

# 2024 - 2026 IT Strategic Plan

**Agency:** 409 Department of Energy

**Date:** 10/2/2023

## Current IT State

**In this section, describe the high-level strategy the agency will use to manage existing operational IT investments over the next year to 5 years. This section should align with identified Business Requirements for Existing Technology (BReTs). At minimum, please address the following questions in your description of your agency's strategy for managing existing operational IT investments:**

**Are there existing IT investments that will require additional funding over the next year to 5 years, such as license renewals, re-competition of current IT contracts, or system enhancements required by the Agency Strategic Plan?**

**If there are systems that will no longer support the agency's business needs, either through poor performance or excessive cost, how does IT leadership in the agency plan to address the issues?**

**If the agency does not have the staff or funding to meet increasing demand for IT services, how will IT leadership fulfill the requests?**

### Mission:

The Virginia Department of Energy leads the Commonwealth to a reliable and responsible energy future.

### Objectives:

VA Energy seeks to provide robust IT solutions relating to Economic Development, Mining, Geology, Land Reclamation, and Clean Energy initiatives across the Commonwealth.

### Pain Points/Challenges:

- Unable to take advantage of certain IT related services due to high cost of entry
- Meeting needs of users while maintaining effective software in increasingly costly environment is becoming more difficult
- Communication is not a priority. Large scale initiatives and changes are often pushed out with little to no warning
- Software solutions are pushed onto the agency that are a detriment to current workflows.
- Larger agencies drive adoption of services that are either too costly or not applicable for small to mid-size agencies
- The ECOS process can be an impediment to the quick implementation of SaaS solutions.

**Upgrades-Cloud Migration Strategy** - Energy has 11 Windows based virtual servers. All are considered "private cloud" as they are hosted in the QTS data center. These include Windows 2019 web and SQL servers, as well as a CIFS server. In the future as Windows 2019 comes closer to EoL we will need to address whether we keep our infrastructure within the windows server framework or to migrate to COVGOV cloud services with Azure. If we embark down this path, the VITA billing model will vary as it is consumption based. No additional funding is allocated.

**Upgrades-Non-SaaS Systems** - While Energy has made great strides in migrating nearly all applications to SaaS based services, we still have a critical need for the enforcement systems our inspectors utilize in the field. Many mine sites and locations our inspectors are required to go have no WiFi and mobile hotspots cannot be utilized due to insufficient signal. The process to change the architecture of these applications is extensive and will take months of planning and years of development time to refactor or rewrite in their entirety with our current development staff. As such these applications cannot be migrated to SaaS in the immediate future.

**Replacement of Legacy Phone Systems** - The Big Stone Gap office utilizes a legacy phone system that currently services the needs of that office, however, if the agency continues the current growth path, then they will outgrow

this system in the coming years. The agency is utilizing Verizon VCE phone services in other offices but may be interested in Teams Voice as a potential option as well.

Geographic Information System (GIS): Geospatial information across ENERGY is used for modeling, analysis, and public information. ENERGY has consistently expanded its implementation across the agency and may soon be utilizing an enterprise level account with ArcPro. ENERGY will be establishing a Geospatial Workgroup with representatives across all program areas to ensure future efforts in this area are focused, cost effective, and continue to provide staff with time and cost saving tools. ENERGY has a wealth of data in regards to mapping that would be useful to have published not only for our agency, but also other executive branch agencies as well as the public, however, storage cost on servers is prohibitive and we cannot afford to host this data.

The dynamic nature of environmental regulation demands ever-changing environmental data for analysis and decision-making, requiring a sustained effort toward efficient capture, storage, protection, and exchange of this data. ENERGY has an entirely web-based permit application and is investigating the possibility of utilizing single sign-on across the various program area applications.

Development staff at ENERGY utilize Microsoft's .NET Framework. Azure DevOps has recently become an approved ECOS solution and ENERGY would be interested in migrating to this solution for issue tracking, version control, and overall management of applications as our team is taking a more DevOps software development approach.

ENERGY anticipates a growing employee base in the coming years. This will result in additional costs regarding equipment for end user computing as well as additional licensing costs for O365 services for those employees.

### **Factors Impacting the Current IT**

**In this section, the agency will describe the changes in their business environment that will require or mandate changes to the agency's current IT investments. These are requirements and mandates from external sources, such as other agencies or business partners, the agency's customer base, product and service providers, or new federal or state legislation or regulations. The agency must identify the business value of the change, any important deadlines that must be met, and the consequences if the deadlines are not met. In your discussion, be sure to note whether the proposed enhancements are funded or not. If the agency's existing current IT investments will not need enhancement due to requirements or mandates from external sources in the foreseeable future, the agency should enter the following text rather than leave the Factors Impacting the Current IT section blank**

**For each mandated change, summarize your agency's response from your Agency Strategic Plan, and is it the opinion of agency IT leadership that the IT portion of the response is adequately funded?**

**Do the mandated changes effect IT in other Commonwealth agencies, or in other states? If so, how?**

Increasing IT costs have hindered ENERGY's ability to develop new and innovative services. Customers continue to express a high demand for additional electronic government services and easily accessible information. Meeting these needs while maintaining effective software in an increasingly costly environment has been a challenge. All servers have been migrated to the private cloud as they are now hosted in the VITA data center. These upgrades have been in response to security and operating system requirements, not a requirement of client or business needs. The resulting increased need for system testing and upgrades continues to reduce development time for needed business solutions.

ENERGY is currently going through a realignment in regards to how the IT team is structured and will be focused on making changes internally to better situate the team to provide for the varied needs of our program areas and external customers.

Storage costs have been a large concern for our agency. There is a plethora of data that would be useful to host externally and allow the public and other state agencies to access, especially in regards to GIS, however, ENERGY cannot afford storage costs as they currently are. ENERGY would be interested in determining if a cheaper storage option, or even a shared storage with other agencies would be available

ENERGY anticipates a rise of 10-20% in its internet usage in the coming years as the agency is planning on hiring additional personnel across multiple program areas. ENERGY will continue to monitor bandwidth and determine if there is a need to expand. SD-WAN is a possible solution to this problem.

### **Proposed IT Solutions**

**In this section, describe the high-level strategy the agency will use to initiate new IT investments over the next year to 5 years in support of the agency strategic objectives documented in your Agency Strategic Plan. The agency does not need to consider specific technologies at this time, however, the strategy should identify how the IT implementation will provide business value to the organization. This section should align with identified Business Requirements for New Technology (BRnTs). At minimum, please address the following questions in your description of your agency's strategy for initiating new IT investments:**

**What are the most important solutions, based on the priority assigned to the requirements by the business sponsors in your agency, and what is the approach to achieving these priority solutions?**

**If any new IT initiatives will be started in the upcoming budget biennium, is it the opinion of agency IT leadership that it is adequately funded?**

**Does the agency's current IT staff have the appropriate skill set needed to support future agency technologies? If not, what skill sets need to be acquired?**

**If the agency will be engaged in multiple new IT initiatives, how will agency IT staff and agency subject matter experts be used across the initiatives?**

With the internal realignment of ENERGY IT staff, the team is better situated to handle new initiatives while also being able to maintain the existing project load. ENERGY utilizes the .NET Framework to develop all in-house applications that are used by the public and across the agency's program areas. Nearly all applications have been moved to SaaS solutions that are hosted in the private cloud and are consistently updated and maintained. In the coming years development staff will be making a concerted effort to migrate all applications to a newer version of the .NET framework and will be taking an in-depth look to identify deficiencies and refactor applications where necessary, while also taking advantage of newer features provided by this upgrade. Simultaneously the team will be transitioning to a new software development methodology regarding project management and will begin to utilize CI/CD processes in the development pipeline.

With the growth of GIS utilization across all program areas comes a need for additional support. Requests for spatial data to be tied into existing applications has grown exponentially and the need for additional GIS expertise within the IT team will be a need for the future.

# Business Requirements For Technology

Agency:	409 Department of Energy
Date:	10/2/2023
<b>409 Energy - GIS Application</b>	
BRT Type:	Business Requirement for Existing Technology
Date Submitted:	8/1/2023
Mandate:	
Mission Critical:	
<b>Description:</b>	
Inspectors within the agency utilize GIS applications to view mine map, gas well/pipelines, topography, and aerial imagery while in the field.	
<b>409 Energy Web Forms Application</b>	
BRT Type:	Business Requirement for Existing Technology
Date Submitted:	8/3/2023
Mandate:	
Mission Critical:	Yes
<b>Description:</b>	
The agency uses IIS web forms with a SQL server data storage to allow clients to submit required data, retrieve information and do electronic business with the agency.	
This BRT covers many active applications.	
<b>ENERGY Azure DevOps</b>	
BRT Type:	Business Requirement for New Technology
Date Submitted:	8/3/2023
Mandate:	
Mission Critical:	
<b>Description:</b>	
The agency is looking into potentially utilizing Azure DevOps to create and improve software solutions at a faster pace and allow for greater collaboration between development staff in regards to issue tracking, version control, and change management.	

<b>ENERGY SD-WAN Upgrade</b>	
<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	3/1/2023
<b>Mandate:</b>	Yes
<b>Mission Critical:</b>	Yes
<b>Description:</b>	
<p>Configure existing routers to support SD-WAN capability across all agency locations. This approach prepares agency location(s) with the ability to add additional network capabilities (multiprotocol label switching (MPLS), broadband, wireless (i.e., Cradlepoint)) to take advantage of application -aware routing over private and public networks.</p> <p>Three step process:</p> <p>Remote internetwork operating system (IOS) software upgrade on the router.</p> <p>Remote SD-WAN deployment</p> <p>Circuit deployment as needed</p>	
<b>ENERGY Storage Solutions</b>	
<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/3/2023
<b>Mandate:</b>	
<b>Mission Critical:</b>	
<b>Description:</b>	
<p>The agency is interested in looking into new storage solutions in an effort to reduce overall server storage costs. Certain mapping data may be useful to other state agencies and the agency would be open to the potential of shared storage</p>	
<b>ENERGY Website Modernization</b>	
<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	6/20/2023
<b>Mandate:</b>	
<b>Mission Critical:</b>	Yes
<b>Description:</b>	

The primary objective of the COV Website Modernization and the CMS Virginia.gov projects are to ensure all state sites are on a single common platform and are following required VITA, COV and 508 standards

# IT Strategic Plan Budget Tables

<b>Agency:</b>	409 Department of Energy			
<b>Date:</b>	10/2/2023			
<b>Current IT Services</b>				
	<b>Costs Year 1</b>		<b>Costs Year 2</b>	
<b>Category</b>	<b>GF</b>	<b>NGF</b>	<b>GF</b>	<b>NGF</b>
<b>Projected Service Fees</b>	\$670,089.00	\$311,642.00	\$690,192.00	\$320,991.00
<b>VITA Infrastructure Changes</b>				
<b>Estimated VITA Infrastructure</b>	\$670,089.00	\$311,642.00	\$690,192.00	\$320,991.00
<b>Specialized Infrastructure</b>				
<b>Agency IT Staff</b>	\$532,000.00		\$595,000.00	
<b>Non-agency IT Staff</b>	\$56,000.00		\$28,000.00	
<b>Cloud Computing Service</b>				
<b>Other Application Costs</b>	\$22,000.00		\$26,000.00	
<b>Total:</b>	\$1,280,089.00	\$311,642.00	\$1,339,192.00	\$320,991.00
<b>Proposed IT Investments</b>				
	<b>Costs Year 1</b>		<b>Costs Year 2</b>	
<b>Category</b>	<b>GF</b>	<b>NGF</b>	<b>GF</b>	<b>NGF</b>
<b>Major IT Projects:</b>				
<b>Non-Major IT Projects:</b>				
<b>Agency-Level IT Projects:</b>				

<b>Major Stand Alone IT Procurements:</b>					
<b>Non-Major Stand Alone IT Procurements:</b>					
<b>Agency-Level Stand Alone IT Procurements:</b>					
<b>Procurement Adjustment for Staffing:</b>					
<b>Total:</b>	\$0.00	\$0.00	\$0.00	\$0.00	
<b>Projected Total IT Budget</b>					
		<b>Costs Year 1</b>		<b>Costs Year 2</b>	
<b>Category</b>	<b>GF</b>	<b>NGF</b>	<b>GF</b>	<b>NGF</b>	
<b>Current IT Services</b>	\$1,280,089.00	\$311,642.00	\$1,339,192.00	\$320,991.00	
<b>Proposed IT Investments</b>	\$0.00	\$0.00	\$0.00	\$0.00	
<b>Total</b>	\$1,280,089.00	\$311,642.00	\$1,339,192.00	\$320,991.00	



## Commonwealth Projects $\geq$ \$250,000.00

There are no projects for this agency.

# Commonwealth Procurements $\geq$ \$250,000.00

There are no stand alone procurements for this agency.