

# Energy & Carbon Management Commission

Modernizing the Colorado Oil & Gas Information System (COGIS)



Joint Technology Committee  
*December 17, 2024*



**COLORADO**  
Department of  
Natural Resources



# Energy and Carbon Management Commission Mission

The Energy and Carbon Management Commission (ECMC) is charged with regulating the responsible development of the state's oil and gas, and deep geothermal resources, along with the underground natural gas storage, and carbon sequestration of resources in a manner that protects public health, safety and welfare, including the environment and wildlife resources.



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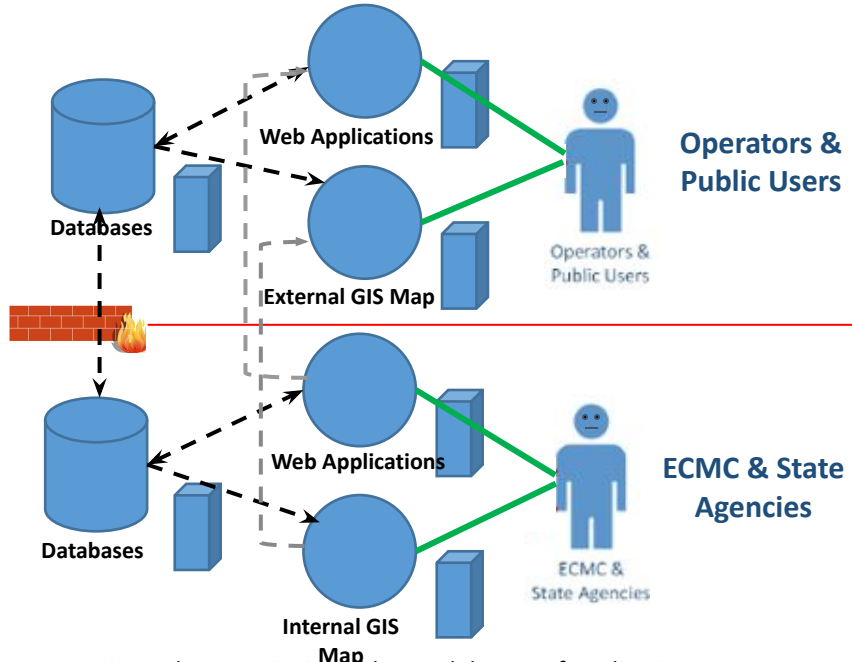
# Modernizing the Colorado Oil and Gas Information System (COGIS)

- The COGIS database system was implemented 25 years ago in 1999.
- COGIS is ECMC's primary database system, housing data including the amount of oil and gas production, inspection information, violation reports, and other important information that members of the conservation community, oil and gas operators, and members of the public access regularly.
- With new regulatory requirements, expanded data collection and reporting, a new and stable application system is needed.

# Modernizing the Colorado Oil and Gas Information System (COGIS)

- **Current system** is taxed by all the changes and updates to existing applications which is straining its ability to maintain data integrity, confidentiality, and accessibility for stakeholders.
- COGIS users (including industry, the public, and staff) regularly encounter stability and performance issues due to breaks in the system infrastructure.
- In particular, critical electronic form applications that allow enforcement of ECMC rules and regulation can be sluggish, non-respondent and inefficient due to the non-optimized backend.

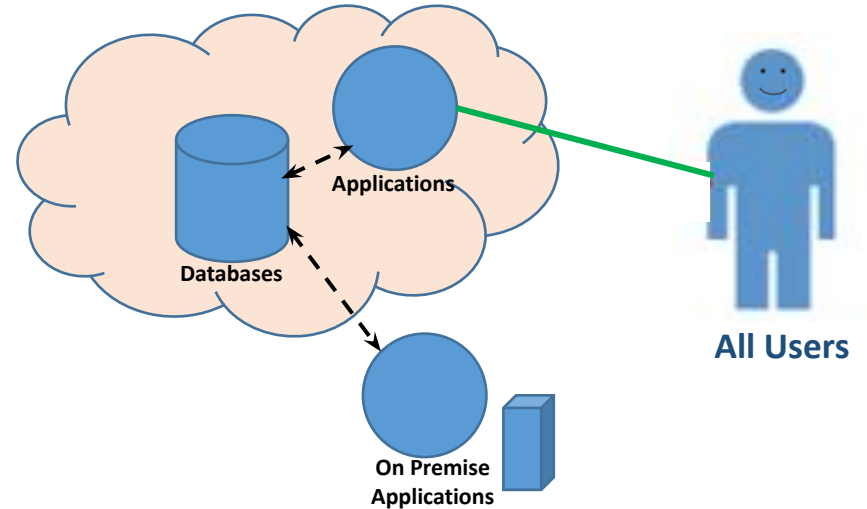
# Current System



49 Databases, > 2,000 Tables, and dozens of applications including electronic forms, GIS maps, and database tools

**Complex** on-premise database and application environment with replication, network, and architecture challenges

# Future State



**Simplified** cloud-hosted database and application environment with a more unified architecture

# Proposed Solution

- Through an agile development process, the transition to a modernized data architecture is anticipated to significantly elevate the system's operational effectiveness in managing regulatory information by optimizing internal processes, resources, and activities for enhanced overall performance.
- In addition, the system modernization of the backend architecture and migration to the cloud is expected to provide alignment with state-mandated policies and deliver continuous service availability, thereby providing a more reliable and agile system for our customers.
- The targeted **future state** will help unify database and applications in a cloud-hosted environment to improve data integrity, system optimization, security, and overall customer experience.

# Cash-Funded Request

- The ECMC is requesting \$2M in cash fund spending authority to modernize its primary database system, the Colorado Oil and Gas Information System (COGIS).
- There are no additional FTE requested or fees raised due to this project.

# Questions?

Thank you for your consideration!



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