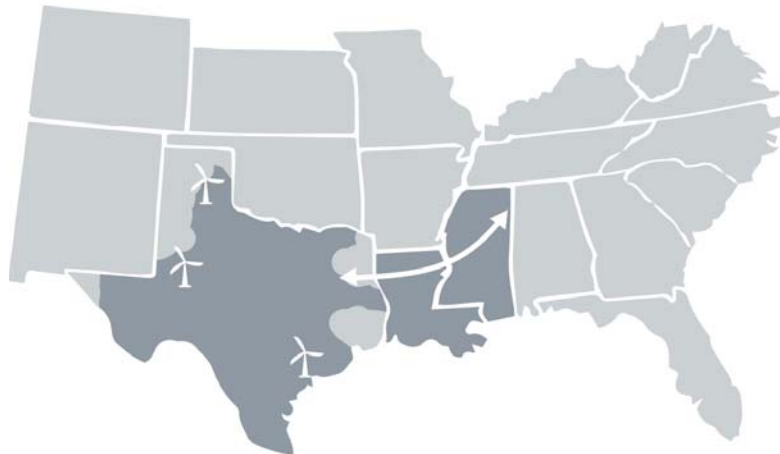


# Need & Benefits

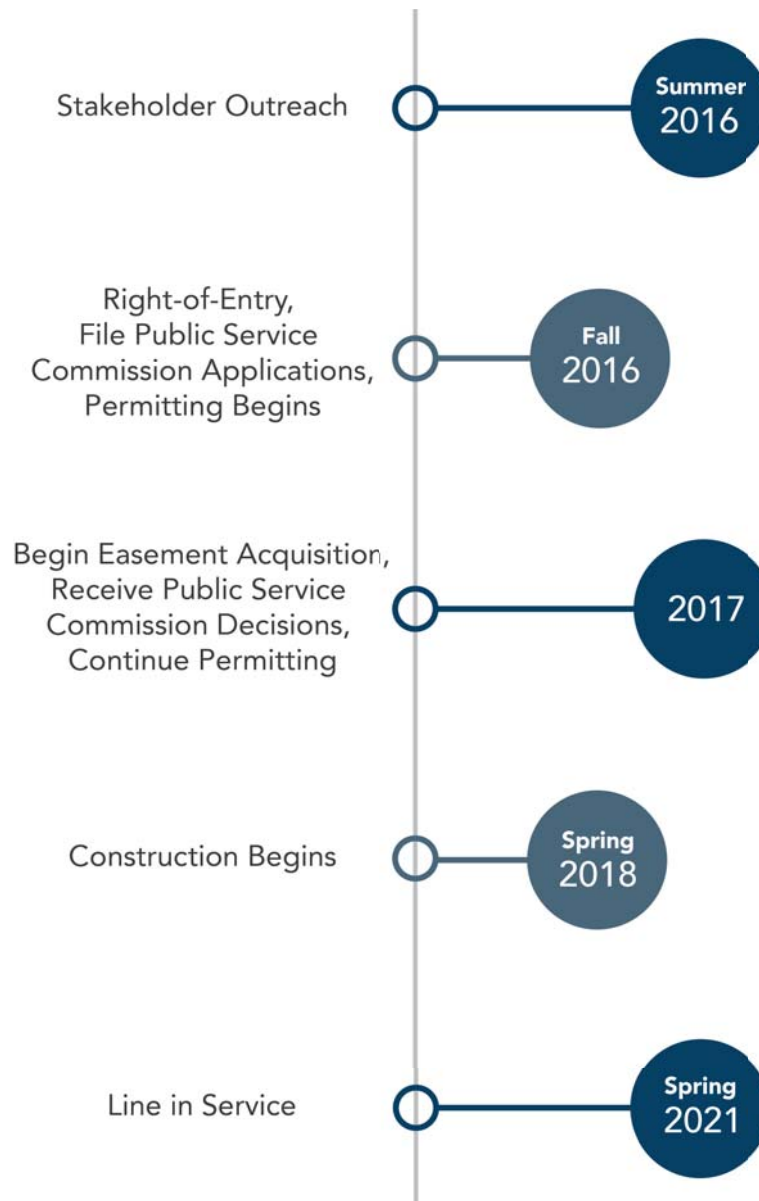
Pattern Energy Group LP (Pattern Development) is developing the Southern Cross Project, a high voltage direct current (HVDC) transmission line with a base load capacity of 2,000 MW (delivered in either direction after losses) that will link abundant and cost-effective wind energy in Texas to the transmission grid and customers in the Southeast.

The benefits of the Project to both regions include:

- Production and utilization of additional renewable energy
- Economic development
- Regional power market economic benefit
- Increased reliability through providing access to diverse generation resources in each region



# Timeline



# Route Selection Process

## Step 1: Project Area

- Define project endpoints
- Identify project area
- Collect project area data
- Solicit agency feedback
- Identify constraints and opportunities

## Step 2: Preliminary Route Alternatives

- Identify routing criteria
- Identify preliminary route alternatives that minimize potential impacts and adhere to routing criteria
- Conduct field review
- Incorporate input received from local leader meetings and agency feedback



## Public Open Houses

## Step 3: Select Final Route

- Incorporate input received at public open house meetings
- Analyze and compare route alternatives
- Identify a final route using typical routing considerations under Louisiana law
- Submit application to Louisiana Public Service Commission for Certificate of Public Convenience and Necessity

# Routing Considerations

## General Routing Considerations:

- Overall length
- Access and terrain
- Heavy angles
- Visibility of the line
- Length parallel to existing roadways, transmission lines, gas pipelines, and apparent parcel boundaries, etc.

## Crossing of:

- Existing transmission lines
- Federal, state, and county lands
- Conservation areas and easements
- Natchez Trace Parkway
- Navigable waterways, streams, lakes, scenic rivers
- Floodplains and levees
- Wetlands
- Woodland
- Cropland
- Pasture/grassland
- Roads and scenic roads
- Aquaculture

## Proximity to:

- Residences
- Businesses
- Public facilities (churches, schools, cemeteries, etc.)
- Historic and archaeological sites
- Streams (parallel)
- Irrigation systems
- New and planned developments
- Airport and airstrips



# Permitting

The Project Team may need permits or approvals from various federal, state, and local agencies. These include, but are not limited to:



## **Louisiana Public Service Commission**

Certificate of Public Convenience and Necessity



## **U.S. Corps of Engineers**

Wetland Assessment (Section 404)

Navigable Water Crossing Permit (Section 10)

Levee Permit (Section 408)



## **U.S. Fish & Wildlife Service**

Threatened and Endangered Species Concurrence

Bald and Golden Eagle Protection Act

Migratory Bird Treaty Act



## **Louisiana Office of Cultural Development**

Cultural Resources Assessment

### **Additional Permits:**

- Structure Height Notification - Federal Aviation Administration
- Threatened & Endangered Species Concurrence - Louisiana Department of Wildlife & Fisheries
- State Highway Utility and Access Permits - Louisiana Department of Transportation & Development
- Stormwater Construction Permit Notice of Intent and Stormwater Pollution Prevention Plan for Construction Activities, and Wetland Assessment - Louisiana Department of Environmental Quality
- Utility Construction Notification - Local Parishes
- Floodplain Development Permit - Local Parishes
- Railroad Crossing Permit - Specific Railroad Companies



# Easement Process



The Project Team notifies all landowners impacted by potential route options.



After the Project Team identifies a final route using the typical routing considerations under Louisiana law, the Project Team notifies all impacted landowners to begin the easement acquisition process.



The Project Team meets with landowners to discuss:

- Project Overview
- Type of Structure
- Construction Process
- Land Restoration
- Proposed Easement
- Compensation
- Construction Access
- Damage Settlement

## **What is an easement?**

An easement is an interest or right to use the land of another for a specific purpose.

For this project, landowners will be asked to grant an easement for the right to use a defined strip of land for the electric transmission line's:

- Construction
- Operation
- Maintenance

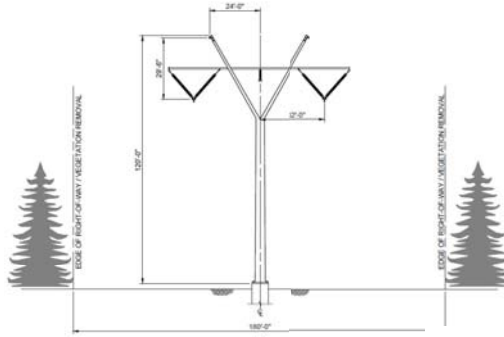


# Possible Structures

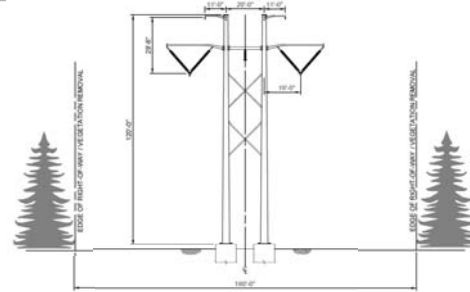
## Typical Structure Measurements

Structure type	Tubular Steel Monopole	H-Frame	Steel Lattice
Foundation	Concrete pier	Concrete pier	Concrete pier
Height range	120 feet (typical)	120 feet (typical)	120 feet (typical)
Span length	1,000 feet	1,000 feet	1,200 feet
Structures per mile	5	5	4.5
Conductor clearance to ground	34 feet	34 feet	34 feet
Foundation dimension	6 - 8 feet	5 - 7 feet	4 - 6 feet
Easement width	180 feet	180 feet	180 feet

Tubular Steel Monopole



H-Frame



Steel Lattice

