Information Act requests to identify areas of public concern and areas where there may be demand for Federal smart disclosure data.

Fostering the Use of Smart Disclosure Data

Agencies are increasingly engaging in activities that foster private- and social-sector use of smart disclosure data, recognizing that these activities can help accelerate the public benefits of data. These efforts parallel similar efforts across the Administration to encourage innovative uses of all types of open data, particularly Federal data.

One emerging approach is to hold events, such as workshops and code-a-thons, to encourage brainstorming, develop new uses for data, and create forums to showcase notable applications. The opportunity to be a part of a showcase, whether at an event or in other forums such as online galleries, can encourage developers to engage with Federal data providers. One model is the Health Data Initiative (HDI), led by the Department of Health and Human Services and the Institute of Medicine.[94] In its launch year in March 2010, the HDI began with a kickoff workshop with 40 data users brainstorming uses for newly released Federal health data, including smart disclosure data. Less than 90 days later, the HDI held a "datapalooza"-style event to showcase the results of innovative new products and processes that used the health data. Two-and-a-half years later, the datapalooza, now an annual event, featured 100 demonstrations of private innovations powered by health data and was attended by 1,500 people. Agencies have begun to adopt similar approaches in domains such as energy, education, and safety data.

Another emerging approach to fostering the use of smart disclosure data is the use of prizes, challenges, and competitions.[95] A number of agencies have held prize challenges to solicit the best apps, products, services, or processes that use smart disclosure data or other open data.

Many of these efforts take advantage of Challenge.gov, the Federal Government-wide platform for prize competitions. For example, the Department of Energy held a challenge to develop the best apps that help utility customers make the most of their Green Button electricity usage data. The Grand Prize Winner, Leafully, allows consumers to analyze their usage data and understand the effect of their energy use, including the total tree footprint—the number of trees needed to offset the pollution created by one's energy consumption.[96]

Benefits and Costs

The OMB *Memorandum on Disclosure and Simplification as Regulatory Tools* states that, where feasible and appropriate, agencies should consider the costs and benefits of disclosure requirements.[97] Smart disclosure initiatives may involve analysis of benefits and costs, such as the analyses required by statute or regulation for certain regulatory actions or information collections, or analyses of Federal information technology investments.[98]

Benefits and Cost Measurement. Future initiatives may draw from some of the approaches to benefits and costs measurement used by agencies in previous smart disclosure or open data efforts. For example:

- The National Oceanic and Atmospheric Administration (NOAA) makes extensive weather data available for free to the public in machine readable form. NOAA data are used to create new kinds of weather-related applications and services. NOAA publishes information on the societal impacts of its data, including examples of how the National Weather Service data have been formally valued.[99] The benefit of weather forecasts has been estimated at $31.5 billion, in excess of the estimated $5.1 billion spent by private and public bureaus in generating weather forecasts.[100]
- The Department of Transportation issued a final rule to require airlines and other sellers to advertise the full fare of air transportation, so that consumers can compare apples to apples when searching for flights.[101] The Department estimated the benefit to consumers of the new rule, including estimating factors such as the time saved by making it easier for consumers to comparison shop—an analysis that may be relevant in other smart disclosure contexts.[102]

Using Electronic Information Collection to Reduce Burdens on the Public. Agencies have been encouraged to consider the use of electronic information collection in order to reduce the paperwork burden on the public.[103] In the *Memorandum on Reducing Reporting and Paperwork Burdens* of June 22, 2012, OIRA set forth the use of "electronic communication and 'fillable fileable' forms (or data systems)" as a potential means of "substantially reduc[ing] burdens on respondents and simultaneously increas[ing] efficiency in data collection and processing."[104] The electronic collection of information may create new opportunities for agencies to inexpensively disseminate the electronic data in smart disclosure form, consistent with relevant law.

Federal Costs and Cost-Savings. Smart disclosure initiatives may involve investments by Federal agencies, such as the resources required to make a new data set available to the public via an API. These investments may result in net cost increases or decreases, depending on the context. For example, an agency may reduce the costs of processing Freedom of Information Act requests related to a particular data set by posting the data set online proactively. As another example, an agency may realize savings by using information systems designed for public data release in the agency's own operations that involve using the same data set.[105]

Making Smart Disclosure More Timely

Several Federal agencies expressed to the Task Force the need to improve the timeliness of smart disclosure data. Moving to machine readable formats may help reduce the time lag between data collection and publication. Some agencies also noted that they are considering ways to combine their data with privately collected data sets that may be more current and complete. They may work with data collected by specific industries, by major search engine companies, or by others in the private sector.

Improving Federal Consumer-Facing Applications That Use Smart Disclosure Data

In some cases, Federal agencies create their own digital services, such as websites and apps, to help consumers access and use smart disclosure data. These existing tools and platforms could be analyzed and enhanced going forward.

Testing and Performance Management. Testing these tools with consumers who may use them can lead to revisions that make them more usable and effective. In addition, agencies can solicit feedback from users and other stakeholders through online forms or other means to inform their design. The Digital Government Strategy directs agencies to measure performance and customer satisfaction with digital government services.[106]

Mobile Services. Mobile applications are an emerging area for the delivery of digital government services, including smart disclosure applications. Federal agencies have begun to make smart disclosure tools available via mobile apps, including tools to track recalls. The Digital Government Strategy sets forth an agenda to "[i]mprove priority customer facing services for mobile use," encouraging agencies to make digital services available through mobile devices.[107]

Encouraging Adoption. In some cases agencies may find that simply making consumer-facing smart disclosure tools available is not sufficient to encourage user adoption. Agencies can track the use of their smart disclosure tools and explore approaches to increasing their usage. One way to encourage adoption is using a prize challenge to develop ways to promote the tool. For example, to promote the use of net price calculator tools that help students understand the expected costs of college, the Department of Education issued a challenge for the best video to explain what net price means and to explain how to look for the net price calculator information.[108]

VII.   Users of Smart Disclosure Data

In general, consumers do not use smart disclosure data directly. They benefit from smart disclosure data by taking advantage of innovative tools, apps, products, and processes that are powered by smart disclosure data, including "choice engines" in a variety of consumer domains.[109] Examples of choice engines in several different sectors are described below.

The Task Force does not endorse these entities or their products, and the list is not meant to be comprehensive.

Education

- A nonprofit organization that provides performance information on schools, from preschool through college, using data from states and other sources.

Energy Use

- A company that enables consumers to monitor their energy use and provides tips and feedback to help individuals save energy.

Health Care

- A company that provides tools to help people track their health spending and manage their health care costs and bills.
- A nonprofit organization that helps consumers estimate medical and dental costs, based on provider and insurance plan data.
- A company that helps consumers search for doctors and dentists covered by their insurance plans, provides ratings, and allows consumers to see availabilities and book appointments.

Personal Finance

- A company that gives subscribers investment analysis and screening tools for over 40,000 global equities worldwide, using SEC data.
- A company that uses governmental and non-government data sources to provide ratings of 401(k) plans and a platform for investors to research and compare financial advisors.
- A company that provides a platform for investors to access, analyze, and share public company financial data online, using SEC smart disclosure data.
- A company that provides financial and retirement advice using a variety of data, including personal financial account data.
- A company that provides a platform to aggregate the consumer's personal investment account data and provides personalized advice on investments and fees.

Real Estate

- A company that provides a search platform for real estate listings.
- A company that offers a search platform for real estate and rentals, with mapping tools to analyze local data, such as crime and walkability.

Other

- A company that helps the consumer monitor his or her credit card and debit card transaction data to find charges, bill errors, and fraud, drawing on data crowdsourced from consumers and released in smart disclosure form by the Consumer Financial Protection Bureau.
- A company that allows the consumer to analyze his or her usage data for services such as wireless plans and credit cards to get recommendations on opportunities to save money.
- A company that helps consumers research the history of used cars to avoid hidden problems.
- A nonprofit organization that provides consumers information on products and services, drawing on government data and other data sets as well as their own tests and surveys.
- A company that helps consumers find information on the health, environmental, and social impacts of consumer products. Draws on government data and other sources.
- A company that provides a personal "data vault" for consumers to store personal data and share it selectively.

- A company that lets shoppers compare products via a mobile barcode scanner app, providing information including local prices, price comparisons, and allergens.

Choice engines operate under a variety of nonprofit and commercial models. The following are some examples of the models employed by the choice engines studied by the Science and Technology Policy Institute on behalf of the White House Office of Science and Technology Policy. While this listing is neither representative nor exhaustive, it can illustrate some of the ways that choice engines are organized:

Nonprofit models

- *Paid by consumer subscriptions*. One company offers subscription plans.
- *Supported by government*. One nonprofit service, which is free to consumers, is supported by New York State government funds resulting from a health-insurance industry settlement.
- *Paid by institutional users*. The same nonprofit service described above also provides licenses to businesses, government agencies, health care providers, and researchers for customized use of its software.

Commercial models

- *Paid subscriptions*. One company offers subscriptions at different levels for professional and individual investors.
- *Paid by institutional users*. One company provides a service that utilities purchase to make available to their residential customers.
- *Paid based on sales or lead generation*. One company functions as a real-estate brokerage and is paid by commissions on property sales. Service providers pay another company a fee if consumers save money by switching or staying with a particular provider after doing research on the company website.

Third Party Perspectives. Smart disclosure data users shared their perspective on smart disclosure with the Task Force at a number of meetings and events. In addition, the Science and Technology Policy Institute solicited smart disclosure data users' perspectives in a series of interviews. Some of the notable themes that emerged from these discussions include recommendations that the Federal Government consider the following:

- *Expanding access to smart disclosure data*, including giving individuals control of their own personal data, in order to fuel innovations that benefit consumers and foster growth of companies using this data.
- *Publicizing data held by the Federal Government and educating data users about its availability.*
- *Providing support and incentives to companies that use smart disclosure data to create tools to help consumers*. For example, it was suggested that the government make experts available to work with smart disclosure data users as appropriate. It was also suggested that the Federal Government establish test beds for experimentation that would allow third parties to develop services using smart disclosure data, and that the government could also provide incentives, such as pilot funding, to support further development of these efforts.

- *Enhancing the quality and usability of smart disclosure data sets*, through better data standards, means of access, and more consistent and useful definitions and metadata.
- *Reducing or eliminating the cost of Federal smart disclosure data*, where fees are currently being charged for data.

VIII. Recommendations & Conclusion

Smart disclosure can make a significant difference in the lives of Americans, whether it is helping them access lifesaving health care information, choose where to go to college, make better-informed decisions on their energy usage, or decide how to invest for retirement. In light of these potential benefits, the Task Force on Smart Disclosure recommends the following actions to expand smart disclosure and promote more effective smart disclosure implementation.

Our recommendations build on a series of efforts by the Administration to promote open government, open data, and smart disclosure, including the Presidential Memorandum on Transparency and Open Government, the OMB Memorandum on Informing Consumers Through Smart Disclosure, the Presidential Memorandum on Building a 21st Century Digital Government, the OMB Memorandum on Managing Information as an Asset, and the Executive Order on Making Open and Machine Readable the New Default for Government Information.

1. **Agencies should incorporate smart disclosure as a core component of their efforts to institutionalize and operationalize open data practices.**

The OMB Memorandum on Managing Information as an Asset calls on agencies to incorporate open data practices into the agencies' core processes, develop an enterprise data inventory, and publish a catalog of all public data.

Agencies should incorporate smart disclosure into all agency-wide open data planning and implementation as appropriate, as well as policymaking related to both open data and consumer issues. We recommend that agencies take the following actions to incorporate smart disclosure as a core component of their open data efforts:

a. **Incorporate plans for the release of smart disclosure data in agency Information Resource Management (IRM) Plans and Enterprise Data Management Roadmaps.** Agencies should identify opportunities to make smart disclosure data available to the appropriate audiences, and their IRM plans and Enterprise Roadmaps should reflect those opportunities.

b. **Tag all agency data in agency metadata and public data catalogs that could be used to support consumer decision-making.** This will enable the public to search easily for smart disclosure data sets that are already available or could be made available. Such tagging in agency's metadata will also enable the creation of a centralized directory of smart disclosure data sets held by the government.

c. **Design open data practices and systems to support potential uses of smart disclosure data.** Agencies should consider smart disclosure applications of data when designing information systems and developing metadata to maximize the usefulness of open data for consumer decision-making.

2. **Develop a government-wide community of practice.**

We recommend that an ongoing government-wide community of practice on smart disclosure be established**.** This body would provide a forum for agencies to share smart disclosure strategies and tools, as well as to address common challenges. The community of practice should include representatives from all functional areas involved in smart disclosure, including but not limited to consumer policy and programs, disclosure, information technology, open government, Freedom of Information Act, records management, and research.

***

Smart disclosure is emerging as a powerful new approach to consumer information and policy. As the Task Force found, many Federal agencies have already taken significant steps to implement smart disclosure. The recommendations laid out here are designed to help the Federal government build on this momentum, in order to expand consumer choice, enhance market efficiency, and promote competition and innovation that improves the lives of Americans.

Appendix

CHARTER
of the
TASK FORCE ON SMART DISCLOSURE: INFORMATION AND EFFICIENCY IN CONSUMER MARKETS
COMMITTEE ON TECHNOLOGY
NATIONAL SCIENCE AND TECHNOLOGY COUNCIL

A. Official Designation

The Task Force on Smart Disclosure: Information and Efficiency in Consumer Markets (TFSD) is hereby established by action of the National Science and Technology Council (NSTC), Committee on Technology (CoT).

B. Purpose and Scope

The TFSD will recommend approaches that Federal entities can take to facilitate the "smart disclosure" of data about consumer markets. "Smart disclosure" is the release of data sets in usable forms that enable consumers to compare and choose between complex services.

Smart disclosure requires service providers to make data about the full range of their service offerings available in machine readable formats such that consumers can then use these data to make informed choices about the goods and services they use. While consumers may access the data directly in some cases, the data may also be useful in enabling government agencies or third parties to create online tools for consumer choice. The Task Force will study diverse issues that can affect the feasibility and effectiveness of smart disclosure, including: current best practices; technical considerations for data disclosure; legal issues; protection of proprietary information; privacy issues; cost-benefit considerations; and other issues that the Task Force may deem to be relevant in the course of its work.

C. Functions

The TFSD will develop guidelines based on best practices for making data from consumer markets available and useful for consumer decision making. The specific deliverables of the TFSD are expected to include:

1. an assessment of the current approaches to smart disclosure in Federal departments and agencies;
2. a review of the most relevant research from social, behavioral, and information science;
3. engagement with smart-disclosure stakeholders, such as consumers, producers, and technologists who repackage smart disclosure data into tools for consumers;
4. the development of case studies on smart disclosure; and
5. recommendations on best practices for smart disclosure in consumer markets.

D. Membership

The following departments and agencies are represented on the TSFD:

>   Department of Health and Human Services;
>   Department of the Treasury;
>   Federal Communications Commission (Chair); and
>   Federal Trade Commission.

The following organizations in the Executive Office of the President are also represented on the TFSD:

>   Office of Management and Budget;
>   Office of Information and Regulatory Affairs; and
>   Office of Science and Technology Policy.

Cooperating departments and agencies shall include other such Executive organizations, departments and agencies as the Chair may, from time to time, designate.

E. Private Sector Advice

The TFSD may seek advice from members of the President's Council of Advisors on Science and Technology to secure appropriate private-sector [1] advice, and will recommend to the CoT and/or the Director of the Office of Science and Technology Policy the nature of any additional non-Federal advice needed to accomplish its mission. The TFSD may also interact with and receive *ad hoc* advice from various private-sector groups as consistent with the Federal Advisory Committee Act.

F. Termination Date

Unless renewed by the Co-chairs of the CoT prior to its expiration, the TFSD shall terminate no later than July 1, 2012

G. Determination

We hereby determine that the reestablishment of the Task Force on Smart Disclosure: Information and Efficiency in Consumer Markets is in the public interest in connection with the performance of duties imposed on the Executive Branch by law, and that such duties can best be performed through the advice and counsel of such a group.

Approved:

Aneesh Chopra,
Co-chair, Committee on Technology and
Chief Technology Officer of the United States and
Associate Director for Technology,

Office of Science and Technology Policy

Vivek Kundra,
Co-chair, NSTC Committee on Technology and
Chief Information Officer of the United States,
Office of Management and Budget

July 25, 2011

Note 1: The Federal Advisory Committee Act, 5 U.S.C. App., as amended, does not explicitly define "private sector," but the phrase is generally understood to include individuals or entities outside the Federal government such as, but not limited to, the following: non-Federal sources, academia, State, local or Tribal governments, individual citizens, the public, non-governmental organizations, industry associations, international bodies, etc.

Notes

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2. Pew trend data on total online activities; *see also* Pew Research Center, Pew Internet & American Life Project, trend data on daily online activities (hereinafter, "Pew trend data on daily online activities"), *available at* http://pewinternet.org/Trend-Data-(Adults)/Online-Activities-Daily.aspx.

3. Pew trend data on total online activities (survey data for February 2012).

4. Pew trend data on total online activities (survey data for September 2010).

5. Pew trend data on total online activities (survey data for May 2011).

6. Consumer Financial Protection Bureau, Consumer Complaint Database, *available at* http://www.consumerfinance.gov/complaintdatabase.

7. The White House, "National Action Plan for the United States of America," September 20, 2011 (hereinafter, "Open Government National Action Plan"), *available at* http://www.whitehouse.gov/sites/default/files/us_national_action_plan_final_2.pdf.

8. Office of Management and Budget, Office of Information and Regulatory Affairs, Memorandum for the Heads of Executive Departments and Agencies, "Informing Consumers through Smart Disclosure," September 8, 2011, *available at* http://www.whitehouse.gov/sites/default/files/omb/inforeg/for-agencies/informing-consumers-through-smart-disclosure.pdf.

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13. U.S. Department of Education, Education Data and Tools, http://www.data.gov/communities/node/38/data_tools.

14. U.S. Department of Education, "College Affordability and Transparency Center," *available at* http://collegecost.ed.gov/catc/Default.aspx; U.S. Department of Education, National Center for Education Statistics, "College Navigator," *available at* http://nces.ed.gov/collegenavigator; and U.S. Department of Education, National Center for Education Statistics, "Net Price Calculator Information Center," *available at* http://nces.ed.gov/ipeds/resource/net_price_calculator.asp.

15. See http://www.ed.gov/edblogs/technology/mydata/.

16. U.S. Department of Energy, Federal Smart Grid Initiatives, http://www.smartgrid.gov/Federal_initiatives.

17. White House Office of Science and Technology Policy Blog, U.S. Chief Technology Officer Aneesh Chopra, "Modeling a Green Energy Challenge after a Blue Button," September 15, 2011, http://www.whitehouse.gov/blog/2011/09/15/modeling-green-energy-challenge-after-blue-button.

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35 Consumer Financial Protection Bureau, "Consumer Complaint Database," *available at* http://www.consumerfinance.gov/complaintdatabase/.

36 *See, e.g.*, FTC, *Consumer Sentinel Network Data Book for January-December 2011* (Feb. 2012), *available at* http://ftc.gov/sentinel/reports/sentinel-annual-reports/sentinel-cy2011.pdf.

37 President Barack Obama, Memorandum for the Heads of Executive Departments and Agencies, "Presidential Memoranda - Regulatory Compliance," January 18, 2011, *available at* http://www.whitehouse.gov/the-press-office/2011/01/18/presidential-memoranda-regulatory-compliance.

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39 The Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule gives individuals, with few exceptions, the right to inspect, review, and receive a copy of their own medical records and billing records that are held by health plans and health care providers covered by the Privacy Rule. The Family Educational Rights and Privacy Act (FERPA) gives parents and eligible students the right to inspect and review the student's education records maintained by schools, with some exceptions. Parents and students also have the right to request that a school correct records which they believe to be inaccurate or misleading. The Fair Credit Reporting Act (FCRA) gives the consumer a right to access a copy of his or her credit report from consumer reporting companies.

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41 Truth in Lending Act, 12 U.S.C. Sec. 1637(b) (establishing the open end consumer credit statement requirement); the Dodd-Frank Wall Street Reform and Consumer Protection Act, Sec. 1420 (creating the requirement for servicers to provide consumers with a periodic statement for residential mortgages, with limited exceptions).

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43 Participating agencies include the Department of Veterans Affairs, the Department of Health and Human Services Centers for Medicare and Medicaid Services, the Department of Defense, and the Office of Personnel Management.

44 Agencies providing policy and technical support for the Green Button Initiative include the Office of Science and Technology Policy, the Council on Environmental Quality, the Department of Energy, the National Institute of Standards and Technology, and the Environmental Protection Agency.

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49 The White House, "Consumer Data Privacy in a Networked World: A Framework for Protecting Privacy and Promoting Innovation in the Global Digital Economy," February 2012, http://www.whitehouse.gov/sites/default/files/privacy-final.pdf.

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51 Dodd–Frank Wall Street Reform and Consumer Protection Act, Pub. L. 111-203, Sec. 1033.

52 *Id*. Sec. 1033(b).

53 Energy Independence and Security Act of 2007, Sec. 1307, codified as 16 U.S.C. Sec. 2621(d).

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87 A full list of Data.gov's interactive data sets is available at https://explore.data.gov/catalog/next-gen.

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including the first annual report available at
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[101] Enhancing Airline Passenger Protections; Final Rule, 76 Fed. Reg. 23109-23167, 14 C.F.R. Parts 244, 250, 253, 259, and 399, *available at* http://www.gpo.gov/fdsys/pkg/FR-2011-04-25/html/2011-9736.htm.

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[103] Executive Order 13610, "Identifying and Reducing Regulatory Burdens," Sec. 3 ("Setting Priorities"), May 10, 2012, *available at* http://www.whitehouse.gov/the-press-office/2012/05/10/executive-order-identifying-and-reducing-regulatory-burdens (directing agencies to give "priority, consistent with law, to those initiatives that will produce … significant quantifiable reductions in paperwork burdens").

[104] Office of Management and Budget, Office of Information and Regulatory Affairs, Memorandum for the Heads of Executive Departments and Agencies, "Reducing Reporting and Paperwork Burdens," June 22, 2012, *available at* http://www.whitehouse.gov/sites/default/files/omb/inforeg/memos/reducing-reporting-and-paperwork-burdens.pdf.

[105] The Digital Government Strategy highlights that "opening data and content means organizations can consume the same web APIs to conduct their day-to-day business and operations as they do to provide services for their customers." Digital Government Strategy, p. 9.

[106] Digital Government Strategy, p. 22.

[107] Digital Government Strategy, p. 21.

[108] U.S. Department of Education, "College Net Price Calculator Student Video Challenge," *available at* http://netpricecalc.challenge.gov.

[109] These examples were selected to include choice engines operating in major consumer domains where consumer choices have a significant impact on individuals, and to represent a variety of different service and organizational models. They are not a representative sample of all choice engines. The entities were either selected to participate in demonstrations at the White House and National Archives Summit on Smart Disclosure held in Washington, D.C., on March 30, 2012, or were selected to be interviewed by the Science and Technology Policy Institute, which conducted research on choice engines on behalf of the White House Office of Science and Technology Policy.