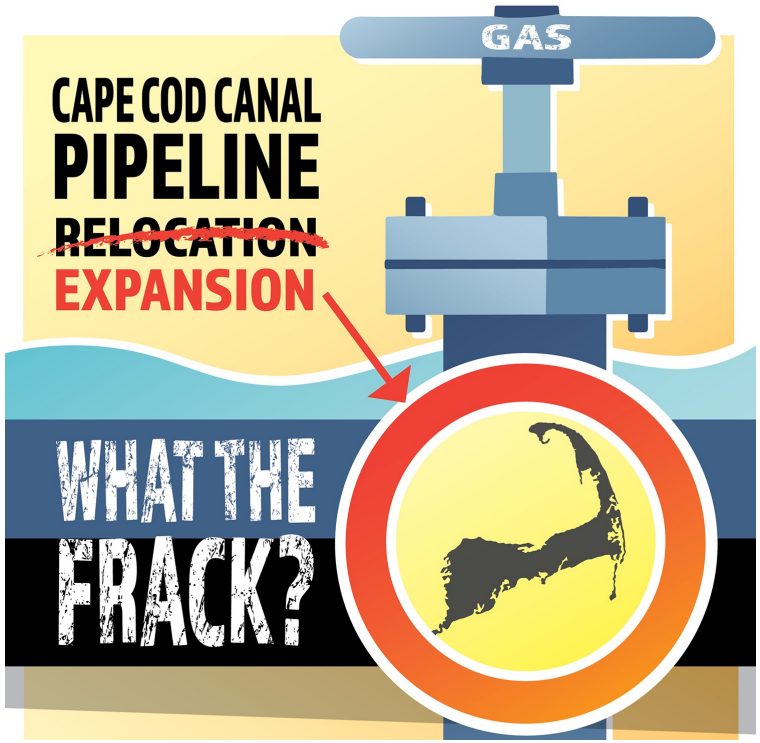
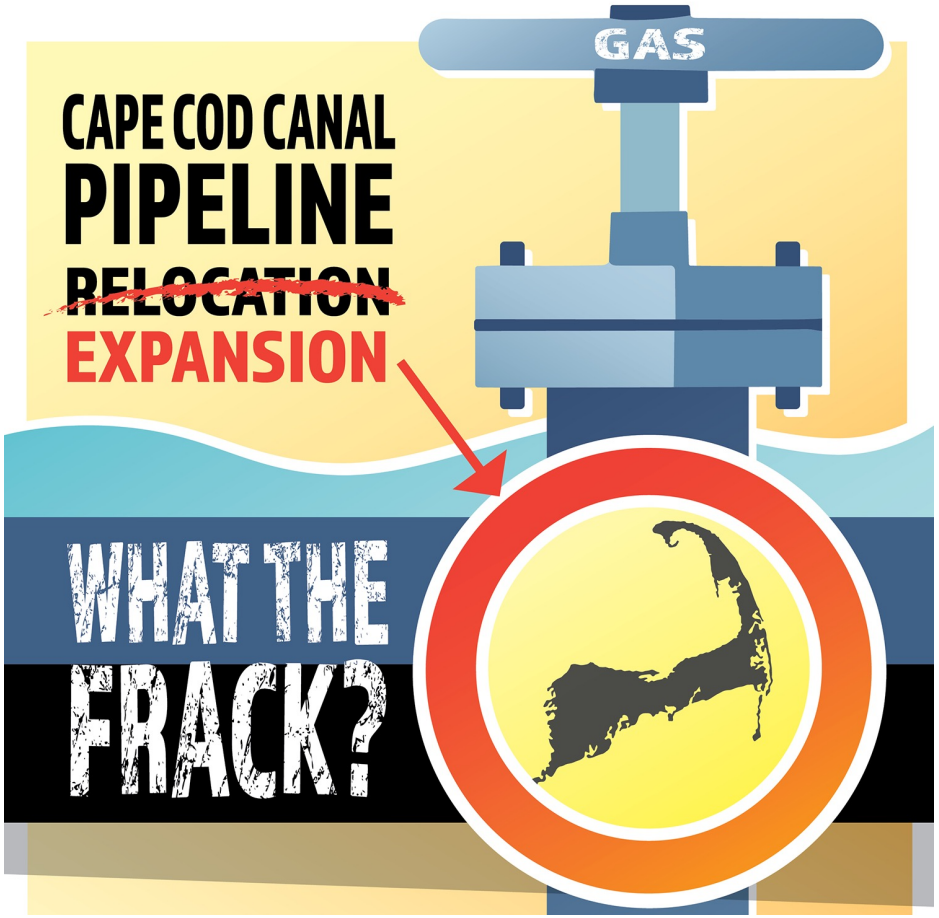
August 15th Sierra Club Cape Cod & Island Group Third Tuesday Talk



Outline

- **Cape Cod Canal Pipeline Project Introduction**
- **Upstream Fracked-Gas Expansion Projects Affecting New England**
- **Pipeline Expansion in Massachusetts**
- **Cape Cod Commission "Development of Regional Impact" Review**
- **Advocacy & Training Opportunities**



Featured Speakers

Chris Powicki
Sierra Club's Cape Cod & Islands Group

Martha Klein
Sierra Club's Connecticut Chapter &
No Pipeline Expansion (NOPE)

Eva Morgan
Sierra Club's Massachusetts Chapter

What is the Cape Cod Canal Pipeline Relocation Project?

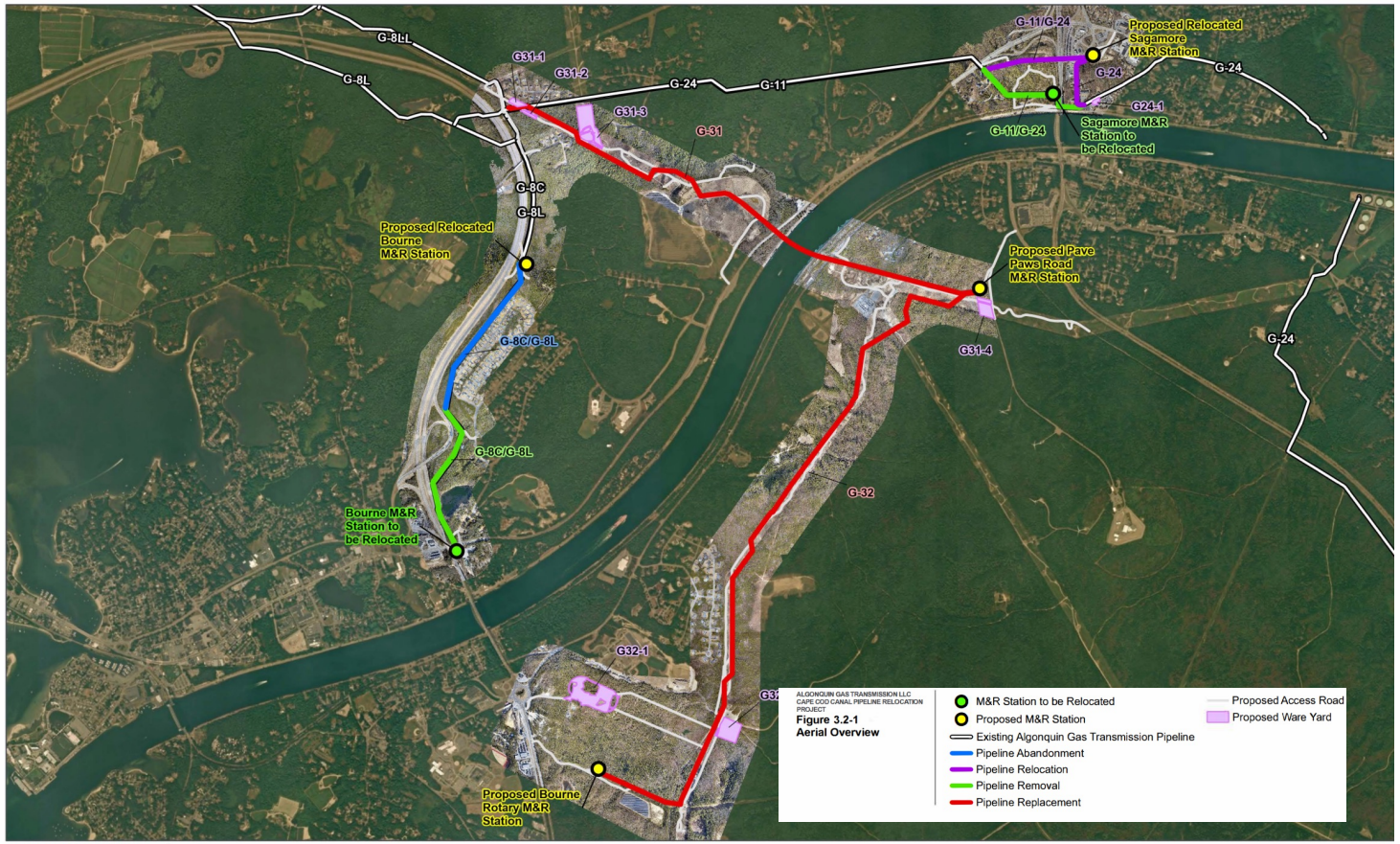
- Algonquin Gas Transmission (AGT) pipelines serve National Grid distribution lines attached to the underside of the Sagamore and Bourne bridges to support delivery of methane gas from the Canal area out to Eastham
- Replacement of two bridge-attached 10-inch-diameter fracked gas pipelines is a necessary precursor to MassDOT's Cape Cod Bridges Program
- AGT proposes replacement 18-inch-diameter pipeline (G-32) installed under Canal via horizontal directional drilling (HDD), plus pipeline and flow control stations on both sides of Canal
- AGT to receive $302 million from MassDOT as reimbursement for pipeline relocation, out of $4.5 billion in taxpayer funds for bridge replacement
- Construction extending AGT's network under and along the canal scheduled to commence January 2027
- Primary facilities placed into service by end of 2027, before beginning of Sagamore bridge construction in 2028, with remaining restoration/retirement activities completed in 2028

Bridge Type – Twin Network Tied Arch

No pipelines allowed!

What is the Cape Cod Canal Pipeline ~~Relocation~~ Expansion Project?

- Installation of 6.33 miles of new 16-inch and 18-inch pipeline
- Removal of 2.03 miles and abandonment of 1.44 miles of pipeline
- Replacement of existing Bourne and Sagamore metering and regulation (M&R) stations
- Construction of new Pave Paws Road and Bourne Rotary M&R Stations
- Installation of valve sites, launchers and receivers, access roads, and construction yards



What Does AGT Say About Energy & Carbon Emissions?

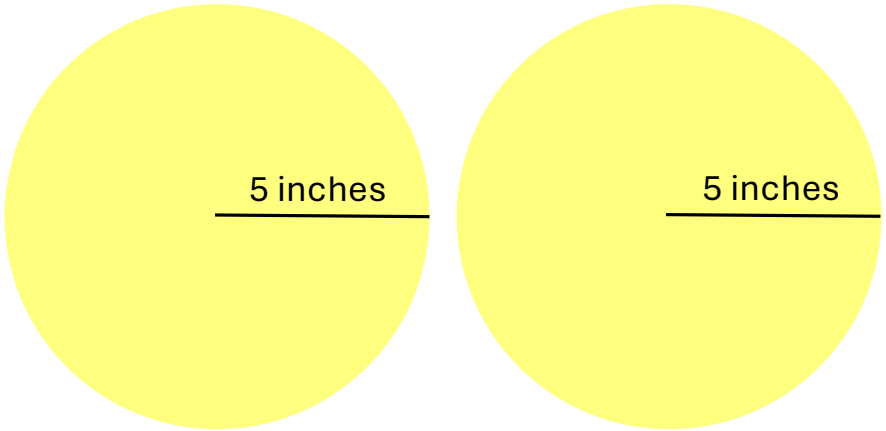
- "More resilient underground system designed to maintain the reliability and long-term operation of the region's energy delivery network"
- "No increase in interstate pipeline capacity and **no expansion of natural gas service to Cape Cod**"
- "same service function as the existing infrastructure"
- "same maximum operating pressure"
- "upstream constraints exist"
- "Net positive change in long-term carbon sequestration due to forest regeneration"

AGT's Alternatives Analysis

"System alternatives and non-gas phasing alternatives were … dismissed because they would not reliably replace the existing bridge-mounted gas transportation function within the schedule required by the CCBP, would not provide equivalent operational reliability, or would not avoid the need to relocate facilities affected by bridge construction."

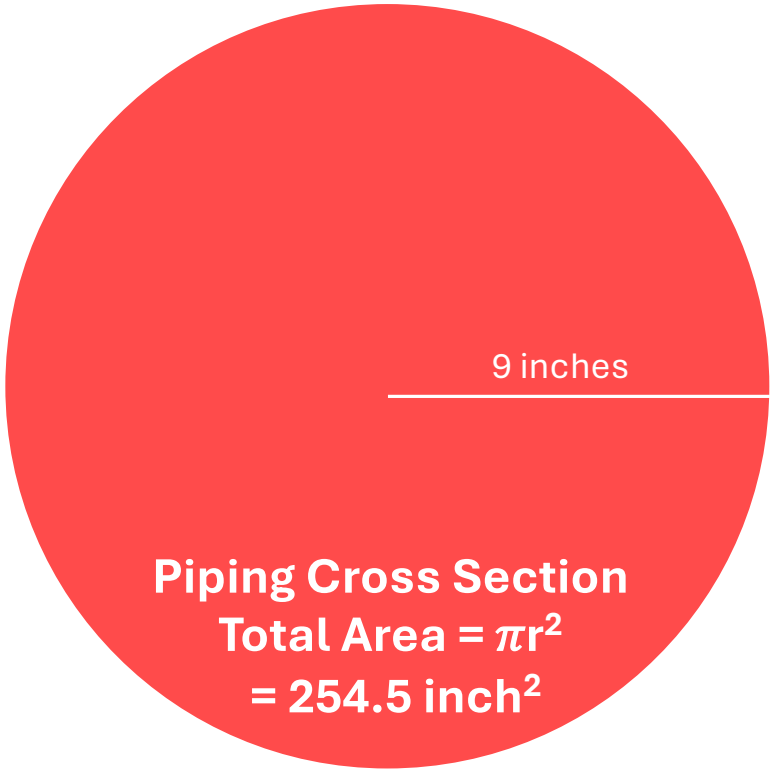
No Expansion? 62% Larger Cross-Sectional Area!

Existing Bridge-Attached Infrastructure
Two 10-inch-diameter pipelines



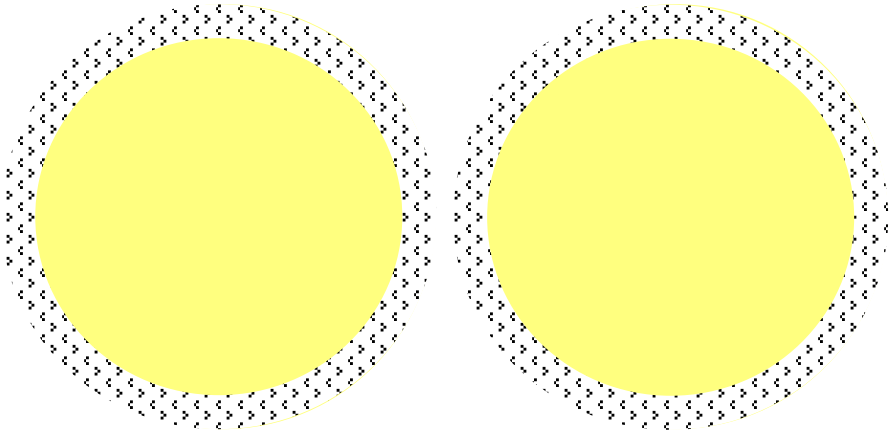
Piping Cross Section
Total Area = $2(\pi r^2)$
= 157.1 inch^2

Proposed Under-Canal Infrastructure
One 18-inch-diameter pipeline



No Expansion? Much Higher Flow Efficiency & Delivery Rate!

Existing Bridge-Attached Infrastructure
Two 10-inch-diameter pipelines



Wall Friction & Pressure Drop Losses Decrease Exponentially With Diameter

18-inch pipe 18-20x more efficient than 10-inch pipe and likely to operate at higher pressure

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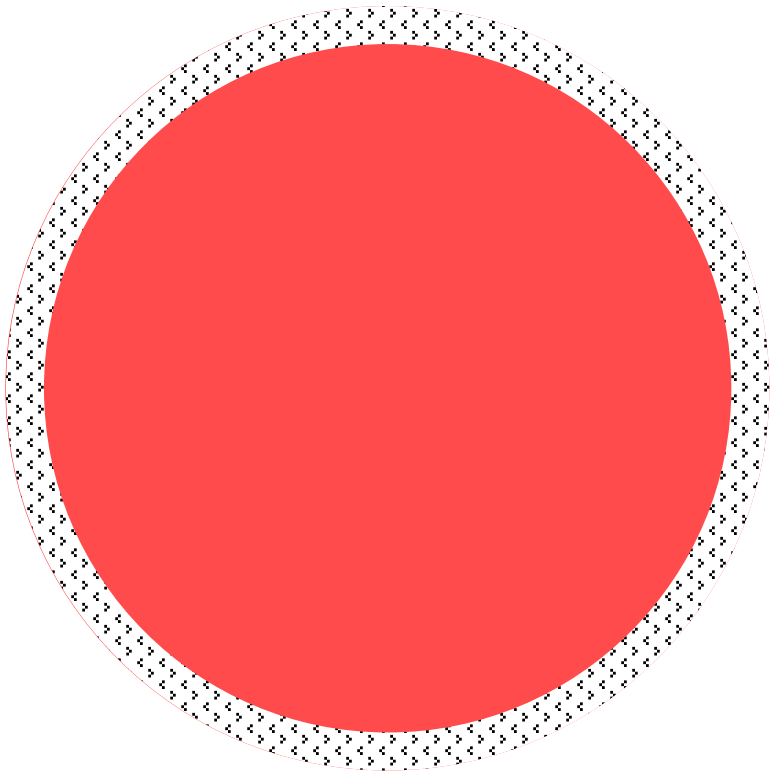
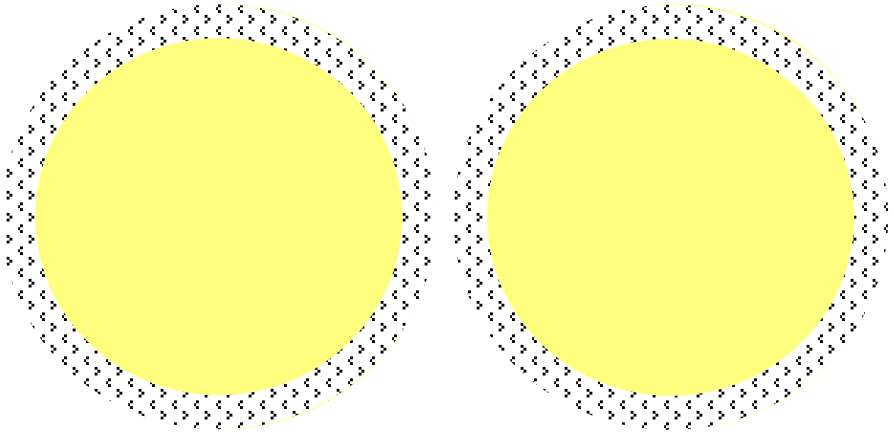
One 18-inch-diameter pipeline



No Expansion? More Than Double the Delivery & Storage Capacity!

Existing Bridge-Attached Infrastructure
Two 10-inch-diameter pipelines



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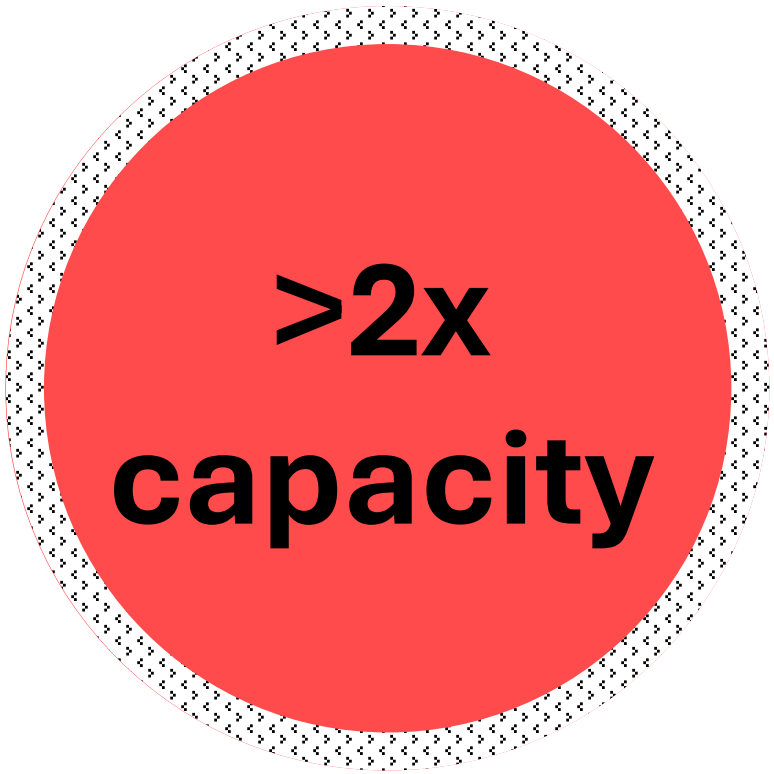
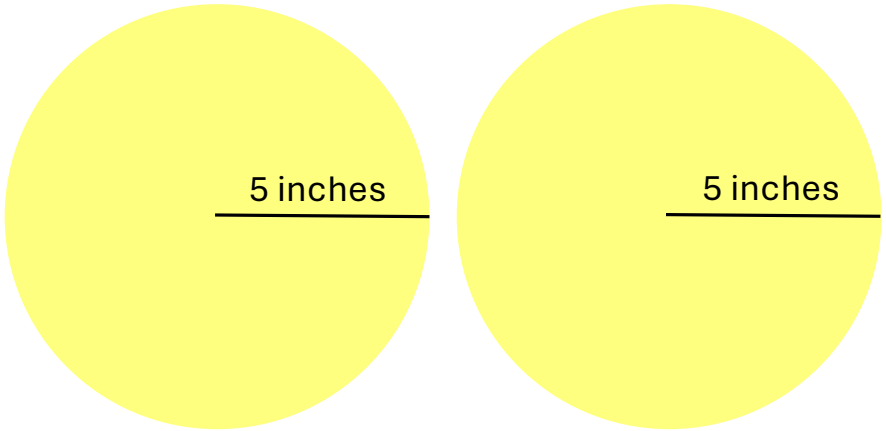


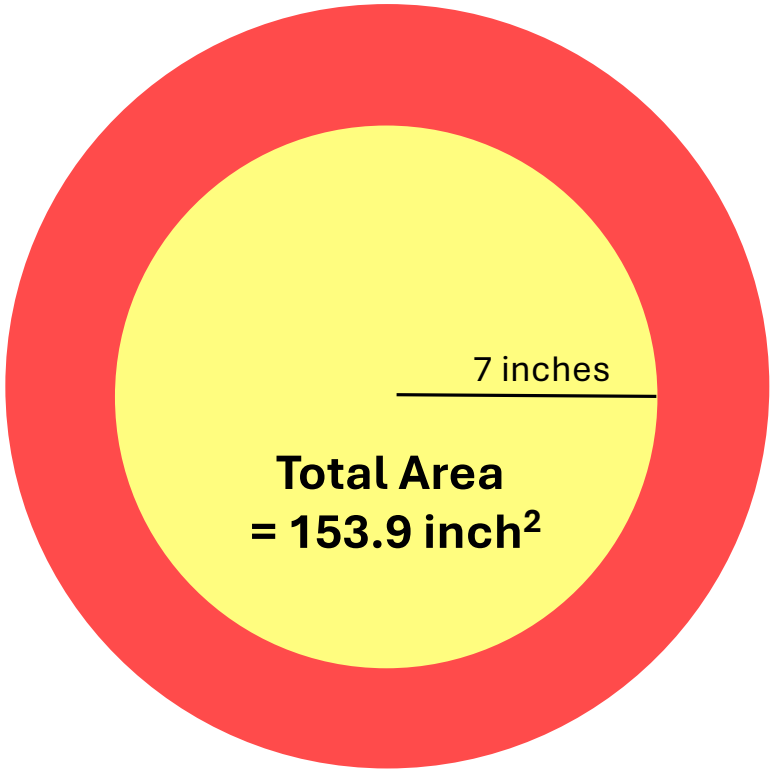
No Expansion? Why Not Use 14-Inch Pipe?

Existing Bridge-Attached Infrastructure
Two 10-inch-diameter pipelines



Total Cross-Section Area
= 157.1 inch^2

Right-Sized Under-Canal Infrastructure
One 14-inch-diameter pipeline



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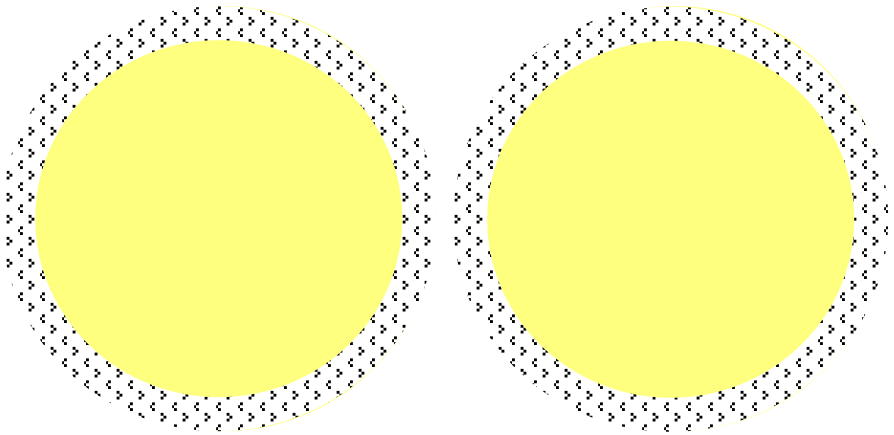

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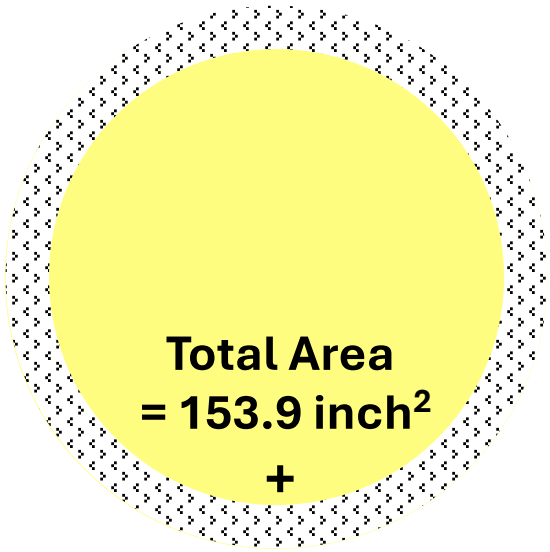
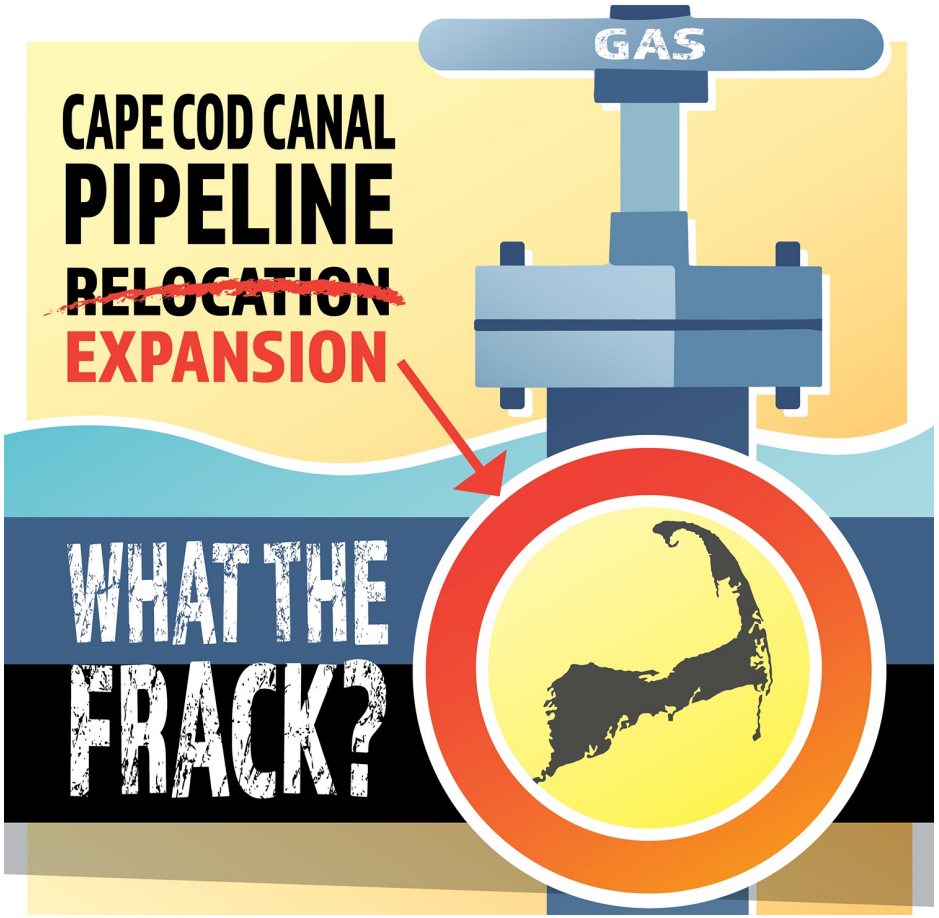


Higher Efficiency
& Pressure

Why Do We Care About AGT's Expansion onto Cape Cod?

- Corporate profiteering on the backs of taxpayers and ratepayers
- Environmental and social impacts for upstream and host communities
- Potential to expand gas sales by serving growth and development, further increasing gas reliance
  - Increased local exposure to high fuel costs and high energy price volatility
  - Increased indoor air pollution and adverse health impacts
- Increased availability and consumption of fracked gas undermine building electrification and climate goals
  - Cape Cod
  - Massachusetts
  - New England



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Cape Cod Commission & Developments of Regional Impact

- **Cape Cod Commission (CCC) Act of 1989** – approved by the Legislature and ratified by Barnstable County voters in March 1990 – authorized formation of CCC, charged with regional land use planning and regulation across
  - Required to protect "unique natural, coastal, historical, cultural, and other values that are threatened by uncoordinated or inappropriate uses of the region's land and other resources"
  - Required "to prepare and oversee the implementation of a ***regional land use policy plan*** for all of Cape Cod … and to review and regulate developments of regional impact (DRI)"

- **Cape Cod Regional Policy Plan (RPP)** provides goals and objectives, criteria, guidelines, and standards for DRI review and regulation
  - DRI process begins after state and federal environmental impact assessment processes

DRI Review of Cape Cod Canal Pipeline Relocation Expansion Project

- MA Environmental Policy Act (MEPA) and Federal Energy Regulatory Commission (FERC) reviews completed in 2026
- AGT submitted DRI application on July 24, addressing consistency with RPP goals and objectives
- Public hearing by CCC Subcommittee scheduled to begin in late September
- Public comment open now
- Subcommittee will consider DRI application, AGT testimony, and public comment and direct CCC staff to prepare draft decision
- Draft decision to be considered by full CCC membership

RPP "Goal & Objective" Areas

What Are Environmental Impacts of Canal Pipeline Replacement?

Construction & Operations

- Construction disturbance: ~210 acres, including 45 acres of tree clearing, plus air pollution and noise
  - Forested, shrubland, utility corridor, and open upland habitats
  - Coastal and inland wetland resource areas, floodplain resource areas, isolated vegetated wetlands, and buffer zones
  - Protected open space, recreation, wildlife management, and park lands; Herring River Watershed Area of Critical Environmental Concern (ACEC); public water supply/wellhead protection areas; and priority/protected habitat
- HDD "frac out" potential: use of ~700,000 gallons of water plus drilling additives
- Permanent disturbance: ~61 acres, including easements over Article 97 land, 7.2 acres of new impervious surface
- Operational impacts: air pollution and noise from M&R stations

No consideration of methane gas sourcing, leakage, combustion, or emissions - and NOT AN EXPANSION!

AGT's DRI Summary

"(I)mpacts have been avoided and minimized to the maximum extent practicable through route selection, extensive use of existing utility corridors, HDD, restoration of temporary work areas, and implementation of comprehensive environmental protection measures"

"The Project also incorporates climate adaptation, stormwater management, habitat restoration, forestland protection, and other mitigation measures"

"Overall, the Project represents a significant regional benefit"

Sierra Club Focus – Preventing & Mitigating Expansion Potential

Sierra Club does not oppose pipeline relocation, but state and federal officials did not require AGT to address and mitigate expansion potential. AGT should be required to:

- Discuss typical current operating pressure, anticipated operating pressure for proposed infrastructure at commissioning, current upstream constraints, ongoing or future plans to address them, proximate market and customer development activities, and factors, if any, precluding constraints from being cleared
- Compare average delivery rates and annual deliveries for the past decade to maximum potential delivery rates and annual deliveries for the current pipelines, for the proposed pipeline with upstream constraints, and for the proposed pipeline with cleared constraints
- Quantify potential adverse impacts attributable to expanded infrastructure and specify adequate mitigation for
  - Impacts on energy affordability
  - Additional methane leakage and combustion-related greenhouse gas emissions
  - Additional air pollution - both indoors and through direct exhaust - and impacts on public health
- Present alternative pipeline replacement scenarios for ensuring uninterrupted gas service, increasing affordability, and supporting decarbonization, accounting for (1) right-sizing the pipeline; (2) investment in efficiency, electrification, and renewable thermal technologies; and (3) potential phasing opportunities with Bourne Bridge replacement funding not yet secured

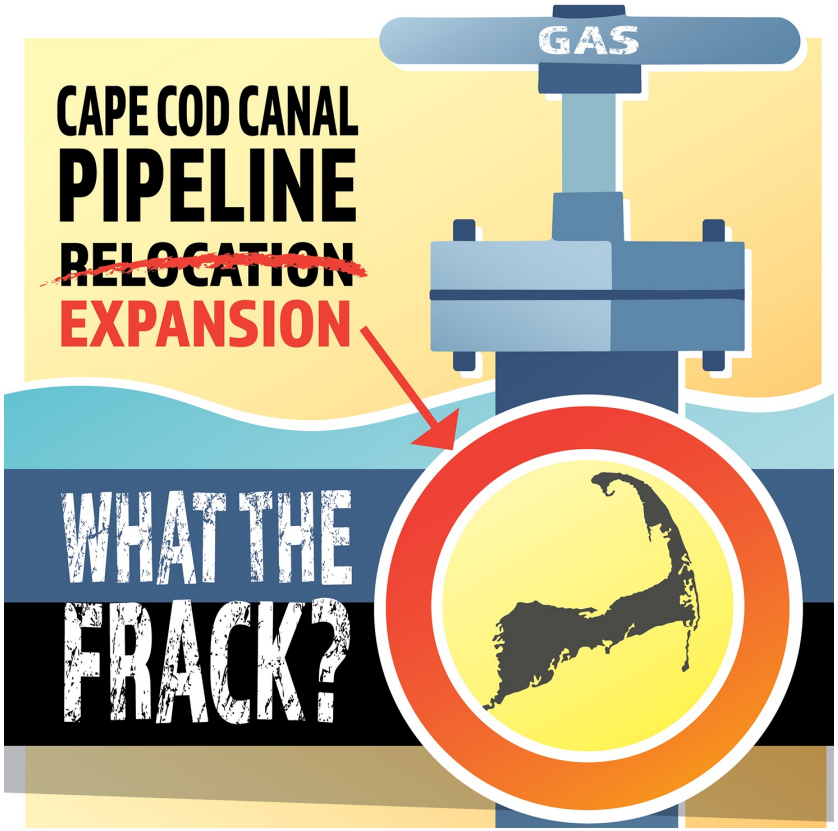
Voting Members of Cape Cod Commission

TOWN APPOINTEES
Catherine Ledec - Barnstable
Robert Frangieh - Bourne
Elizabeth Taylor - Brewster
Thomas Wilson - Chatham, Chair
Michael McGee - Dennis
Michele Vion - Eastham
John Druley - Falmouth
Matt Suphin - Harwich
Ernest Virgilio - Mashpee
Douglas Fromm - Orleans
Peter Okun - Provincetown
Anne McManus - Sandwich
Kevin Grunwald - Truro, Secretary
David Mead-Fox - Wellfleet
Dennis Prebensen - Yarmouth

OTHER APPOINTEES
Ronald Bergstrom - Barnstable County Commissioner
John D. Harris - Minority Representative
Vacant - Native American Representative
Carlos Barbosa - Governor's Appointee

CCC members are not allowed to discuss DRI projects outside of the public hearing process. Experience demonstrates that they will respond to public pressure.

Advocacy & Training Opportunities



Solidarity event
September 4th Red Rebels Brigade & Extinction Rebellion at Bourne Bridge

Sierra Club event
September 15th Advocacy Workshop, Sandwich Public Library, 645-745 pm

Registration:
https://act.sierraclub.org/events/details?formcampaignid=701Po0000259EkbIAE&

- Public comment open now using the form at https://capecodcommission.org/comment
- Attendance and comment at CCC Subcommittee meetings
- Attendance and comment at CCC meetings

More to come!