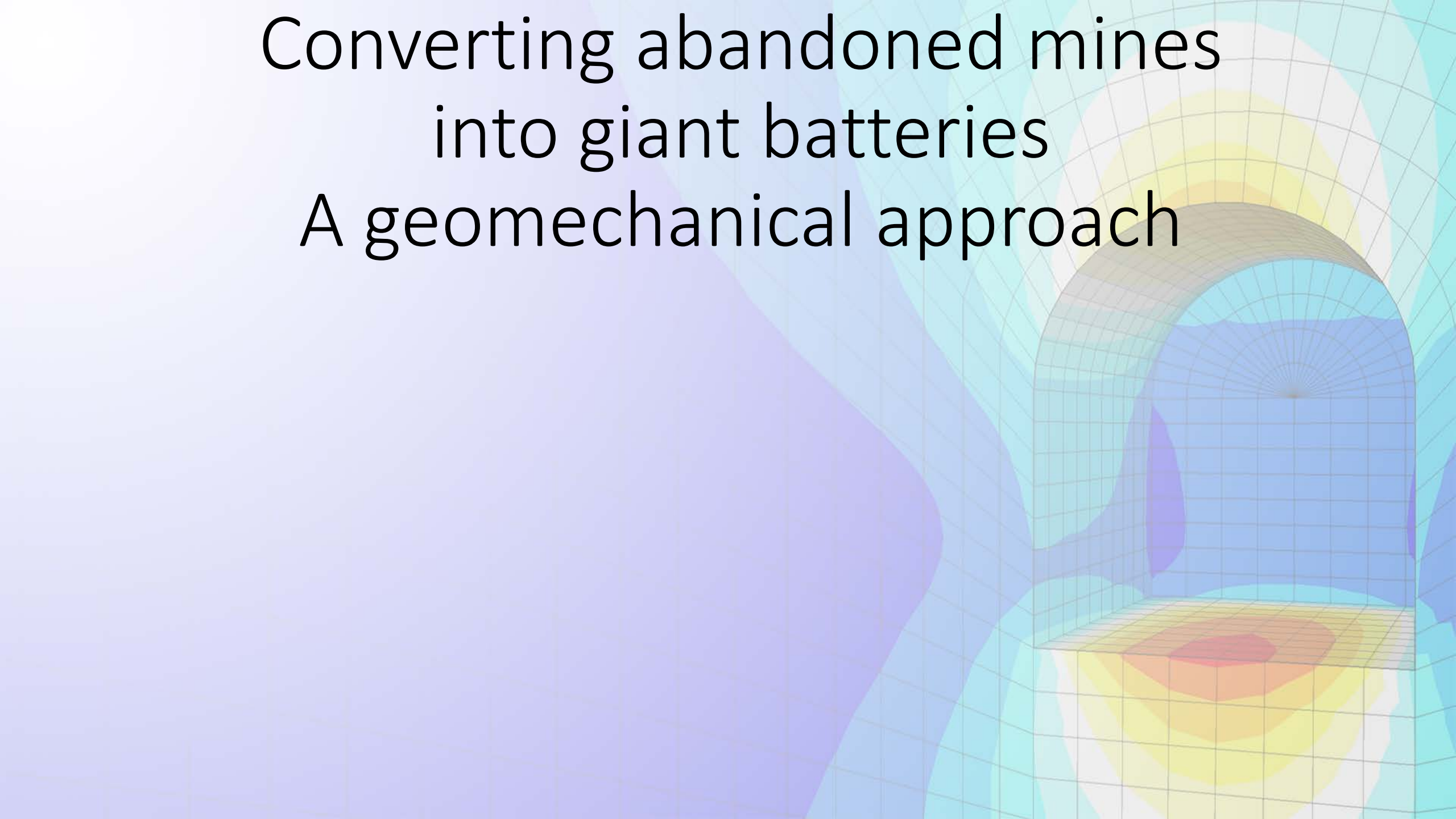
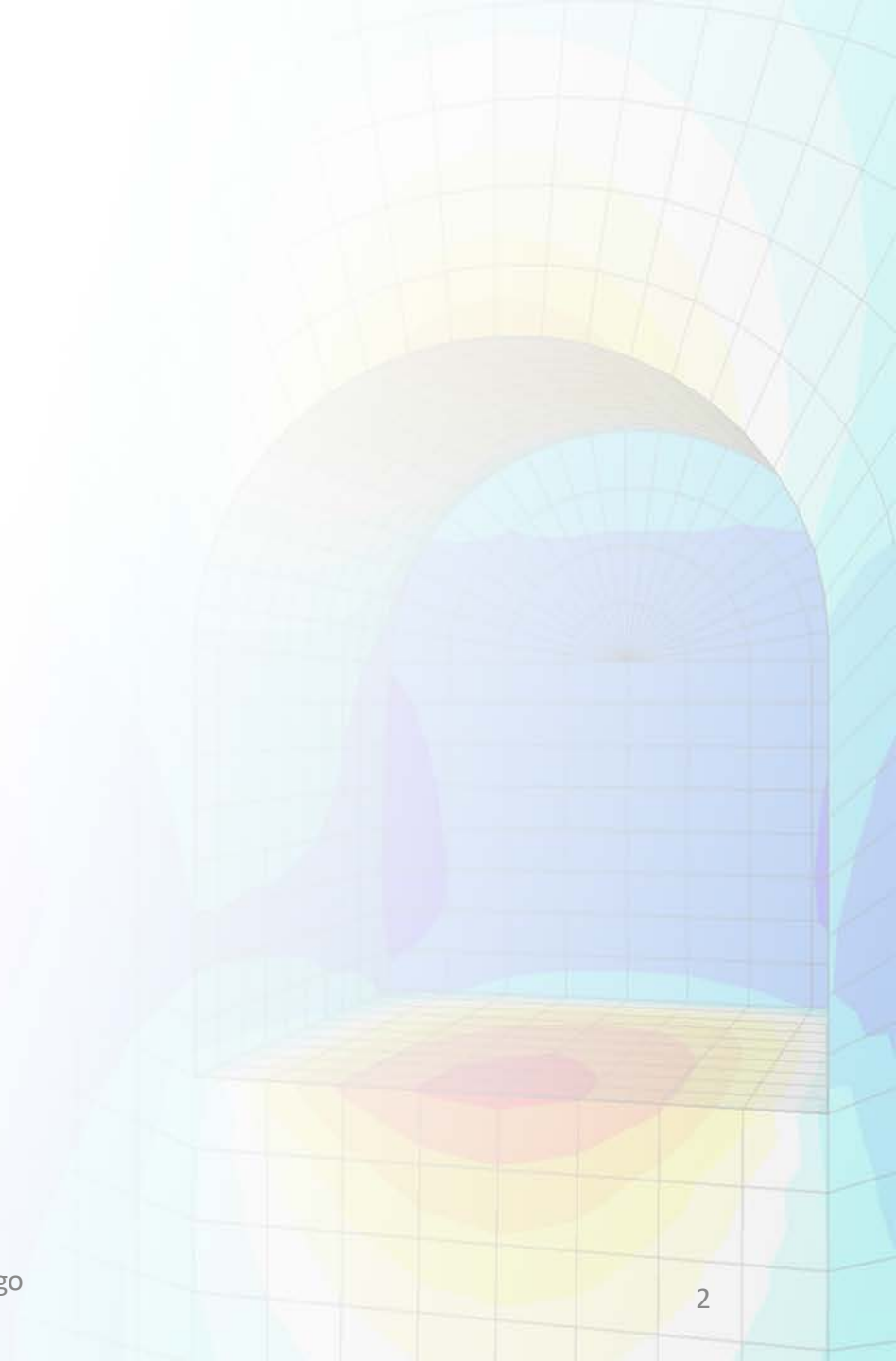


Converting abandoned mines into giant batteries A geomechanical approach



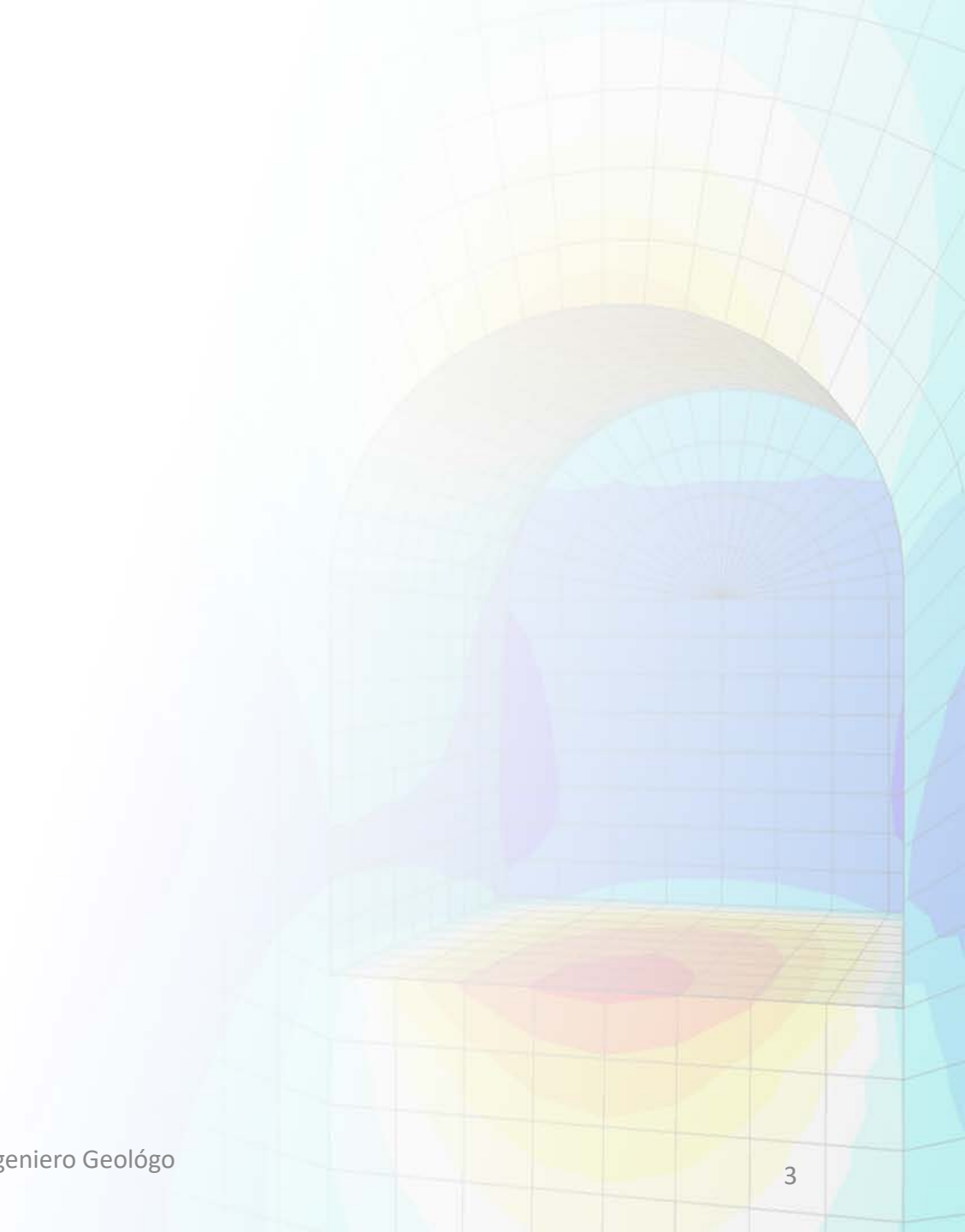
Content

- Introduction
- planned Approach
 - Subsurface hydroelectrical central
 - Compressed Air Energy Storage (CAES)
 - Storage for hydrogen
- Carried out work and presented results



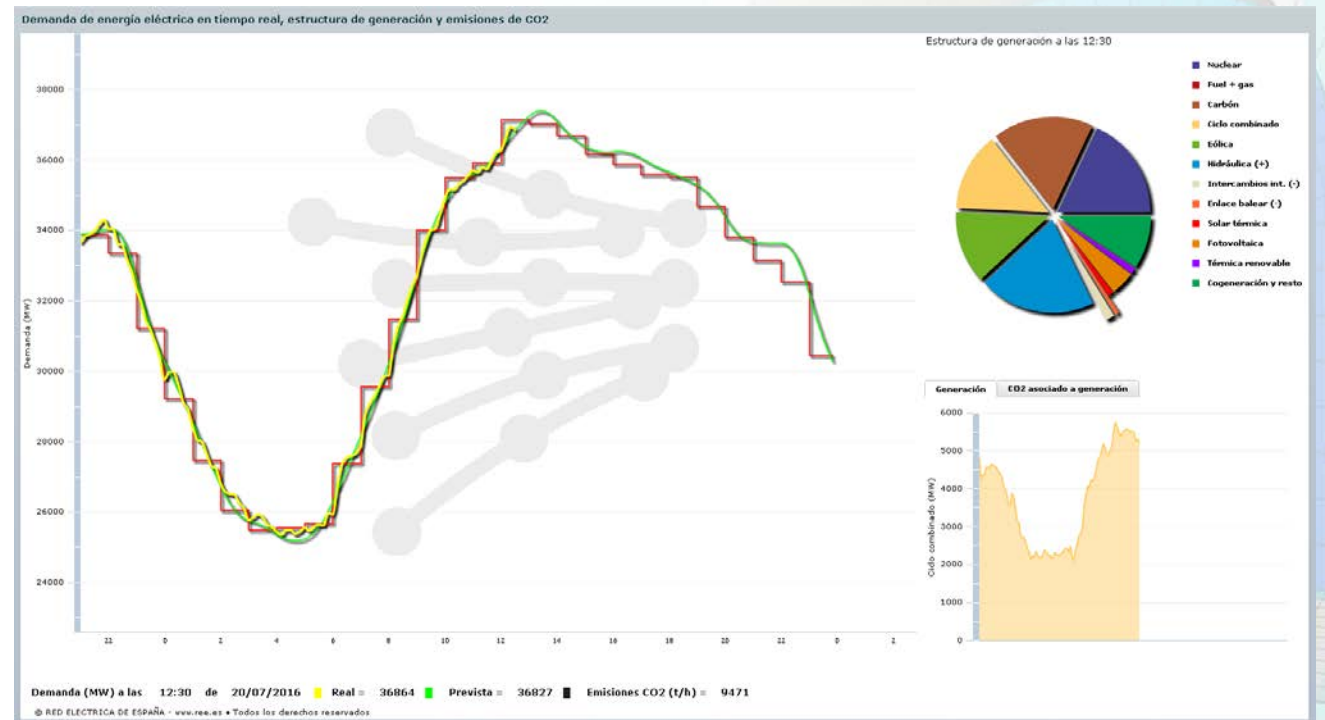
Introduction

- CV Falko Schmidt



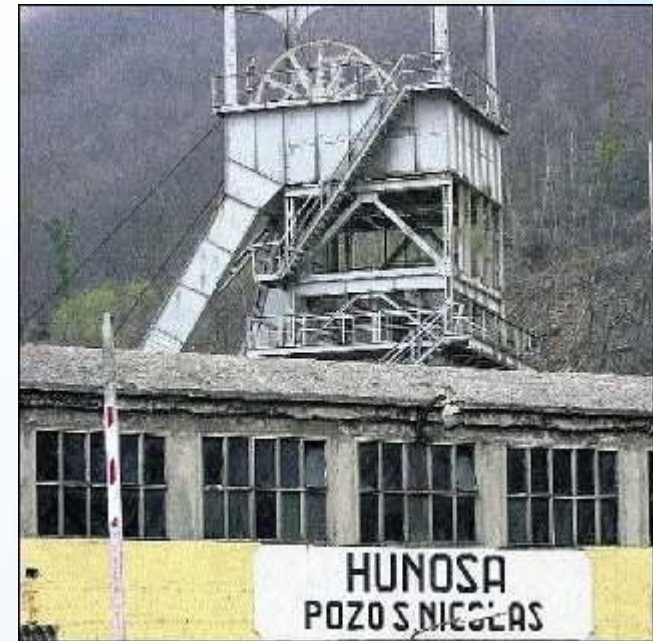
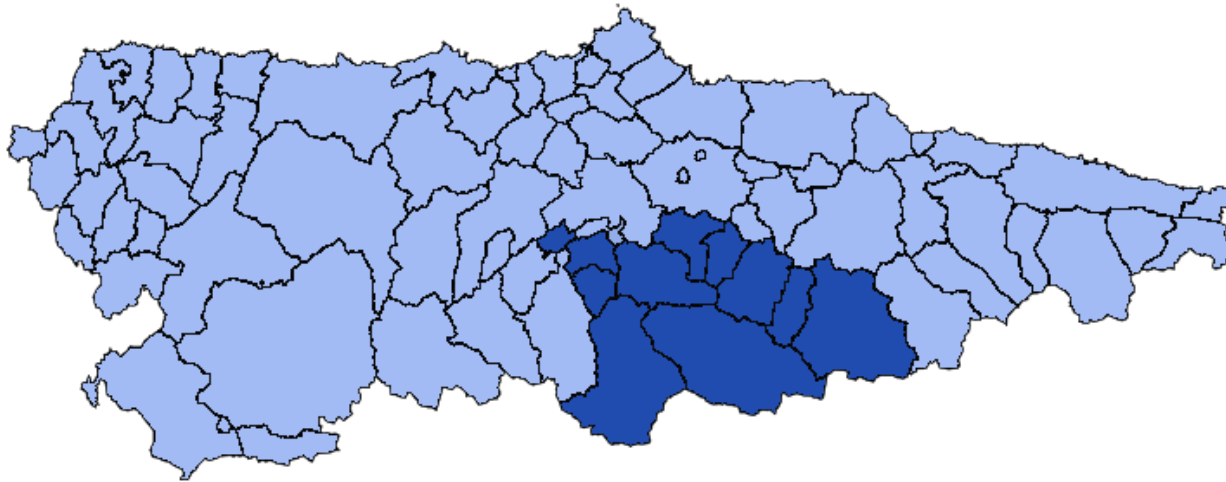
Introduction

- Why store Energy?



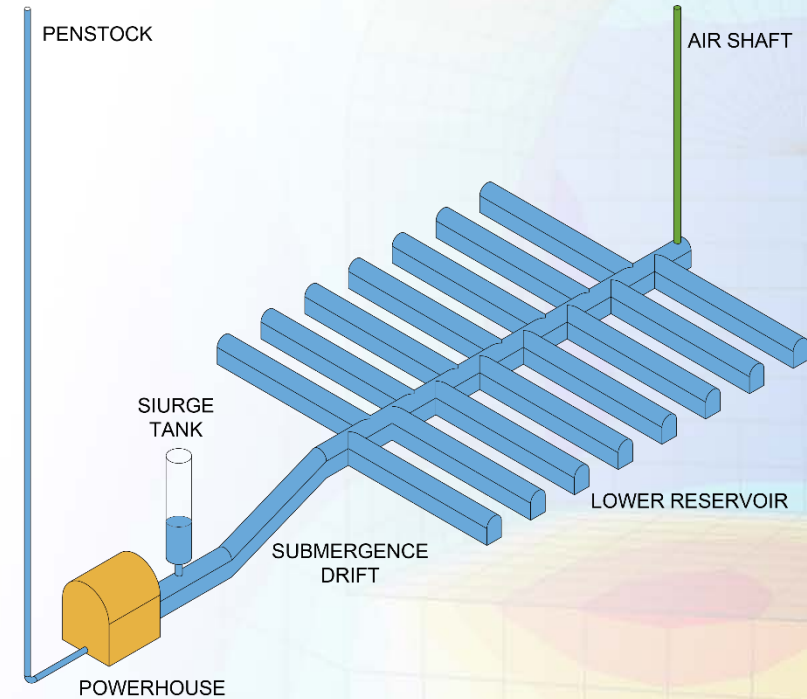
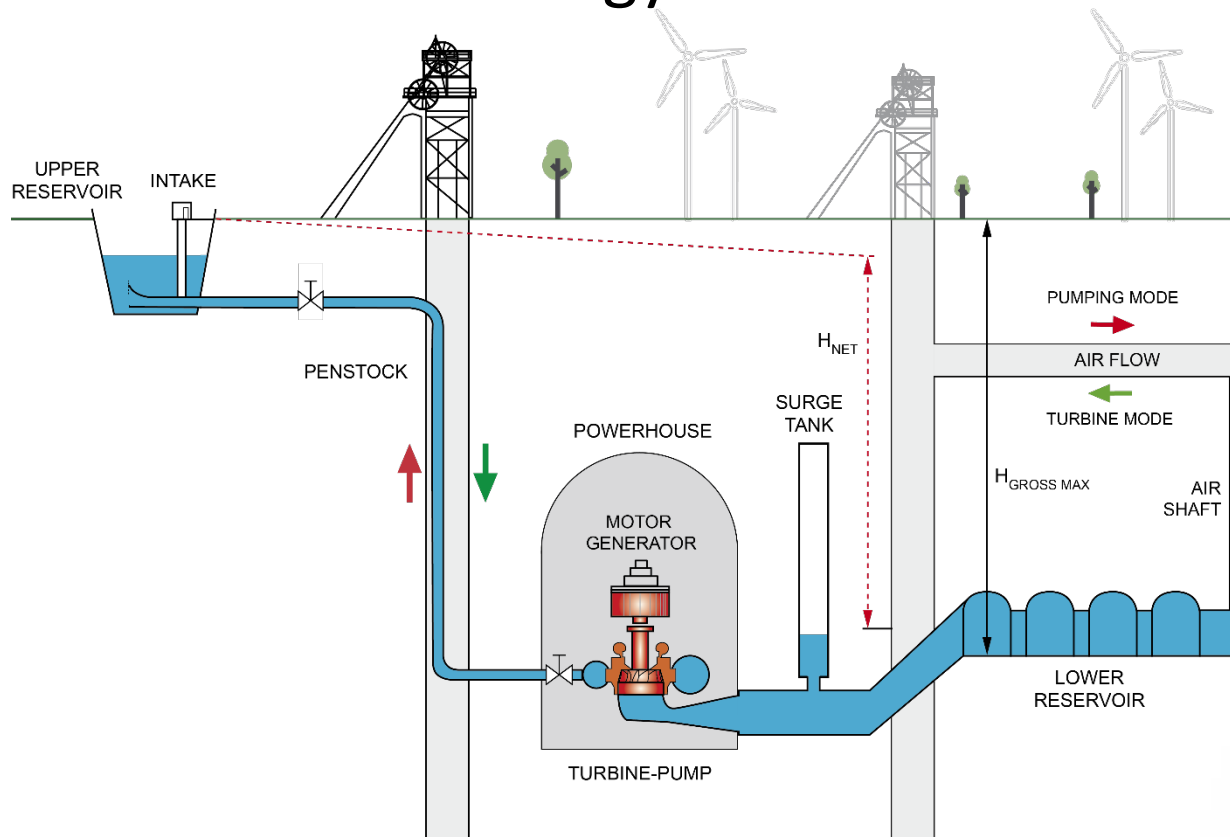
planned Approach

- Where to store Energy?



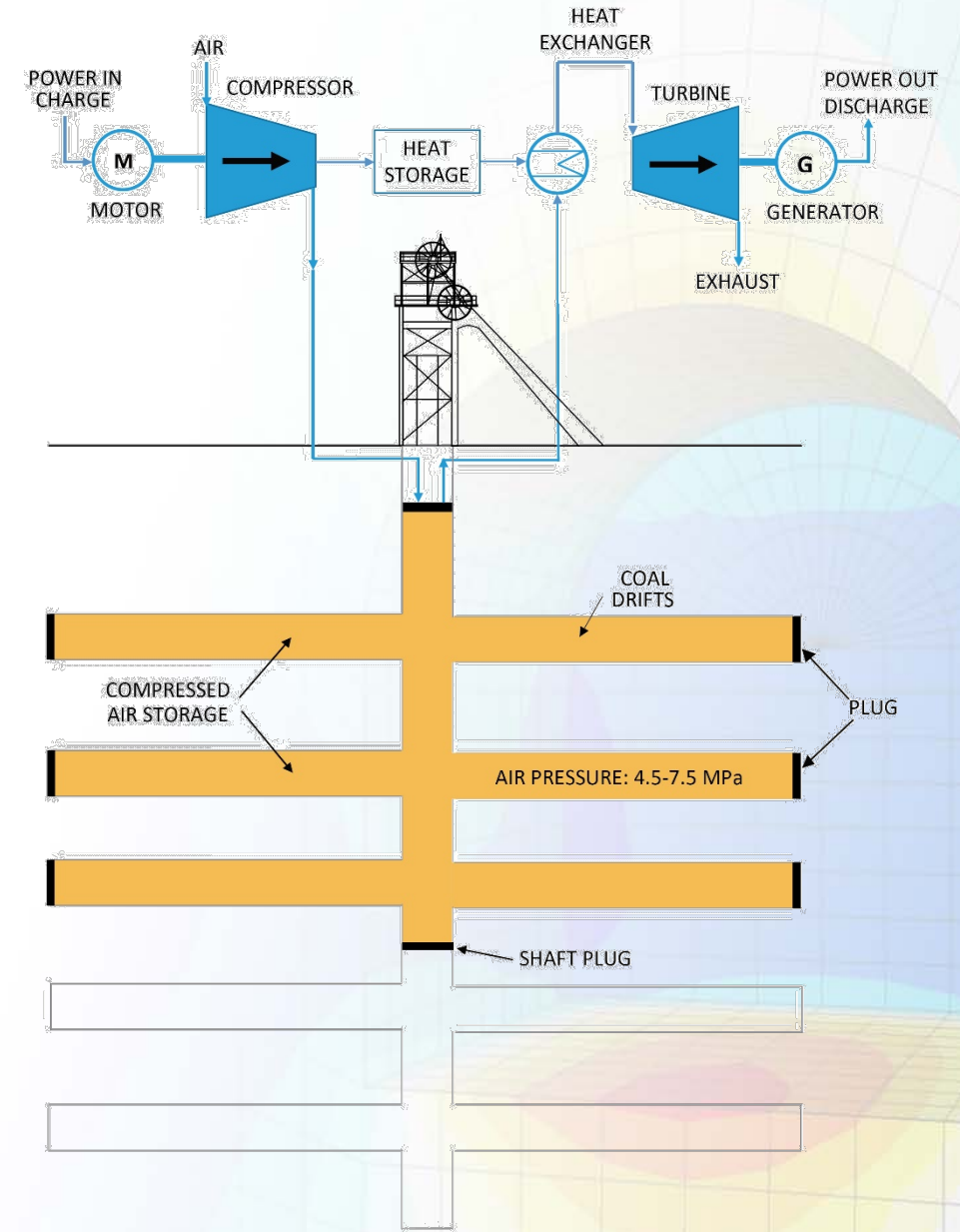
planned Approach

- How to store Energy?



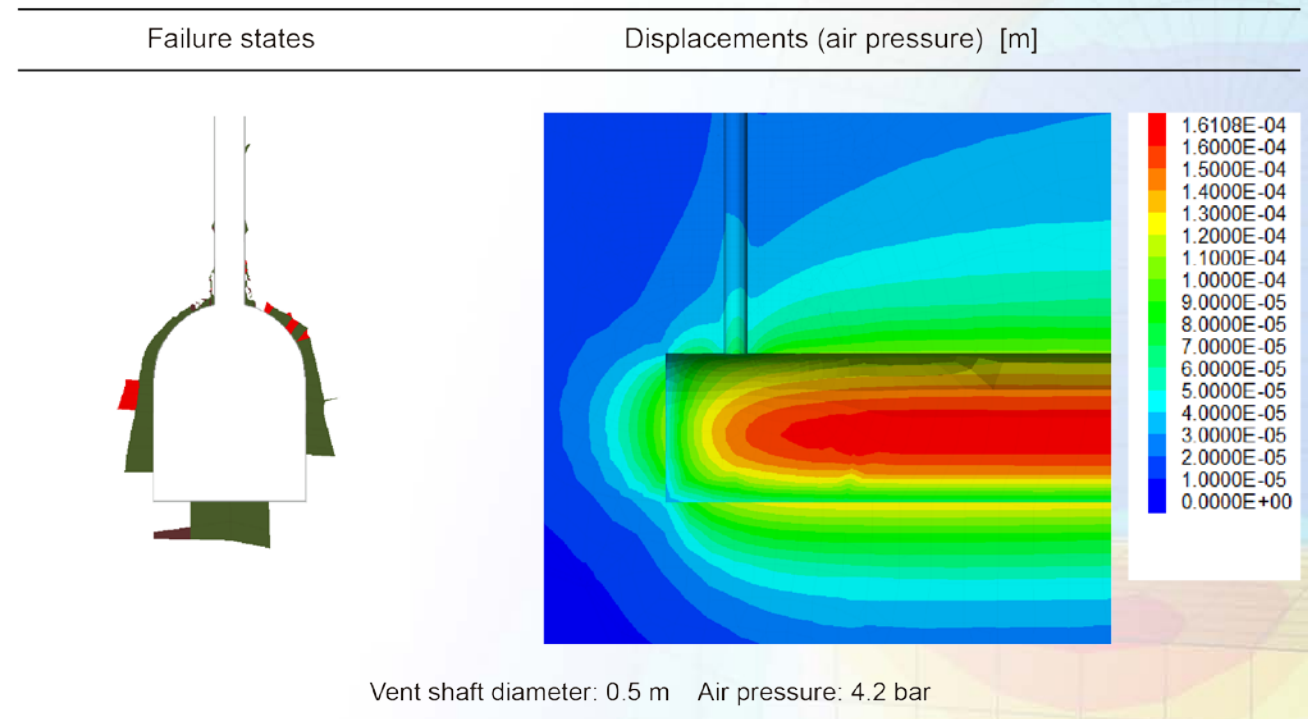
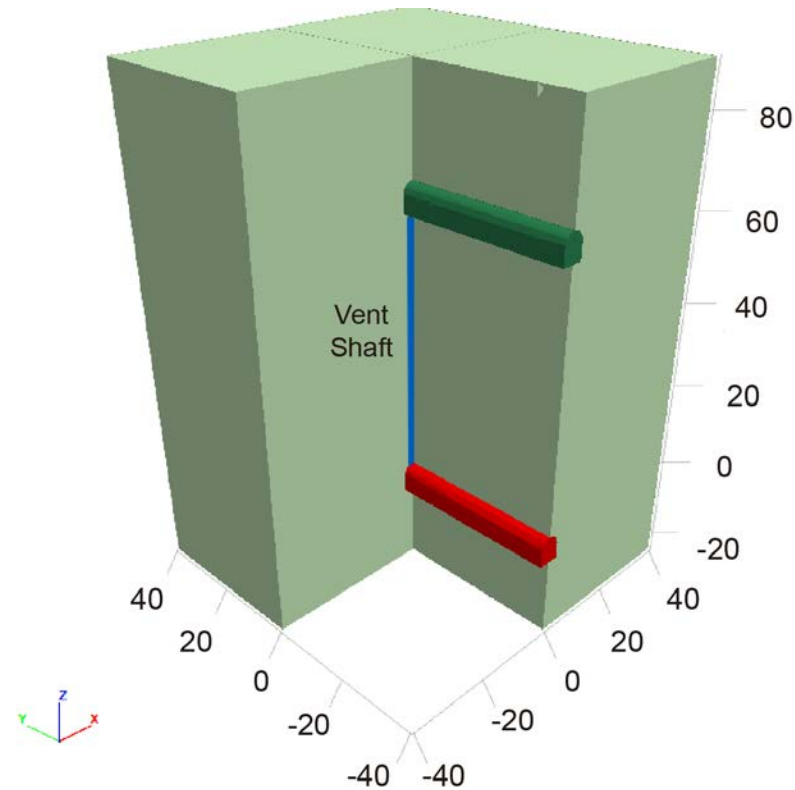
planned Approach

- How to store Energy?



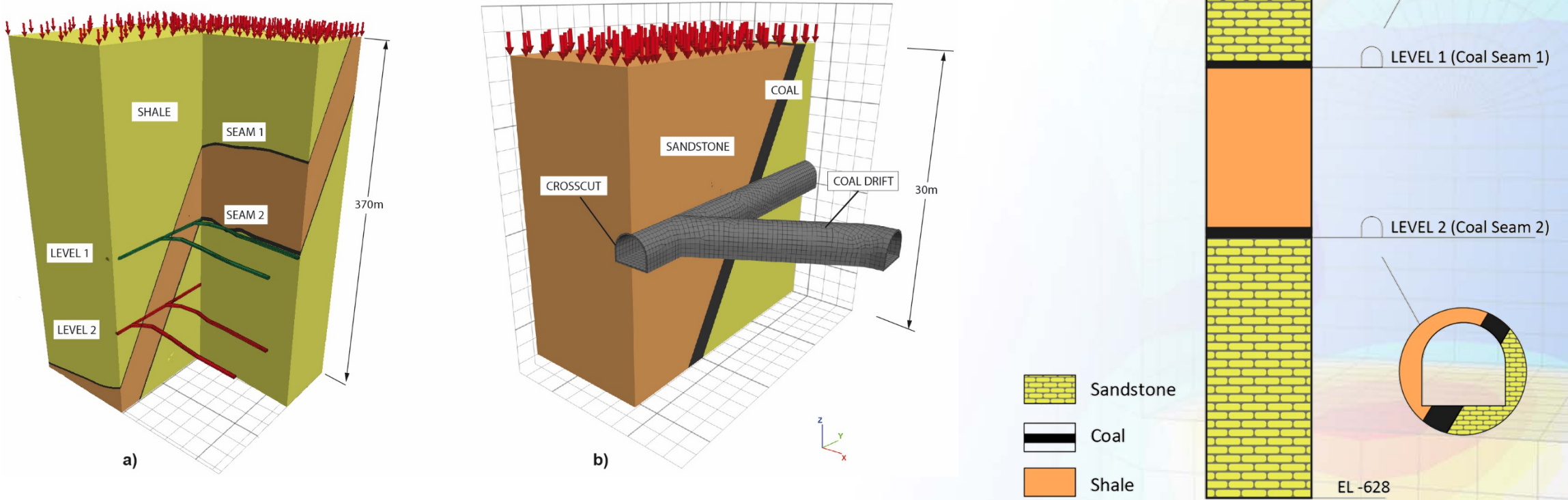
planned Approach

- Focus on geomechanical problems:



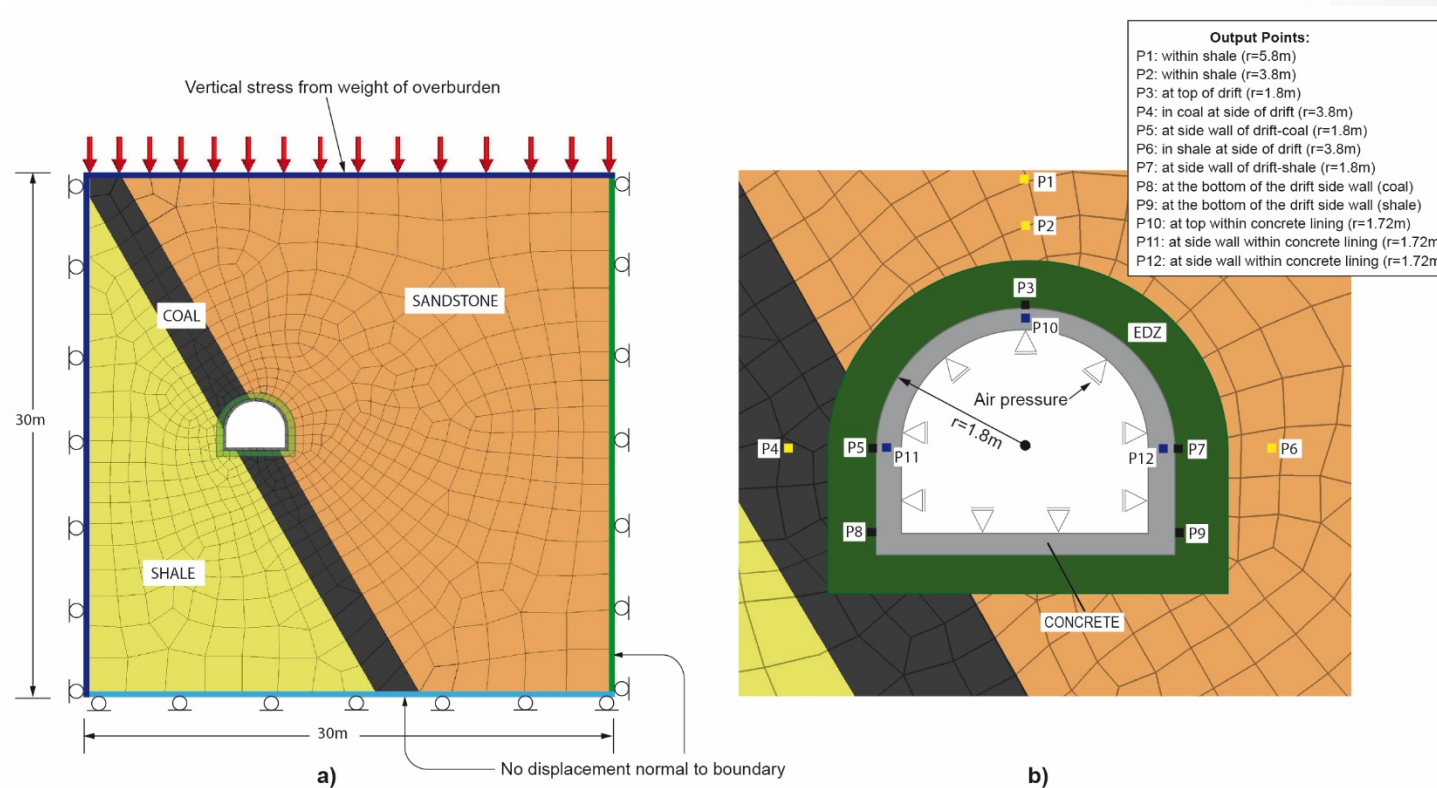
planned Approach

- Focus on geomechanical problems:



planned Approach

- Focus on geomechanical problems:

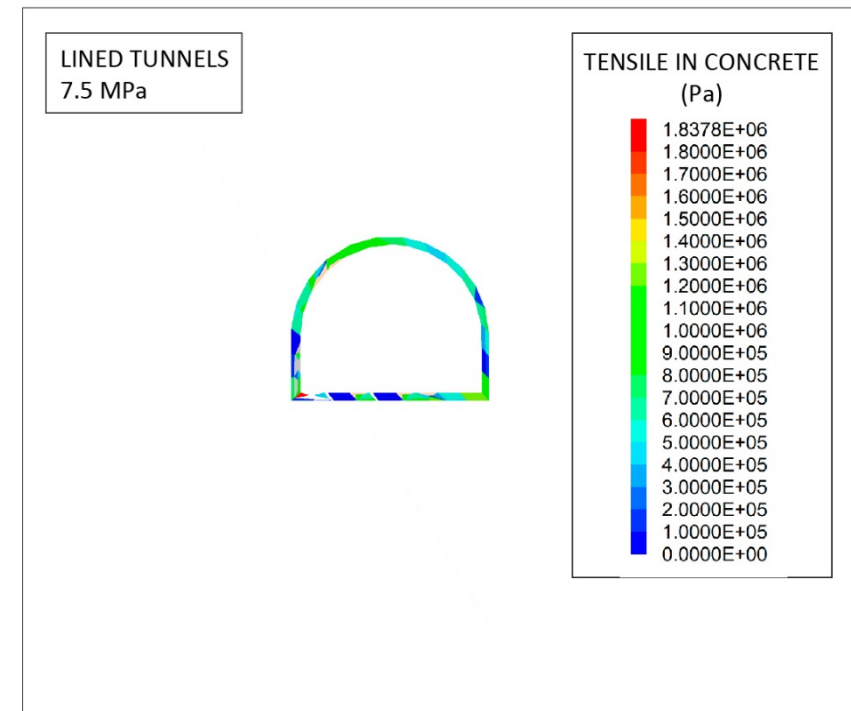


planned Approach

- Focus on geomechanical problems:



a)



b)

Outputs

- Papers:

- Stability analysis of the underground infrastructure for pumped storage hydropower plants in closed coal mines, 2019

- Posters:

- NUMERICAL MODELING OF MINING STRUCTURES FOR THE CONSTRUCTION OF UNDERGROUND HYDROELECTRIC POWER PLANTS, IEEE, 2019
- Comparing subsurface energy storage systems: Underground pumped storage hydropower, compressed air energy storage and suspended weight gravity energy, SCIEI, 2020