



U.S. DEPARTMENT OF  
**ENERGY**

# A Web Modernization Plan Pursuant to the 21<sup>st</sup> Century IDEA

Report to Congress  
July 2020

United States Department of Energy  
Washington, DC 20585

# Message from the Secretary

The Department of Energy (DOE) provides to the Director of the Office of Management and Budget (OMB) and the appropriate Congressional committees the following Website Modernization Plan to modernize public-facing websites that are most viewed, most utilized, or highly engaged by the public as required within the 21st Century Integrated Digital Experience Act (21st Century IDEA) (P.L. 115-336) and the Rehabilitation Act of 1973 (29 U.S.C 794d). Modernizing these public-facing websites will ensure that the agency is providing an optimal user experience to the general public.

Pursuant to statutory requirements, this report is being provided to the following Members of Congress:

- **The Honorable Frank Pallone, Jr.**  
Chairman, House Committee on Energy and Commerce
- **The Honorable Greg Walden**  
Ranking Member, House Committee on Energy and Commerce
- **The Honorable Eddie Bernice Johnson**  
Chairwoman, House Committee on Science, Space, & Technology
- **The Honorable Frank Lucas**  
Ranking Member, House Committee on Science, Space, & Technology
- **The Honorable Lisa Murkowski**  
Chairman, Senate Committee on Energy & Natural Resources
- **The Honorable Joe Manchin**  
Ranking Member, Senate Committee on Energy & Natural Resources

If you have any questions or need additional information, please contact me, Mr. Shawn Affolter, Deputy Assistant Secretary for Senate Affairs, or Mr. Christopher Morris, Deputy Assistant Secretary for House Affairs, Office of Congressional and Intergovernmental Affairs, at (202) 586-5450.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Brouillette". The signature is fluid and cursive, with the first name "Dan" being particularly prominent.

Dan Brouillette

## Executive Summary

The 21st Century IDEA (P.L. 115-336) outlines the requirements for agencies to improve their digital services across several key areas such as web modernization, web-based forms, electronic signatures, standardization, and customer experience. This Plan supports the Department's mission of ensuring America's security and prosperity by addressing its energy, environmental, and nuclear missions through transformative science and technology solutions by implementing the requirements mandated within the Act amongst the most visited and most utilized public-facing websites.

The Department will focus on a phased digitization modernization strategy including this Plan to optimize public-facing websites to ensure the end-user's experience meets the goals established in the 21st Century IDEA. The Department will put in place a program that will continue to provide the governance, guidance, customer service, technical support, reporting capabilities, and functionality to make sure the agency stays up to date using risk-based approaches for securing data while still delivering high quality products and services to its customers.



# Website Modernization Plan Pursuant to the 21<sup>st</sup> Century IDEA

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## I. Legislative Language

This report responds to legislative language set forth in the 21<sup>st</sup> Century Integrated Digital Experience Act, Pub. L. 115-336, Section 3(b), wherein it is stated:

*... Not later than 1 year after the date of enactment of this Act, the head of each executive agency that maintains a website or digital service that is made available to the public shall-*

*1) Review each website or digital service; and*

*2) Submit to Congress a report that includes -*

*A. a list of the websites and digital services maintained by the executive agency that are most viewed or utilized by the public or are otherwise important for public engagement*

*B. from among the websites and digital services listed under subparagraph (A), a prioritization of websites and digital services that require modernization to meet the requirements under subsection (a); and*

*C. an estimation of the cost and schedule of modernizing the websites and digital services prioritized under subparagraph (B).*

*OMB sent the following guidance for making report available to the public. Agencies should provide a brief discussion of their efforts implementing §3 as a report publicly available on their website (such as [agency.gov/digitalstrategy](https://agency.gov/digitalstrategy)) [see §3(d)(2)]. To satisfy §3(d)(1), Agencies should provide the URL where the report is available in an email to [OFCIO@omb.eop.gov](mailto:OFCIO@omb.eop.gov).*

## II. Background

The Department provides several services which are accessed via the Department's websites for consumption by the general public. The 21st Century IDEA aims to improve the overall user experience with the agency's websites. Several requirements have been documented within the Act to assist with ensuring websites provide an optimal user experience in regards to 508 compliance, consistency, duplication, search functionality, industry standard security connections, user-driven design, efficiency, and functionality for mobile devices.

**508 Compliance:** The Department's websites must adhere to the accessibility standards addressed in Section 508 of the Rehabilitation Act of 1973 (29 U.S.C. 794d) through offering alternative text for images, offering text versions for videos/animations, and including captions to videos.

**Consistency:** The Department must ensure its websites maintain a consistent appearance in support of an optimal user experience across various elements such as headers, footers, sidebars, and navigation bars.

**Non-duplication**: The Department must ensure that websites don't overlap or duplicate with any legacy websites. Duplicate websites must be regularly reviewed to ensure if any opportunities for elimination or consolidation are considered.

**Search Functionality**: The Department must ensure that its websites contain a search capability so that users can easily search content.

**Industry Standard Security Connections**: The Department must ensure that websites contain the appropriate security and management controls to prevent disclosure of sensitive information that may be exposed in transit. This will be achieved through the implementation of HTTPS. In addition, removing support for weak cryptography such as RC4, 3DES SSLv2, and SSLv3 protocols will provide security hardening.

**User-Driven Design**: The Department must ensure that websites are centered around user needs based on data-driven analysis. In addition, qualitative and quantitative data will also be used to further identify user goals, needs, and behavior.

**Efficiency**: The Department must ensure that websites provide the opportunity for a customized digital experience that allows users to complete digital transactions in a more efficient manner.

**Mobile Functionality**: The Department must ensure that websites can be accessed with full functionality via mobile devices.

### III. Approach

The Department initiated Data Call 19-01( 21st Century Integrated Digital Experience Act) in order to assess the environment to determine which of the Department's websites are public facing and which of those websites would need to be modernized across several requirements stated within the Act.

The Web Modernization app in the web-based Enterprise Data Analytics Repository System was used as the collection tool for the data call. Various data was collected from the sites such as the public-facing status, monthly visitation count, digital services, and any web modernization requirements met by the sites. Initially, over 5,000 sites were identified across the Department. Within the total, there were 2,563 websites that were identified as public facing and were within scope of the Act.

The Department developed a prioritized list of websites that were the most viewed or utilized by the public. Websites that had monthly views near or above 30,000 were included within the list. In addition, the listed sites indicated that they required modernization across one or more of the stated requirements. Overall, 21 websites were identified as priorities for the Department in [Figure 1](#).

Figure 1: Prioritized Websites within the Department of Energy

URL	DOE Element	Average Monthly Visits
http://ir.eia.gov	EIA	20,000,000
http://api.eia.gov	EIA	15,800,000
https://www.eia.gov	EIA	1,200,000
https://sandia.gov	SNL	294,340
https://www.directives.doe.gov	MA	171,103
https://www.anl.gov	ANL	130,000
https://lanl.gov	LANL	126,760
https://inl.gov	INL	100,000
https://niwc.noaa.inel.gov	INL	100,000
https://www.ornl.gov	ORNL	94,290
https://www.nrel.gov	NREL	89,753
http://fnal.gov	FNAL	89,500
https://pvwatts.nrel.gov	NREL	84,376
https://www.standards.doe.gov	AU	81,336
https://www.llnl.gov	LLNL	56,000
https://netl.doe.gov	NETL	45,001
https://hpc.llnl.gov	LLNL	35,000
https://computing.llnl.gov	LLNL	35,000
https://heatingoil.fossil.energy.gov	FE	33,288
https://news.fnal.gov	FNAL	30,500
https://refinedproduct.fossil.energy.gov	FE	27,388

## IV. Costs

The Department estimated the labor costs that would be associated with modernizing the prioritized websites depended on responses to the data call regarding which requirements they needed to satisfy. As a baseline, the Department used hourly rates from the General Services Contract Awarded Labor Category Tool to develop estimated costs. Estimated costs were established for each of the requirements. The Department is estimating that it will cost \$1,488,890 to modernize the prioritized list of websites in [Figure 2](#). The Department will require additional funding to support the other activities associated with meeting the requirements set forth in the Act such as those associated with e-signature and paper-based forms. The estimated costs shown in [Figure 2](#) reflect only those costs associated with the website modernization requirement of the Act.

Figure 2: Estimated Costs to Modernize Websites within the Department of Energy

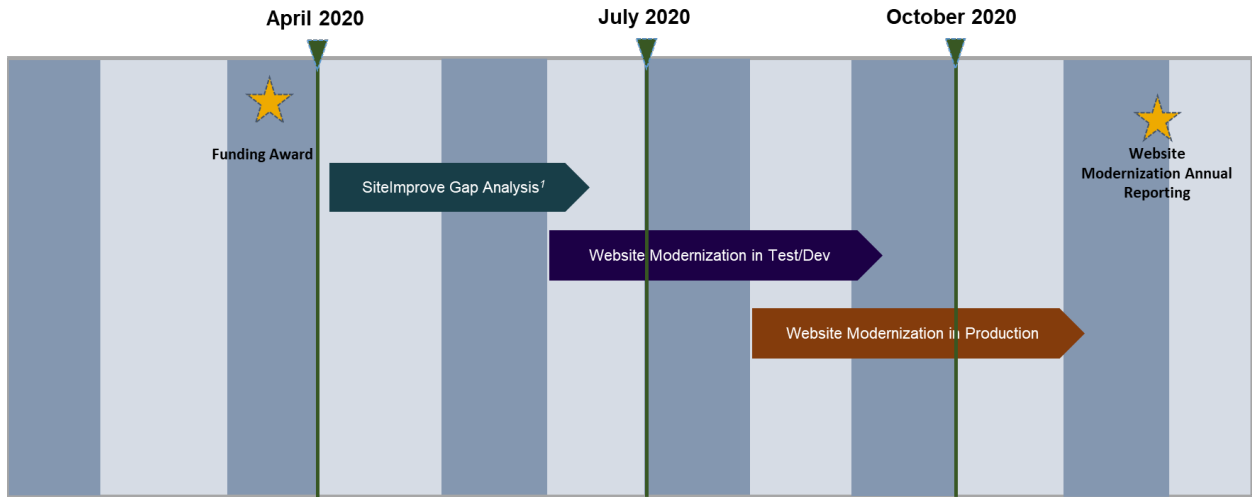
URL	DOE Element	Estimated Costs
http://ir.eia.gov	EIA	\$ 126,230
http://api.eia.gov	EIA	\$ 76,830
https://www.eia.gov	EIA	\$ 47,840
https://sandia.gov	SNL	\$ 64,610
https://www.directives.doe.gov	MA	\$ 62,010
https://www.anl.gov	ANL	\$ 69,680
https://lanl.gov	LANL	\$ 68,120
https://inl.gov	INL	\$ 111,930
https://niwc.noaa.inel.gov	INL	\$ 111,930
https://www.ornl.gov	ORNL	\$ 60,710
https://www.nrel.gov	NREL	\$ 35,100
http://fnal.gov	FNAL	\$ 51,350
https://pvwatts.nrel.gov	NREL	\$ 117,390
https://www.standards.doe.gov	AU	\$ 62,010
https://www.llnl.gov	LLNL	\$ 51,090
https://netl.doe.gov	NETL	\$ 62,010
https://hpc.llnl.gov	LLNL	\$ 62,010
https://computing.llnl.gov	LLNL	\$ 62,010
https://heatingoil.fossil.energy.gov	FE	\$ 62,010
https://news.fnal.gov	FNAL	\$ 62,010
https://refinedproduct.fossil.energy.gov	FE	\$ 62,010
	<b>Total</b>	<b>\$ 1,488,890</b>

## V. Schedule

The Department has established a notional schedule for the modernization of the prioritized websites. The schedule is based on the assumption that the Department has procured the necessary enterprise tool “Siteimprove” for use by the specified points of contact for the prioritized websites to determine the gaps within their website and the necessary optimization actions to close the gaps.



Figure 3: Website Modernization Schedule



<sup>1</sup>Pending Procurement of Siteimprove