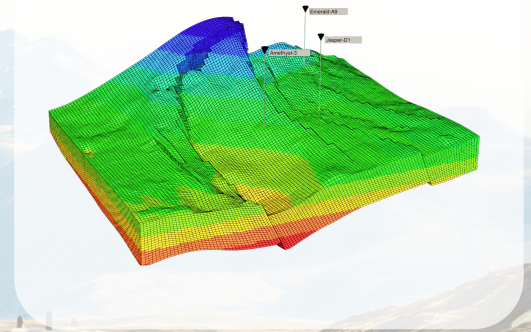


# Simulate. Predict. Optimize.



Model field-scale geothermal complexity.

## Why CMG STARS for Geothermal?



**Fully Integrated**

Reservoir, wellbore, fractures, geomechanics, and geochemistry in one platform.



**Thermal Accuracy**

Advanced heat transfer including conduction, convection, dispersion, and wellbore heat loss.



**Multiphase & Multicomponent**

Water, steam, CO<sub>2</sub>, and other non-condensables with real fluid behavior.



**Scalable & High Performance**

Handle large, complex models with millions of grid blocks.



**Trusted by the Industry**

Used worldwide for geothermal, CCS, hydrogen storage, and energy transition projects.

## From Subsurface Uncertainty to Fast Insight

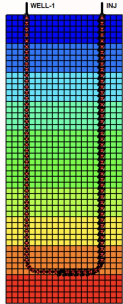
CMG STARS is a fully integrated, full-physics reservoir simulator that captures the complex thermal, hydraulic, and multiphase processes that govern geothermal systems from surface to reservoir and back.

See CMG STARS Geothermal Capabilities in Action



## Real Challenges. Real Projects. Real Results.

### CLOSED-LOOP GEOTHERMAL



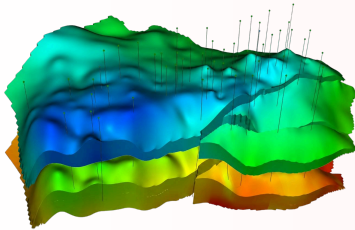
CMG STARS predicted production temperatures up to 20-40°C higher than simplified approaches.

- Higher accuracy in performance prediction
- Better design confidence
- Lower LCOE potential

#### JOGMEC CASE STUDY



### MATURE FIELD REPURPOSING



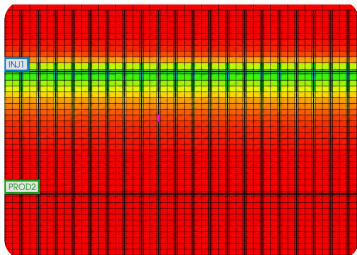
Many high water cut wells could deliver more than  $4.5 \times 10^7$  BTU/day of usable thermal energy.

- Hundreds of kW of continuous heat
- Leverage existing infrastructure
- Turn liabilities into energy assets

#### COLOMBIAN CASE STUDY



### THERMOSYPHON EGS STUDY



Injection rate controls thermosyphon behavior, two-phase onset, and long-term thermal performance.

- Identify the thermosyphon operating window
- Avoid early two-phase and thermal decline
- Optimize long-term heat recovery

#### EGS SENSITIVITY ANALYSIS



## CMG STARS Helps Answer Critical Geothermal Questions

How much heat can we sustainably produce?

How do we maximize value while reducing risk?

How do surface constraints affect deliverability?

What are the optimal operating conditions?

