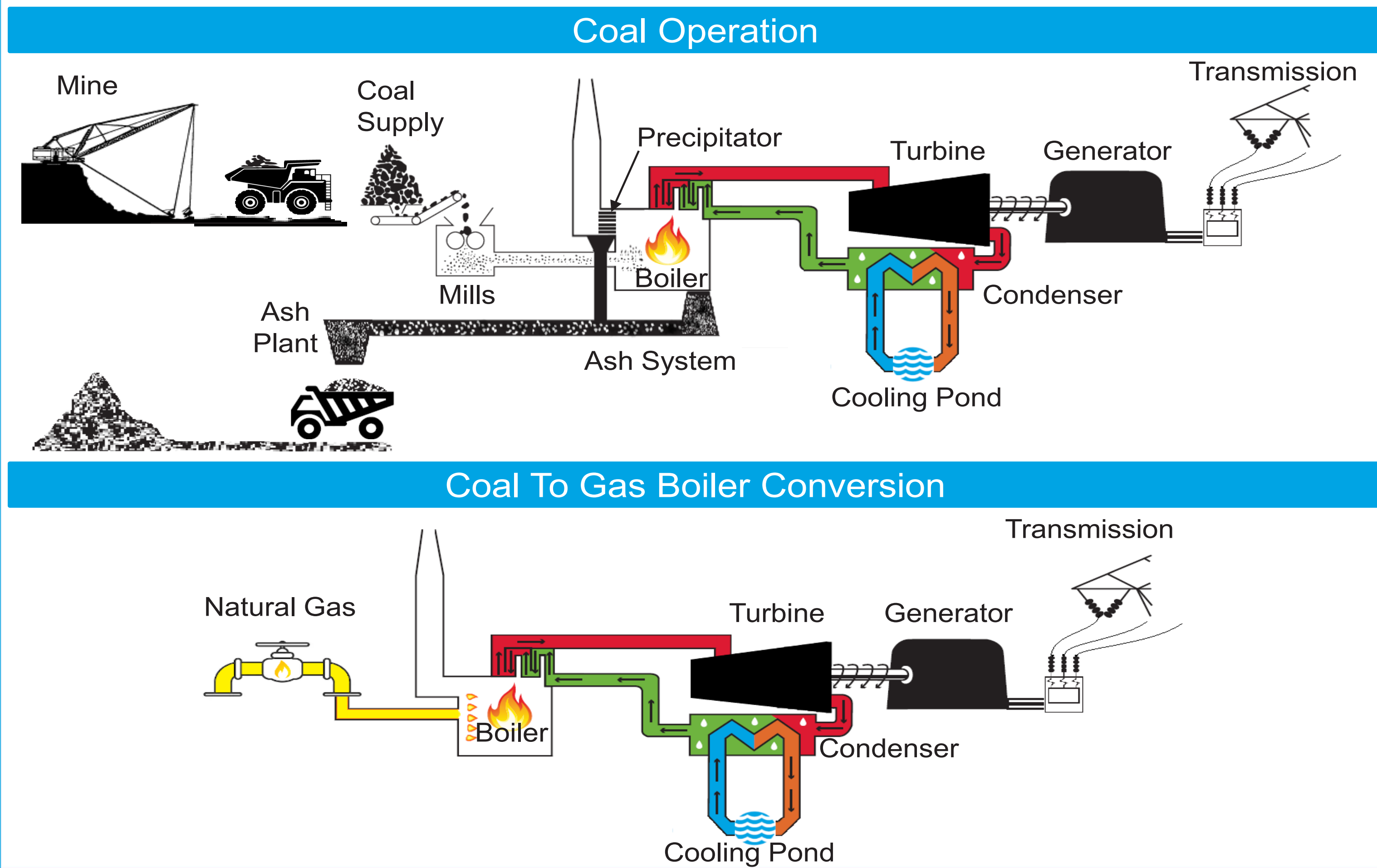


## Current operations and transition to gas

TransAlta

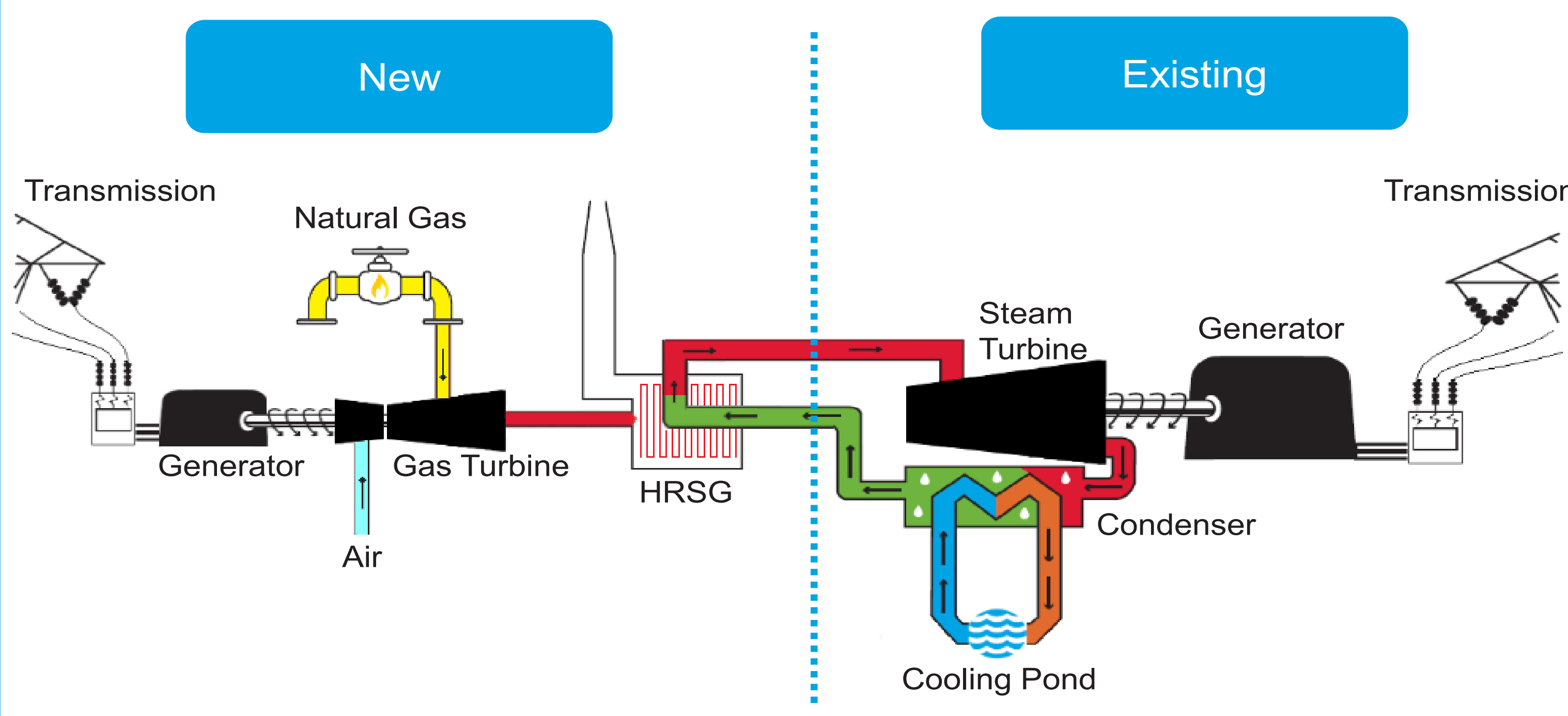


## What is Repowering?

TransAlta

### Facility Integration

- Repowering Projects will combine the use of existing and new infrastructure on two generating units
- Installation of new combustion turbine generators and heat recovery steam generators, creating highly efficient combined-cycle units
- Existing steam turbine will spin associated generator creating additional electricity



## New Major Equipment

### Gas Combustion Turbine & Generator (CTG)

- Air Compressors
- Fuel Gas Conditioning System
- Lube Oil System
- Inlet/Exhaust Systems
- Generator

### Heat Recovery Steam Generator

- Stack
- Duct Burner System
- Recirculation Pump

### Selective Catalytic Reduction (SCR)

- On Site Ammonia Tanks
- Ammonia Injection Skid

### Other

- Gas Metering Station

## Reused Equipment

### Kepphills 1 and Sundance 5

- Steam Turbine Generators
- Generator step-up transformers
- Condensers
- Condensate Extraction Pumps
- Air Ejector and Gland Steam Condensers
- Circulating Water Pumps and Cooling Towers
- Water Treatment Plants
- Air Compressors
- Substations

# Repowering Projects Schedule

The current proposed schedule for the project is shown in the table below. Public consultation commenced in September 2019 and regulatory applications are planned to be filed in the fourth quarter of 2019. Upon receipt of approvals, construction is anticipated to commence early in 2021. Construction will take approximately two years for each generating unit (Keephills 1 and Sundance 5) with commissioning and commercial operations in 2023 and 2024. Sundance 5 is the site for the first planned build.

Activity	Q3 2019	Q4 2019	2020	2021	2022	2023	2024
<b>Environmental Studies and Approvals</b>							
Environmental Studies & Assessments							
File Regulatory Applications							
Permits and Approvals from Regulators							
Engagement and Consultation							
<b>Repowered Units</b>							
Preliminary Engineering & Design							
Detailed Engineering							
Procurement							
Construction							
Commissioning							