



Addison Natural Gas Project

Hinesburg Selectboard

May 21, 2012

Outline

- Vermont Gas - Review
- The Addison Natural Gas Project

Outline

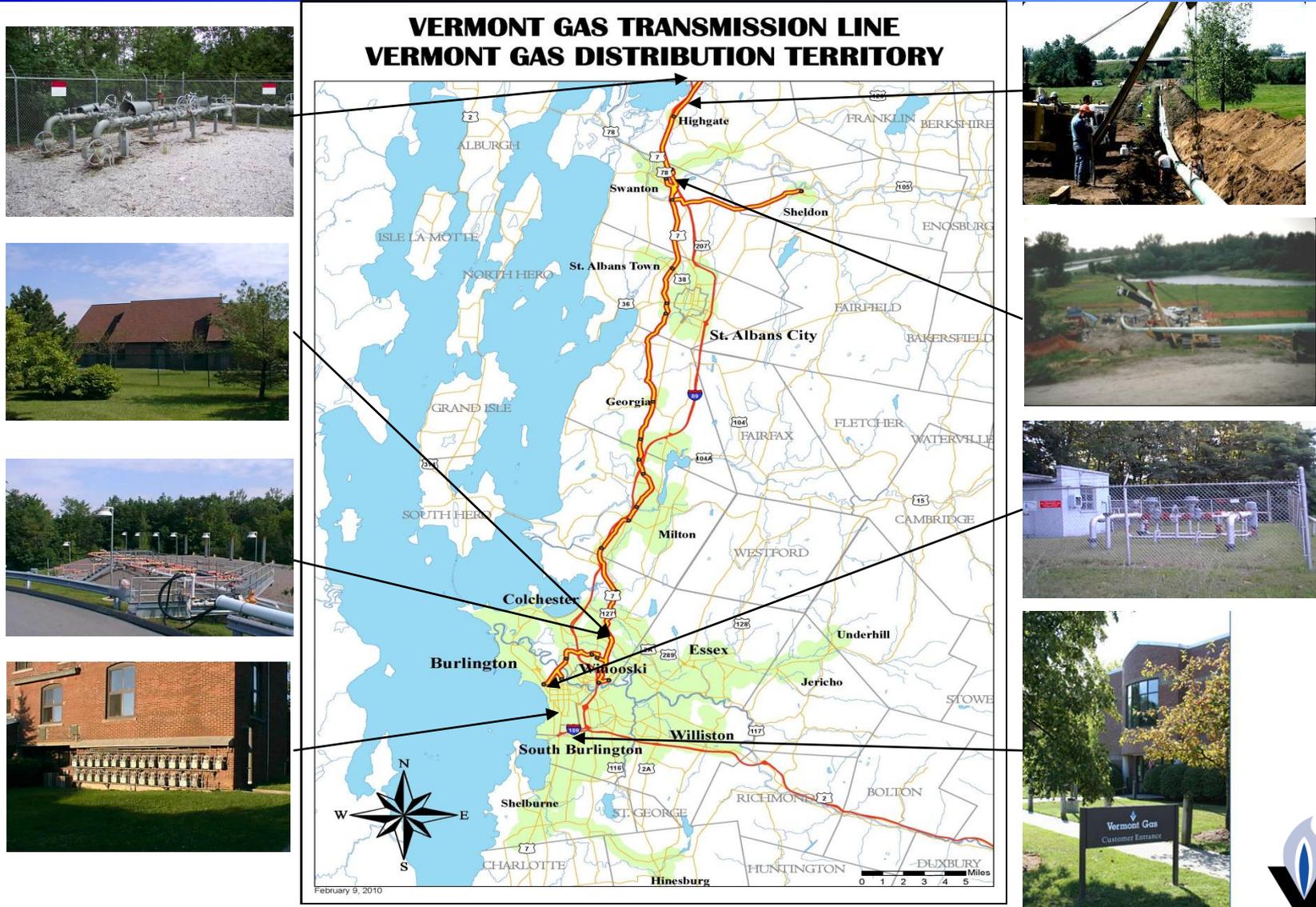
- Vermont Gas - Review
- The Addison Natural Gas Project

Who is Vermont Gas?



- Vermont's only natural gas utility, serving 45,000 customers in Franklin and Chittenden Counties and holding the franchise for all of Vermont
- Established in 1965 after a state initiative to evaluate bringing an alternative energy source to Vermont to support economic development
- Regulated by the Vermont Public Service Board
- Over 40 years experience building and operating and maintaining natural gas pipelines that deliver clean, economical and efficient energy to Vermont
- Committed to bringing the economic and environmental benefits of natural gas to more Vermonters

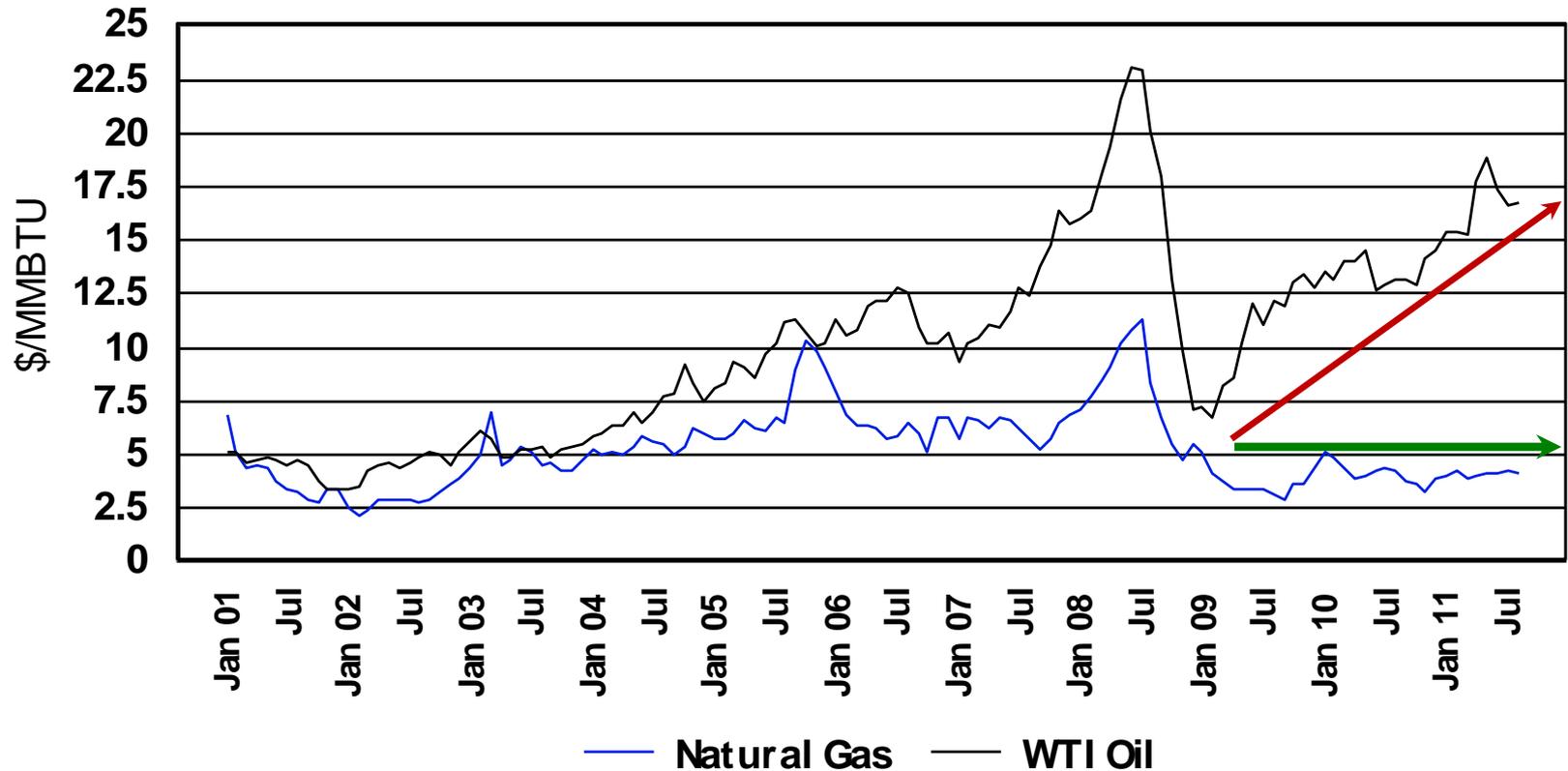
Vermont Gas' Facilities



Natural gas prices are projected to remain relatively low and very competitive into the foreseeable future

U.S. Natural Gas Wellhead Price vs WTI Oil Prices

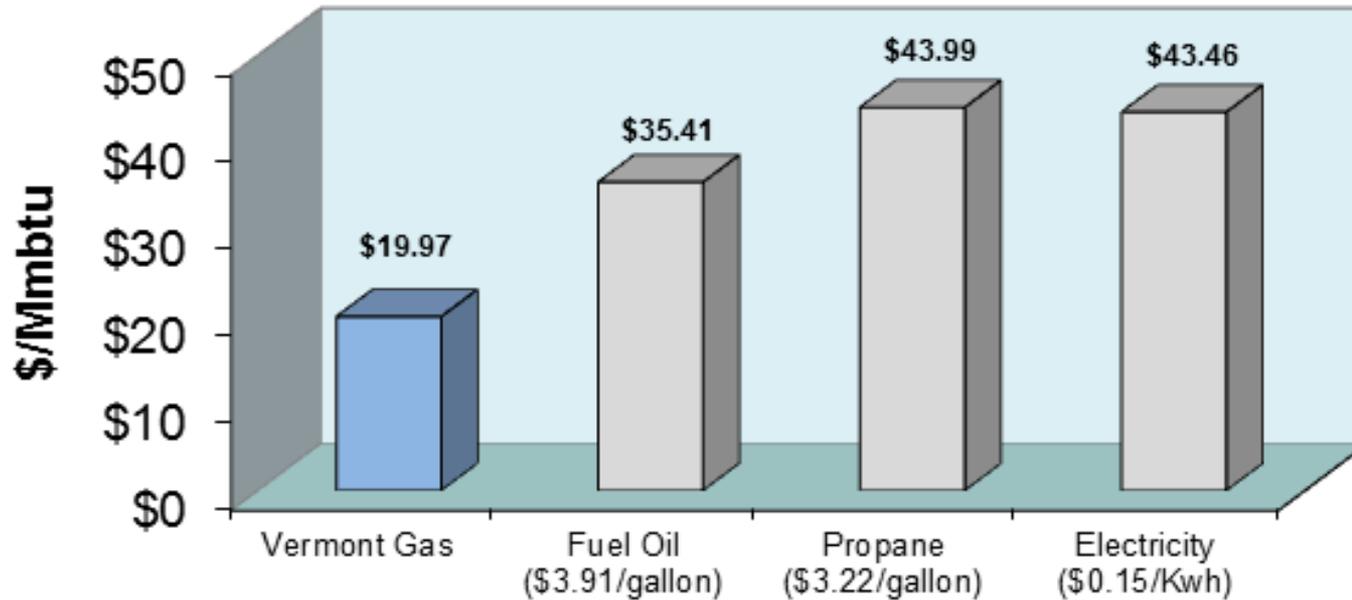
Data Source - U.S. Energy Information Administration



Competitively Priced

Natural gas costs 43% less than heating oil, 55% less than propane

Natural Gas is Less Expensive



Data Source: Vermont Department of Public Service May 2012

Vermont Gas' Vision – *“Where we are going”*

- Natural gas' clean & affordable attributes, combined with a strong supply position it well to meet the nation's future energy needs
- In Vermont, natural gas has the potential to reduce both its over-dependence on oil and the state's greenhouse gas emissions.

Recent Experience with Expanding Natural Gas

Three new communities in three years...and a fourth scheduled for this year.

VERMONT GAS TRANSMISSION LINE VERMONT GAS DISTRIBUTION TERRITORY

TOWN OF RICHMOND
VERMONT

the town of **UNDERHILL, VT**
Chartered in 1763
At the Foot of Mt. Mansfield

Natural gas is heading to Hinesburg!

Have you heard? Natural gas is coming to Jericho!

VERMONT GAS
CLEAN ENERGY. CLEAN AIR.
85 Swift Street, South Burlington VT • (802) 863-4511

VERMONT GAS
CLEAN ENERGY. CLEAN AIR.

Jericho - A Recent Example of the Economic and Environmental Benefits of Natural Gas Service to Vermont Communities

- **Within one year of Vermont Gas' extension of natural gas service to Jericho:**
 - ◆ 450 residents converted to natural gas
 - 45% from oil
 - 55% from propane
- **The residents of Jericho received significant economic benefits**
 - ◆ Customers converting from oil saved \$315 to \$1,450 per year
 - ◆ Customers converting from propane saved \$1,300 to \$1,600 per year
 - ◆ In total, Jericho residents are saving \$390,000 to \$650,000 per year
 - ◆ And the town of Jericho will gain \$25,000 in annual tax revenue
- **Vermont gained significant environmental benefits**
 - ◆ 900 tons of CO₂ emissions are being eliminated *annually*
 - ◆ 12 tons of other greenhouse gas emissions are being eliminated annually
 - ◆ Emissions from trucks transporting liquid fuels have been eliminated
 - ◆ There is less traffic and wear and tear on Vermont's roadways



Benefits of Addison County Expansion

■ Economic benefits –

- ◆ Reduces overall energy cost by \$44 million over 20 years
- ◆ Will help to create and retain jobs

■ Environmental benefits –

- ◆ Reduces 6.3 million gallons of oil use per year in Vermont
- ◆ Eliminates over 16,000 tons of greenhouse gas emissions per year

■ Supports key stakeholders and employers who are calling for natural gas expansion

■ Can provide long term reliability benefits

- ◆ Rutland Service
- ◆ Potential interconnection to US natural gas system



Outline

- Vermont Gas - Review
- The Addison Natural Gas Project

Addison Expansion Project

MISSION

“To expand natural gas service to Addison County in a manner that maximizes economic, environmental and reliability benefits to stakeholders – while maintaining a strong competitive advantage, excellent customer satisfaction, superior safety and positions Vermont Gas for future expansion.”

Project Schedule

Addison County Expansion Project

	2010	2011				2012				2013				2014				2015				
	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
Conceptual Design																						
Project Funding Initiative																						
Preliminary Design																						
Stakeholder Engagement																						
248 Preparation																						
• Engineering																						
• Environmental																						
• Outreach																						
248 Looping																						
248 Proceeding																						
Order Materials																						
Construction																						
Customer Turn-ons																						



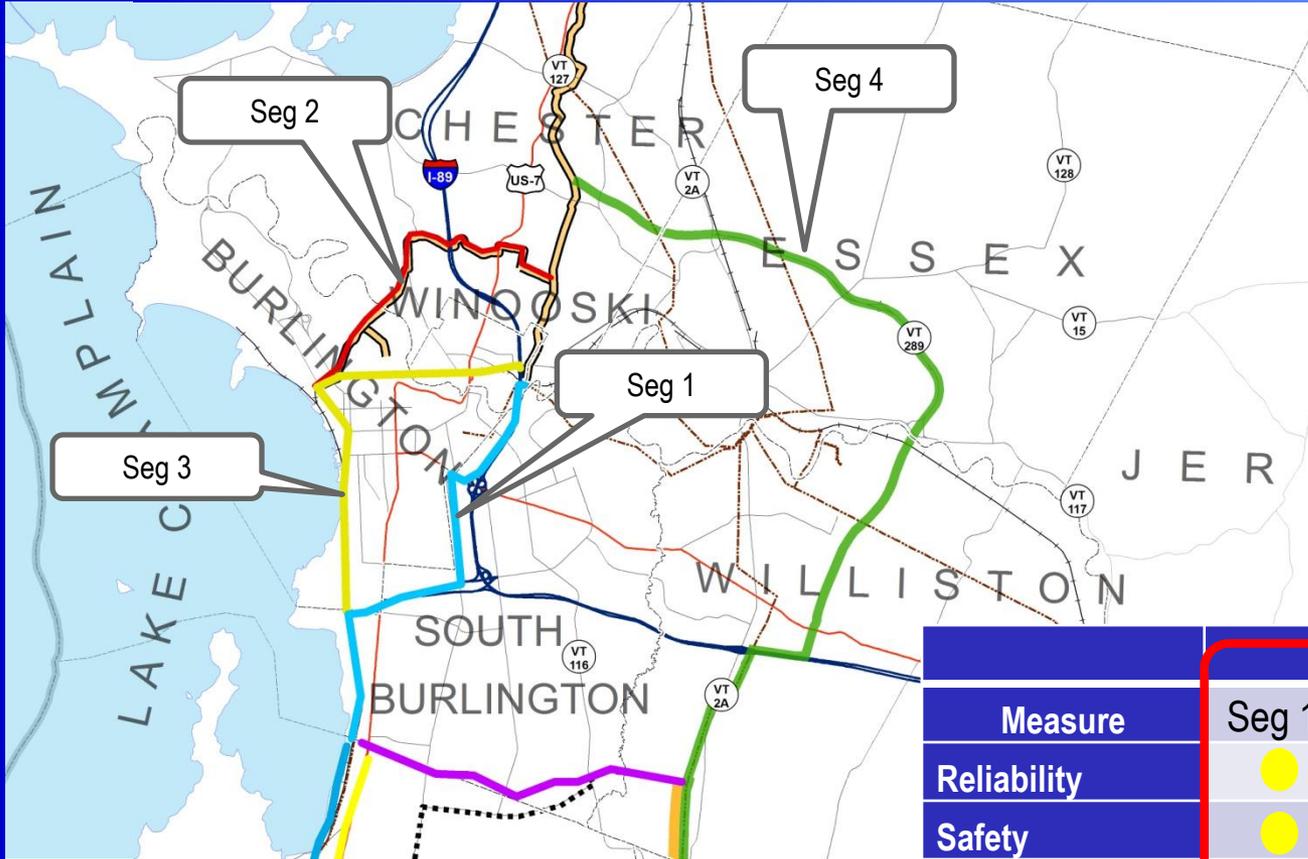
Issues to be addressed in the Stakeholder Engagement Process

- Transmission Terminus
 - ◆ How far south should we extend the transmission system?
- Corridor
 - ◆ What is the best corridor to follow for the expansion
 - Route 7, VELCO Other?
 - ◆ What are the tradeoffs of the different routes
 - Environmental, economic, operational
- System design
 - ◆ What are the tradeoffs on the different design options

Advisory Group - Representation

- State Agencies
 - DPS
 - ANR
 - Commerce Dept
 - VTrans
- Federal Agencies
 - Army Corp
 - EPA
 - PHMSA
- Environmental Groups
- Elected Official
- Businesses
- Citizens
- Town Managers
- Town Planners
- Regional Planners
- Regional Economic Development
- Non-Profits
- VELCO

Northern Section



Segments in Northern Section focus on traversing the densely populated Burlington area with transmission pipeline.

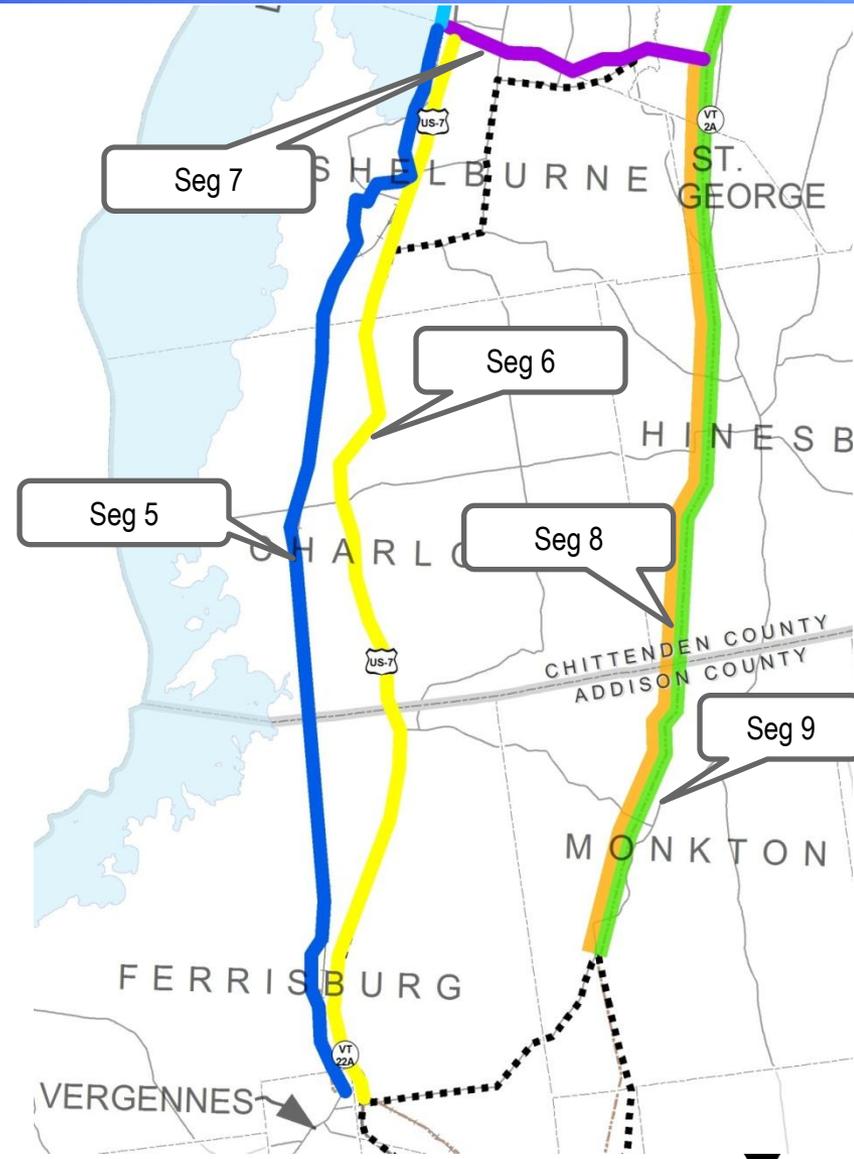
	Northern Section			
Measure	Seg 1	Seg 2	Seg 3	Seg 4
Reliability	●	●	●	●
Safety	●	●	●	●
Capacity	●	●	●	●
Constructability	●	●	●	●
Market	●	●	●	●
Cost	●	●	●	●
Environmental	●	NE	NE	●
Archeological	●	●	●	●

NE = Not Evaluated

Southern Section

Segments in Southern section expand service by extending pipeline to Addison County either with additional transmission or distribution pipeline.

	Southern Section				
Measure	Seg 5	Seg 6	Seg 7	Seg 8	Seg 9
Reliability	●	●	●	●	●
Safety	●	●	●	●	●
Capacity	●	●	●	●	●
Constructability	●	●	●	●	●
Market	●	●	●	●	●
Cost	●	●	●	●	●
Environmental	●	NE	●	●	●
Archeological	●	●	●	●	●



NE = Not Evaluated

The Route Alternatives

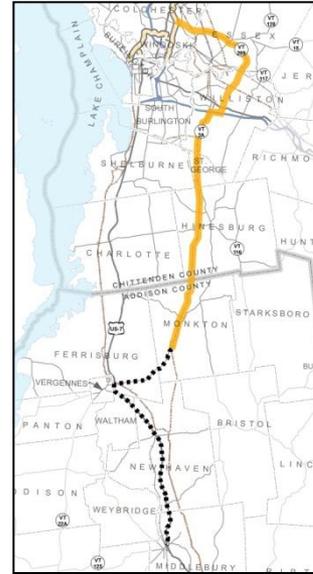
Alternative 1



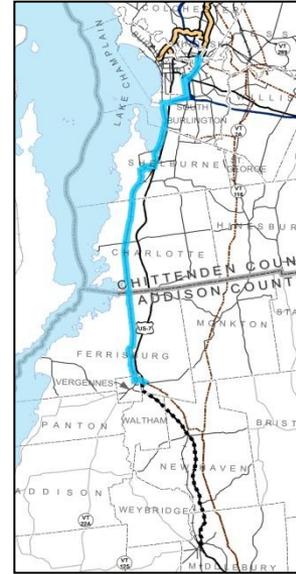
Alternative 2



Alternative 3



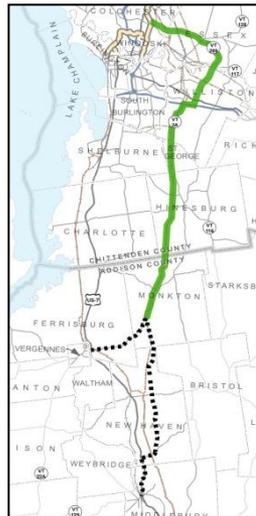
Alternative 4



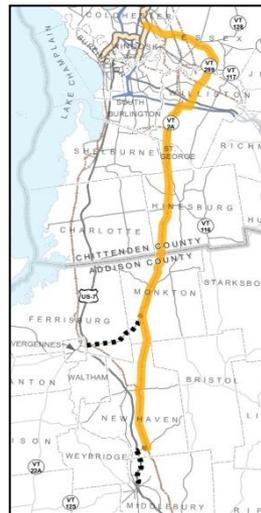
Alt 1a/b



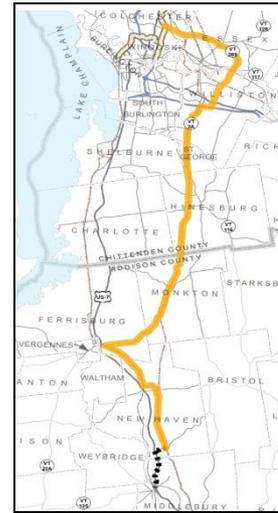
Alt 2a



Alt 2b



Alt 3a



Alt 4a

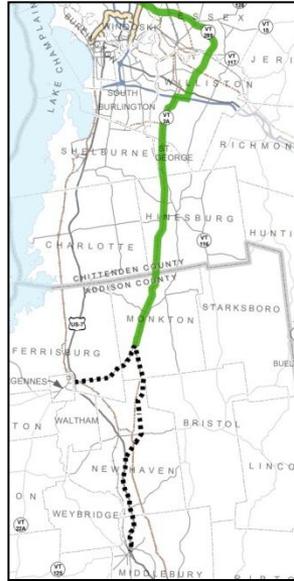


The Route Alternatives

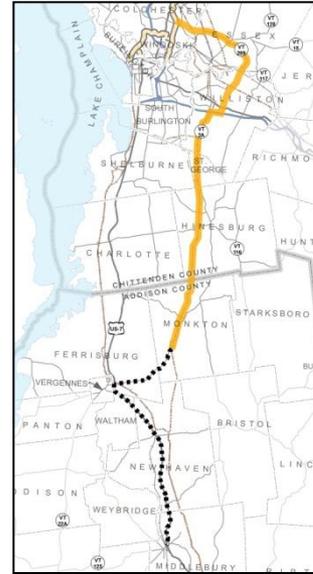
Alternative 1



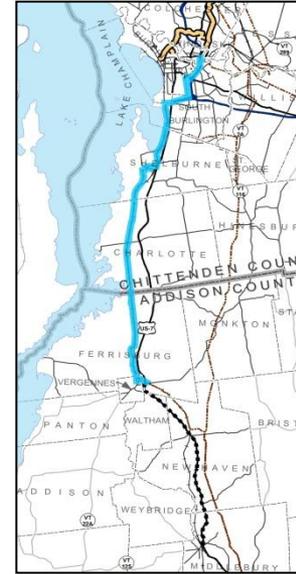
Alternative 2



Alternative 3



Alternative 4



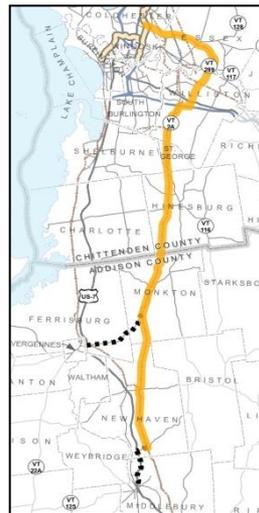
Alt 1a/b



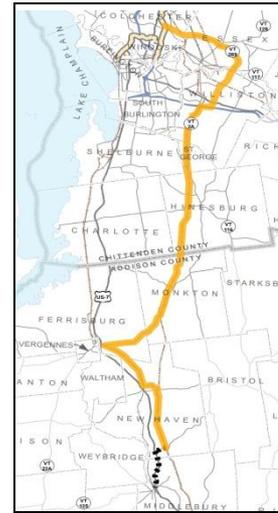
Alt 2a



Alt 2b



Alt 3a



Alt 4a



Route / Criteria	Alternative 1	Alternative 2	Alternative 2(a)	Alternative 3	Alternative 4
Description	Transmission (10") along area considered for circumferential highway; Distribution (12" HDPE) from Williston to Vergennes & Middlebury via secondary roads and Route 7	Transmission (10") within area considered for circumferential highway and south along VELCO east corridor; Distribution feeders to Vergennes (6") and Middlebury (10") and via Rte. 7	Transmission (10") within area considered for circumferential highway and south along VELCO east corridor; Distribution Feeders across to Vergennes (6"); through New Haven to Middlebury (10") (off Route 7)	Transmission (10") within area considered for circumferential highway and south of I-89 to Monkton along VELCO east corridor One Large Distribution Feeder to Vergennes and Middlebury	Transmission (10") south, parallel to I-89; Transmission (10") south via VELCO west corridor to Vergennes; Distribution feeder to Middlebury along Route 7
Pipeline Distance	46.4 miles total; 13.8 miles transmission, 32.6 miles distribution	50.7 miles total; 24.5 miles transmission, 26.2 miles distribution	50.1 miles total; 24.5 miles transmission, 25.6 miles distribution	45.3 miles total; 24.5 miles transmission, 20.8 miles distribution	38.2 miles total; 26.1 miles transmission, 12.1 miles distribution
Budget / Rank	\$61.9M – Most expensive	\$57.6M –2 nd most expensive	\$57.2M – 3 rd most expensive (tie)	\$57.2M- 3 rd most expensive (tie)	\$56.0M – least expensive
Environmental	Manageable; Least number of stream crossings	Manageable; less wetland mitigation than alternative 4; less resources and potential impacts than alternative 4	Manageable; less wetland mitigation than alternative 4; less resources and potential impacts than alternative 4	Manageable; less wetland mitigation than alternative 4; less resources and potential impacts than alternative 4	Manageable; Most storm water and water supply concerns; Most RTE occurrences
Capacity	Would have higher than desired interruptions in Addison	Sufficient	Sufficient	Sufficient	Sufficient
Rutland	Not well positioned for service beyond Vergennes and Middlebury	Capacity for future expansion to Rutland	Capacity for future expansion to Rutland	Capacity for future expansion to Rutland	Capacity for future expansion to Rutland
Markets - Misc.	Serve customers along Rte. 7	Service on Rte. 7 south from Vergennes	No service along Rte. 7; service in New Haven center	Service on Rte. 7 south from Vergennes	Service on Rte. 7 south from Vergennes
Safety	Good	Good	Good	Good	Good
Reliability	Provides reliability to existing customers	Provides reliability to existing customers	Provides reliability to existing customers	Provides reliability to existing customers	Does not provide additional reliability
Constructability	Manageable	Manageable	Manageable	Manageable	Manageable; transmission construction through densely populated area

The Route Alternatives

Alternative 2

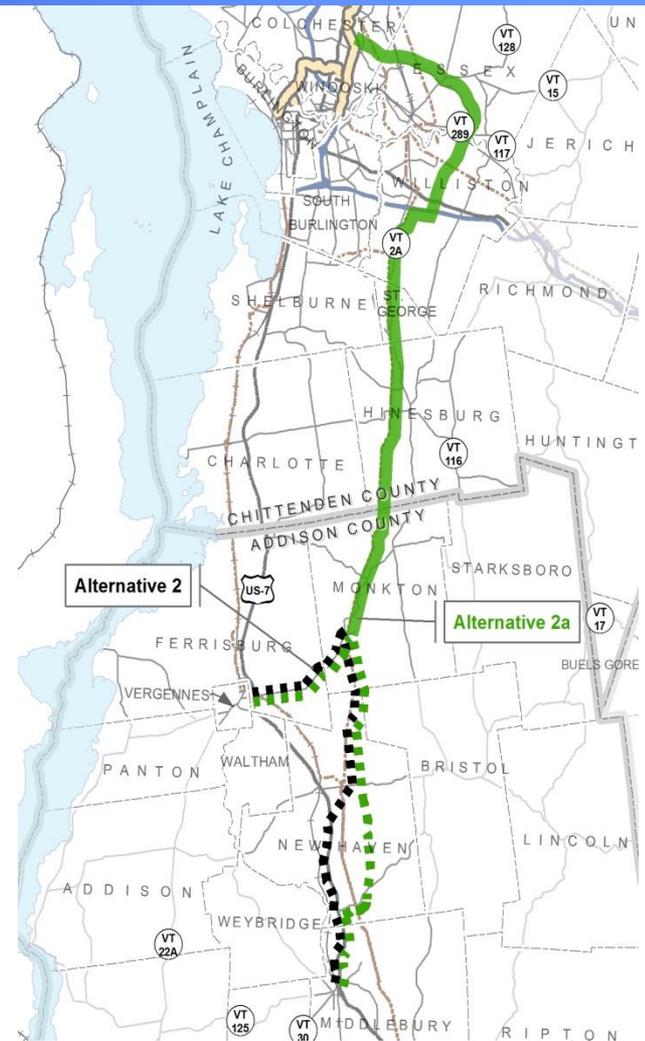


Alt 2a



Alternatives 2 and 2a

- Increases reliability for existing customers.
- Future expansion to Bristol and downtown New Haven possible.
- **Transmission line is extended further south than the other alternatives, thereby preparing for future expansion to Rutland.**
- Allows greater flexibility in New Haven
- Wider VELCO corridor
- Some believe that Alternative 2 involves lesser environmental impacts than Alternative 4.



Next Steps

- Continued Community Outreach
 - **Williston**
 - St. George
 - **Hinesburg**
 - Monkton
 - New Haven
 - Ferrisburg
- RFP for Engineering Design Firm
- Environmental / Field Work

Next Steps

- **E-mailing / Newsletter** – Vermont Gas will be providing regular updates via e-mail & newsletter on the status of the project
- **Public meetings** – We will attend public meetings or venues to discuss this project and answer questions

Questions?

- Contact Steve Wark at:

Office: (802) 863-4511

E-mail: swark@vermontgas.com



Vermont Gas
CLEAN ENERGY.
CLEAN AIR.

Thank you!