

### Keystone XL Pipeline Modern Piece of American Energy Infrastructure

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# TransCanada Corporation (TSX/NYSE: TRP)





# One of North America's largest natural gas pipeline networks

- Operating 42,500 mi (68,500 km) of pipeline
- Average volume of 14 Bcf/d or 20% of continental demand

# Third largest natural gas storage operator in North America

• 406 Bcf of capacity

# Largest private sector power generator in Canada

- 20 power plants, 10,800 MW
- Diversified portfolio, including wind, hydro, nuclear, coal, solar and natural gas

# Premier North American oil pipeline system

- 2,600 mi (4,250 km) of pipeline
- 530,000 bbl/d or 18% of Western Canadian production

#### Total assets ~ \$48 billion



#### **Our Vision – 2020 Asset Outlook\***





#### Natural gas pipeline networks

- Operating 42,500 mi (68,500 km) of pipeline
- 406 Bcf of capacity

#### **Oil pipeline network**

- 7,000 mi (11,400 km) of pipeline
- 2.5 million bbl/d of long-haul capacity

#### **Power generation facilities**

• 20 power plants, 11,200 MW



Includes existing assets and \$38 billion of commercially secured projects expected to be in-service by 2020, subject to various conditions including corporate and regulatory approvals.

#### TransCanada Energy Projects





Wind



**Nuclear** 



Solar



#### **Hydroelectric**



#### **Global Fuel Mix by Decade**





Source: 2012 The Outlook for Energy: A View to 2040 provided by Exxon Mobil Corporation



#### **Keystone Projects**





- US\$15-billion investment
- 1.4 million bbl/d capacity
- More than 1.1 million bbl/d contracted
- Provides significant platform for:
  - Oil sands growth
  - Shale oil growth
  - Connecting to new markets
  - Other transportation services



#### **Keystone XL Impact on Energy**



- Keystone Pipeline System will allow the Midwest to quickly, efficiently and cost effectively transport liquid energy to refineries in the Gulf Coast
- Today, the U.S. consumes 15 million barrels of oil and imports six to seven million barrels per day
- Energy Information Administration (EIA) forecast in 2012 the U.S. will continue to import 7.5 million bbl/d into 2035 to meet its needs
- Oil sands are the only growing supply source with a land-based connection to the U.S. market



#### **Global Crude Oil Reserves by Country**





() TransCanada

#### **Public Protest & Public Perception**





#### Legitimate Concern



- Is the public's concern legitimate? Absolutely!
- Our industry is committed to protecting the environment
- Doing everything possible to ensure these events don't occur again
- TransCanada has a goal of achieving zero incident rates
  - Investing billions of dollars in new technology and processes to make these systems as safe as possible
- Since 2001, liquid pipeline-related incidents have decreased by 62%



#### **Pipeline Safety in North America**





- More than 2 million miles of pipelines in the US enable safe movement of energy products
- Majority of pipelines operate underground, so their role is unnoticed
- Safest and most efficient form of transportation for petroleum products
- Pipeline hazardous materials transportation accidents are low probability



#### **Operational Control Center**



- Operational Control Center is monitored 24 hours a day, 365 days a year
- Satellite technology sends data to monitoring center every five seconds from 20,000 data points
- Ability to isolate any section of our Keystone Pipeline System and remotely close valves within minutes
- Operational Control Center notifies staff





#### **Commitment to Quality Assurance**

- Design
- Construction
  - Before
  - During
  - After (Prior to line fill)
- Operations





### Gulf Coast Project During Construction





### Gulf Coast Project During Construction





#### **Keystone Right-of-Way Before & After**





 Near David City, Nebraska • Spread 5B Construction

 Photo above taken June 15, 2009
 Photo below taken August 25, 2010





North of Yankton, South Dakota • Spread 4B Construction Photo above taken May 27, 2009 Photo below taken August 26, 2010





#### **Carbon Dioxide Emissions**





Sources: Environment Canada – Released 2012 & United Nations Statistics Division – Released 2011

ransCanada

#### Comparison of Well-to-Tank and Well-to-Wheels GHG Emissions for Various Crudes





Source: IHS CERA

\*Data Source: US Department of Energy, November 2008, 90513-30



### Social License To Operate







#### **Recent Environmental Evaluations**



- January 2013 The Nebraska Department of Environmental Quality (NDEQ) has reported that.... "there would be minimal environmental impacts in Nebraska."
- March 2013 Department of State reaffirmed in the Supplemental Draft Environmental Impact Statement (SDEIS) that.... "there would be no significant impacts to most resources along the proposed Project route." It noted that Keystone XL would result in no "substantive change in global GHG emissions."



#### **Final SEIS Highlights**



- Final Supplemental Environmental Impact Statement (Final SEIS) released January 31, 2014
  - Keystone XL will have minimal impact on the environment
  - Keystone XL is unlikely to significantly affect the rate of oil sands extraction or the volume of oil refined in the U.S.
  - Supports a total of 42,100 direct, indirect and induced jobs throughout the U.S. during construction
  - Construction of Keystone XL Pipeline will contribute about \$3.4 billion to U.S. GDP
  - Keystone XL will have a degree of safety over any other typically constructed domestic oil pipeline system under current code due to the 59 Special Conditions



#### Moving Forward In Nebraska







#### Questions









## **Thank You**

