

CUSHING ECONOMIC DEVELOPMENT FOUNDATION AND SOUTHERN ROCK ENERGY PARTNERS

MEDIAKIT

WWW.CITYOFCUSHING.COM 114 N. HARRISON CUSHING, OK

(918) 791-1012 CUSHINGEDF@CITYOFCUSHING.ORG



CRUDE REFINERY PROJECT

Southern Rock Energy Partners

has identified an opportunity to develop, construct, and operate a next generation, full conversion 250,000 b/d crude refinery to process domestically produced light, sweet shale (WTL and WTC) and light, sweet crudes (WTI) from the Denver-Julesburg, Anadarko, Permian, and Bakken Basins, into low carbon transportation fuels by utilizing the most modern, efficient, and advanced technologies available with a goal of a zero-carbon footprint.

95% of greenhouse gas emissions will be reduced or eliminated, water production and consumption will be reduced by 90% with 80% being recycled and repurposed, 100% renewable electricity will be consumed, 98% of fugitive emissions will be eliminated, and the land footprint will be reduced by 65%.

The refinery project will generate and consume hydrogen as a fuel source, capture and sequester carbon dioxide emissions, generate and consume electricity from waste heat, geothermal, and renewable assets, produce water from waste vapor streams, and recycle and repurpose wastewater.



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Refining Issue

Current US Refineries:

Refineries are between 50 and 120 years old and configured to process heavy, sour crude which creates dependence on foreign supply

Increasing environment regulations and requirements for emissions with significant capital costs

Decreased refining capacity with closures and the repurposing of traditional refineries as renewable fuels complexes

Operational inefficacies when processing light, sweet crude in traditional refineries in place of heavy, sour crude

The complex configurations of traditional refineries are capital and labor intensive to operate











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Refining Solution

Next Generation Refinery:

Process domestically produced crude, WTI, WTC and WTL -Denver-Julesburg, Anadarko, Permian, and Bakken Basins Permian, and Bakken - into low carbon transportation fuels

Consume hydrogen and oxygen as a fuel source in the heating units generated onsite from refining off-gases

Carbon capture and sequestration from a single source - hydrogen complex

Recycle and repurpose waste streams into electricity and water

Automate operations utilizing block chain, AI, and digital twins













PROJECT OVERVIEW

SOUTHERN ROCK ENERGY PARTNERS (SREP) INTENDS TO REFINE LIGHT, SWEET SHALE (WTL AND WTC) AND LIGHT, SWEET CRUDES (WTI) INTO LOW CARBON TRANSPORTATION FUELS, GASOLINE, DIESEL, AND JET, TO BE MARKETED AND DISTRIBUTED BOTH DOMESTICALLY AND INTERNATIONALLY. MANY STATES, INCLUDING CALIFORNIA, OREGON, AND WASHINGTON, HAVE ADOPTED THE LOW CARBON FUEL STANDARDS (LCFS) REQUIREMENT AND PROGRAM WITH OTHERS INCLUDING COLORADO, NEW MEXICO, MINNESOTA. AND NEW YORK CONSIDERING THE ADOPTION OF SIMILAR STANDARDS.

THE REFINING INDUSTRY HAS BEEN CLOSING AND/OR REPURPOSING LEGACY REFINERIES DUE TO AGE, INEFFICIENCIES AND RISING OPERATIONAL COSTS, INCREASING CAPITAL EXPENSES TO MODIFY REFINING ASSETS TO MEET THE MORE RESTRICTIVE ENVIRONMENTAL REQUIREMENTS, AND THE AVAILABILITY OF PRODUCTION AND TAX CREDITS TO PRODUCE RENEWABLE DIESEL AND SUSTAINABLE AVIATION FUEL (SAF). THE CLOSURE AND/OR REPURPOSING OF REFINERIES WILL CREATE A REDUCTION IN GASOLINE AND DIESEL PRODUCTION CREATING A SHORT IN THE MARKET CAUSING PRICES TO INCREASE.

DEMAND IS ANTICIPATED TO DECREASE TEMPORARILY IN THE NEAR TERM IN THE UNITED STATES AS REGULATIONS TO CONVERT TO ELECTRIC OR HYDROGEN VEHICLES ARE IMPLEMENTED. HOWEVER, DEMAND WILL INCREASE AS MORE STATES ADOPT THE LCFS REGULATIONS AND PRODUCTION IS LIMITED. ADDITIONALLY, EMERGING INTERNATIONAL MARKETS, INCLUDING CENTRAL AND SOUTH AMERICA, AFRICA, AND SOUTHEAST ASIA WILL CONTINUE TO DEVELOP AND GROW. THE MARINE AND SHIPPING INDUSTRY HAVE TAKEN STEPS TO REDUCE EMISSIONS BY REQUIRING FUEL THAT MEETS THE IMO 2020 REGULATIONS.

THE SOUTHERN ROCK ENERGY PARTNERS REFINERY DESIGN ENTAILS APPROXIMATELY 7 PROCESS UNITS INSTEAD OF 24, GENERATES AND CONSUMES HYDROGEN AS FUEL SOURCE, CAPTURES AND SEQUESTERS CARBON DIOXIDE EMISSIONS, GENERATES AND CONSUMES ELECTRICITY FROM WASTE HEAT, PRODUCES WATER FROM WASTE VAPOR STREAMS, RECYCLES AND REPURPOSES WASTEWATER, AND GENERATES RENEWABLE ELECTRICITY FROM WASTE HEAT, GEOTHERMAL, AND RENEWABLE ASSETS. THE ATTRIBUTES CONTRIBUTE TO NET ZERO COMPLEX AND MEET THE ESG REQUIREMENTS.



Cushing is the "Pipeline Crossroads of the World" for crude oil, with approximately 100 million barrels of storage in the tank farms surrounding the community. Cushing is the delivery point for West Texas
Intermediate, a blend of US light sweet crude oil streams traded on the New York Mercantile Exchange. Cushing's strategic position as a major hub in oil supply led to WTI's development as a significant physical market price reference or benchmark for over three decades. Cushing is the most significant trading hub for crude oil in North America.



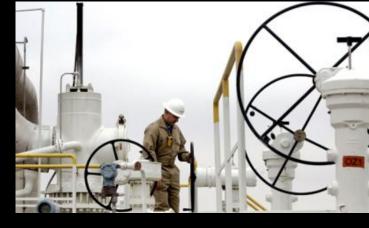


WILDCATTER THOMAS B. SLICK STARTED AN OIL BOOM ON MARCH 17, 1912, WHEN HE BROUGHT IN A GUSHER EAST OF CUSHING. OTHER WELLS WERE SOON DRILLED NEARBY, AND THE OIL FIELD BECAME KNOWN AS THE CUSHING-DRUMRIGHT OIL FIELD. THE CITY BECAME A CENTER FOR EXPLORATION OF AND PRODUCTION FROM NEARBY OIL FIELDS AND ALSO A REFINING CENTER, WHEN CONSUMERS OIL COMPANY OPENED A REFINERY IN 1913. PRODUCTION CENTERED ON THE NEW TOWN OF DRUMRIGHT, AND CUSHING BECAME A REFINING CENTER. EVENTUALLY, 23 OIL COMPANIES AND FIVE OILFIELD SUPPLY HOUSES LOCATED IN THE TOWN, AND MORE THAN 50 REFINERIES ONCE OPERATED IN THE CUSHING AREA.

TIMELINE OF PROJECT SLICK

- INITIAL PHONE CALL MARCH 2021
- INFORMATION EXCHANGE AUGUST 2021
- FIRST ECONOMIC IMPACT STUDY SEPTEMBER 2021
- WORKFORCE OVERVIEW NOVEMBER 2021
- FIRST SITE VISIT DECEMBER 2021
- OK HYDROGEN TASK FORCE DECEMBER 2021
- CITY OF CUSHING BONDING FALL 2022
- FINAL SITE VISIT MARCH 2023
- INCENTIVE ANALYSIS ODOC MARCH 2023
- SELECTION OF CUSHING, OKLAHOMA MAY 2023

ECONOMIC IMPACT



*This economic and revenue impact was created using software developed for the Greater Oklahoma City Partnership by Applied Economics. It is important to remember that inputs to the model are estimates and do not represent exact and precise measurements. The output of the model, like any modeling tool, reflects the assumptions that are used in the formulation. Accordingly, if some of the assumptions change (e.g., employment numbers), then the model results will also change. The model is expected to give the community a general idea of the impact of the project.

STATISTICS

FOR THE YEARS: 2024-2033	
JOBS AND PAYROLL	
NEW DIRECT JOBS CREATED	423
NEW DIRECT PAYROLL	\$39,339,000
AVERAGE PAYROLL PER EMPLOYEE	\$93,000
CAPITAL INVESTMENT	
VALUE OF NEW CONSTRUCTION	\$3,351,983,000
VALUE OF NEW EQUIPMENT PURCHASES	\$1,075,300,000
ECONOMIC IMPACT*	
TOTAL VALUE ECONOMIC IMPACT	\$18,274,635,044
TOTAL NEW JOBS SUPPORTED	4,675
TOTAL NEW PAYROLL SUPPORTED	\$1,735,127,874
HOUSEHOLD SPENDING SUPPORTED	\$1,467,979,461
CONSTRUCTION IMPACT	
TOTAL VALUE CONSTRUCTION IMPACT	\$4,839,388,150
TOTAL NEW JOBS SUPPORTED	36,439
TOTAL NEW PAYROLL SUPPORTED	\$1,387,425,289
ANNUAL NEW TAX REVENUE (DIRECT AND INDIRECT)	*
LOCAL TAXES (CITY, COUNTY, AND SCHOOL)	
PROPERTY	\$208,841,280
SALES	\$7,868,035
STATE TAXES	
SALES	\$24,205,034
PERSONAL INCOME	\$63,823,933
CORPORATE FRANCHISE TAX	\$200,000





BY UTILIZING THE MOST MODERN, EFFICIENT, SAFE, AND ADVANCED TECHNOLOGIES, SOUTHERN ROCK ENERGY PARTNERS WILL LEAD THE DECARBURIZATION OF THE REFINING INDUSTRY WHILE PRODUCING CLEANER TRANSPORTATION FUELS NOW AND INTO THE FUTURE. THE ENVIRONMENT WILL BE IMPROVED WITH THE REDUCTION OF GREENHOUSE GAS EMISSIONS WHILE PROVIDING ECONOMIC BENEFITS TO THE LOCAL COMMUNITY ENCOURAGING OPPORTUNITIES FOR DEVELOPMENT AND GROWTH. PROTECTING NATURAL RESOURCES, ENHANCING THE QUALITY OF LIFE FOR FUTURE GENERATIONS, AND ADVANCING THE HYDROCARBON INDUSTRY WILL BE A PRIORITY OF SOUTHERN ROCK ENERGY PARTNERS.



CUSHING ECONOMIC DEUELOPMENT FOUNDATION

CONTACT: BRUCE JOHNSON, DIRECTOR

PHONE: 918-791-1012

EMAIL: CITYOFCUSHINGEDF@CITYOFCUSHING.ORG



803 MABLE STREET
EL CAMPO, TEXAS 77437
PHONE: +1 (979) 578-1734
EMALL, MEDIA © SOUTHED NO CKENED CVD AD INEDS COM

EMAIL: MEDIA@SOUTHERNROCKENERGYPARTNERS.COM

