

America XL - An Alternative to the Keystone XL Pipeline Project

\$7,000,000,000

America XL

50,000 jobs



**400,000 – 500,000 U.S. Homes
Converted to Solar Electric
(For sustainable harvesting of sunlight)
Reduction in Coal, Natural Gas
Dependency**

- Easy to add 20% more panels for plug-in hybrid or all electric car
(For sustainable transportation)



Reduction in Oil Dependency

- Easy to leverage U.S. investment.
Have Homeowners pay ½ cost and
convert 1 million homes
to power 1 million electric vehicles
(100,000+ jobs)

\$7,000,000,000

Keystone XL

20,000 jobs



Oil Pipeline (1661 miles)

(For unsustainable burning of hydrocarbons)

No Reduction in Oil Dependency

Summary Comparison Table

	“We the People” Plan- America XL Renewable Energy I	TransCanada Plan- Keystone XL Pipeline
Type of Plan	Investment in Sustainable Human Behavior – Transition to renewable energy – Solar Energy	Investment in Unsustainable Human Behavior – Continue burning hydrocarbon
Jobs Created	50,000+ small business jobs @ \$50,000-60,000/year. America XL creates between 2.5 to 10 times more jobs than Keystone XL	20,000 construction and manufacturing jobs @ unknown rate. Ref: TransCanada Brochure OR 5,000 and 9000 person-years (@\$50,000-\$60,000 / year). Ref: Cornell University Study
Cost of Project	\$ 7 billion over 1-2 years	\$ 7 billion over 1-2 years
Funding of Project	Funded entirely by surtax on Oil & Gas corporation profit for one year – partial repayment for externalized costs normally paid by “We the People.”	Funded “normally” as embedded cost and passed along to gasoline consumers in the “free-market” system.
U.S. Dependence on Oil	Reduction.	No Change.
Benefits to “We the People” Americans	Major - 50,000 value-added jobs, PLUS - 400,000-500,000 households transition to solar PV systems (and near zero electric bills) for the next 20-30 years.	No Change - XL pipeline moves less than 3 % of our current daily consumption to Gulf Refineries.
Benefit to American Small Businesses	Major - \$3 Billion in direct revenue to American small businesses	Minimal - Minimal direct benefit based on Keystone Phases I & II that have been completed.
Benefits to Oil & Gas Corporations	Minimal	Major
Benefits to the Planet and future generations	Positive.	Negative.
Materials Consumed	175,000 tons of Solar Panels – 100% recyclable	1,299,250 tons of steel pipe - No recycling
Primary Concerns	None	Significant – Ogallala Aquifer
SUMMARY	“We the People” have choices.	

Detailed Comparison Table

	“We the People” Plan- America XL Renewable Energy I	TransCanada Plan- Keystone XL Pipeline
Type of Plan	Investment in Sustainable Human Behavior – Transition to renewable energy – Solar Energy	Investment in Unsustainable Human Behavior – Continue burning hydrocarbon from Alberta, Canada tar sands reserves
Jobs Created	50,000+ small business jobs @ \$50,000-60,000/year.¹ This sustainable energy investment creates between 2.5 to 10 times more jobs than a similar investment in unsustainable hydrocarbon extraction /processing /burning to generate electrical power.	20,000 construction and manufacturing jobs² @ unknown rate. An independent assessment by Cornell University using TransCanada data supplied to the U.S. State Department for permitting purposes places the number of jobs between 5,000 and 9300 person-years @ \$50,000-\$60,000 / year.³
Types of Jobs	America XL is shovel-ready. We have the skilled workforce poised to move America forward toward a sustainable future. This is value-added work for U.S. small businesses - 25,000 Installers (e.g. electrical, mechanical) plus 25,000 small business office workers (designers, bookkeepers, accountants, ...) Plus local government revenue for issuing building permits and performing building inspections.	“Keystone XL is shovel-ready. TransCanada is poised to put 13,000 Americans [<i>hired by TransCanada</i>] to work to construct the pipeline - pipefitters, welders, mechanics, electricians, heavy equipment operators, among other jobs - in addition to 7,000 manufacturing jobs that would be created across the U.S.”⁴
Cost of Project	\$ 7 billion over 1-2 years \$4 billion for Solar PV panels⁵ \$3 billion on installation labor	\$ 7 billion over 1-2 years for the XL expansion (Phases III & IV). The total Keystone System (Phases I,II,III,IV) will have a capital investment of approximately US\$12 billion.⁶
Funding of Project	Funded by surtax on Oil & Gas corporation profit for one year. Justification – surtax is partial compensation for known externalized costs of extracting, transporting, processing hydrocarbon materials to be burned - costs that “We the People” pay to mitigate the effects of O & G corporations’ waste products. Exception. Hydrocarbons extracted, processed and converted into recyclable products (e.g. reusable plastic) are exempt from this surtax. Surtax. Surtax is subtracted from normal	Funded “normally” as embedded cost. Cost reflected in price of gasoline at the pump. Bottom Line: Funded by consumers of gasoline.

	“after- tax” profit. Basis is \$.024 / gal of crude (\$1 / barrel). Duration of tax is one year. Surtax is not a tax deductible business expense. Bottom Line: Project funded from O & G corporation profits.	
U.S. Dependence on Oil	Reduction. Project REDUCES U.S. dependence on fossil energy (coal, oil, natural gas). 400,000- 500,000 homes will transition from fossil energy to Solar Energy – their electrical bills go to near zero for the next 20-30 years.	None. Project results in NO CHANGE in Oil Dependence.
Benefits to “We the People” Americans	Major – As a result of the 50,000 value-added jobs, 400,000-500,000 households will receive FREE solar PV systems (and near zero electric bills) for the next 20-30 years.	No noticeable change. America consumes 19 million barrels of oil/ day. An additional 500,000 barrels/ day⁶ from the Keystone XL pipeline is less than 3 % of our current daily consumption of oil. Refined products are sold on the world market at current prices - no significant change in gasoline prices with or without the XL pipeline.⁷
Benefit to American Small Businesses	Major - \$3 Billion in revenue to American solar installation small businesses for meaningful value-added jobs. \$450-600 million profit (15-20% of sales) for small business.	Minimal - TransCanada will purchase TBD pipeline associated equipment (e.g. instrumentation) from U.S. suppliers. Pipeline steel for the completed Phases I & II was imported from India.
Benefits to Oil & Gas Corporations	Minimal - No short term benefit to Oil & Gas Industry.	Major - According to the Energy Policy Research Foundation, Inc., “because of production declines in Mexico and Venezuela, U.S. refiners [along the Gulf Coast – e.g. Koch Refineries]⁸ are receiving reduced shipments of heavy crudes... many of whom long ago made expensive upgrades in complex facilities that favor heavy oil.”⁴ Keystone XL will add an additional 500,000 barrels per day in 2013 [to these Gulf coast refineries].⁶ - Extraction companies in Alberta [e.g. Suncor] as well as refineries in Texas will benefit /profit from this additional means of transporting crude oil (tars sands bitumen) from Alberta to Texas.
Benefits to the Planet and future generations	Positive. Plan implements clean (zero emission) distributed generation of electrical power for home and transportation using existing transmission grids. Current power plants are a major source of greenhouse gases as well as mercury, sulfur... airborne contamination. - Project will save hydrocarbon reserves	Negative. Plan facilitates unsustainable extraction of hydrocarbon resources that are intended to be consumed / burned with associated ignored / externalized costs to all people and other forms of life. Proven and possible reserves will be exhausted in 100-150 years.¹⁰

	for future generations and for sustainable products such as recyclable petrochemical products (e.g. plastics) that are produced in an environmentally safe manner (not as currently produced by Formosa Plastics for example⁹) - Plan acknowledges that current economic model is broken. Important costs associated with burning hydrocarbons are ignored (externalized) and paid for by “We the People.” Hydrocarbon resources are limited and too valuable to burn because they can be used sustainably in recyclable products (e.g. plastics,...) forever instead of burning / consuming these materials. - It should also be noted that this Project does not require valuable water resources. Hydrocarbon burning and nuclear power plants consume large quantities of high quality water.	
Materials Consumed	175,000 tons of Solar Panels¹¹ (10,000,000 panels) attached to existing roofs of 400,000 - 500,000 American homes – 100% recyclable after 20-30 years¹² Solar Panels can be removed and recycled every 20 years with the latest technology using renewable energy – forever.	1,299,250 tons of steel pipe¹³ (1661 miles)¹⁴ buried 4 feet underground. After a certain period of service (e.g. 20 years), pipe will be eroded from internal flow, corroded and unsafe to use.
Primary Concerns	None – This Plan to install Solar PV panels is “shovel ready” & well demonstrated around the world. -Solar PV Panels are currently available from Germany, Japan, and China (China produces 70% of the world’s PV panels today). U.S. does not manufacture very many panels today – manufacturing jobs have gone abroad. A committed national transition plan such as this could bring solar panel manufacturing jobs back to America. - Research over the next 20 years can develop efficient means of recycling old solar panels using electrical power generated by current sunlight so no more hydrocarbons need to be burned to make the panels. (Cradle to Cradle philosophy)	Significant – Keystone XL 36” diameter Pipeline is routed directly over the enormous Ogallala Aquifer¹⁵ - a major/ primary source of water for eastern Wyoming, most of Nebraska, much of Kansas, eastern Colorado, and the pan handles of Oklahoma and Texas. - Pipe is buried 4 feet underground (out of sight; out of mind). Detection & location of small, long duration leaks is difficult to impossible. Major leaks could be detected by monitoring flow-rate or pressure changes along line. - Pipeline includes a 110’ construction right-of-way. EIS graphic implies there are plans to reclaim/replant this 1661 mile long strip to its original condition after pipeline has been buried – have not reviewed such plans. - Did not yet find any plans for decommissioning pipeline after design life, e.g. decontamination, recycling steel,

Impact to Local Public Utility Companies	Minimal but in the direction of Sustainability. Installing solar panels on homes is referred to as "distributed electrical power generation." Although it is a good thing for "We the People," the local Utilities companies see it differently because there will be some decrease in their revenue and profit. Nevertheless, this Project assists Utilities meet their local/state Renewable Energy Standard (RES) requirements. - Solar and Wind power generation requires a different approach to energy storage, a rapidly emerging technology. This Project provides an incentive for Utilities to transition from energy generation to energy storage and distribution.	reclamation, etc. No significant impact on fuel supply for Utility Companies. Most power plants currently consume coal and natural gas and water to generate electrical power
Possible Modifications to Plan	Mod # 1. Have participating homeowners pay 50% of the solar PV system cost (i.e. leverage the \$7 billion investment). Twice as many (1 million) homes could transition from unsustainable hydrocarbon generated electrical power to sustainable solar power. Result. Additional reduction in U.S. dependence on hydrocarbons. Mod # 2. If homeowners invest \$5,000-\$6,000 for additional PV panels, they can harvest additional sunlight to provide sufficient power for 400,000-500,000 plug-in hybrid or all electric town cars (range 100 miles). A half million families could then avoid rising gas prices for the next 20-30 years. Results. Additional reduction in U.S. dependence on oil. Stimulus for U.S. production of hybrid & all electric cars – more jobs. Mod # 3. Combination of Mod # 1 and Mod # 2. Result: 1 million homes and 1 million cars could transition from burning hydrocarbons to harvesting current sunlight for energy needs – with no significant sacrifice in life style. Twice as many jobs and twice the stimulation for	Mod # 1. Re-route pipeline to eastern border of Nebraska and avoid the Ogallala Aquifer. Will result in additional length and cost with no change in through-put. Note: This re-routing to the eastern border of Nebraska to avoid the Ogallala Aquifer had been requested earlier by the Governor of Nebraska but TransCanada refused to consider it until Nov 2011⁴– too late. The State Department recommended denying the TransCanada application. President Obama rejected the pipeline when pressured by the Republican controlled congress to go forward immediately. The Republican members of congress (along with many Democrats) are being lobbied heavily by Oil & Gas lobbyists – because the steel pipe is a long lead item, a significant amount has already be manufactured and probably delivered by the supplier in India – TransCanada anticipated a favorable response to their Keystone XL project. Estimated cost of the steel pipe is around \$1 billion.

	U.S. automakers to produce new hybrids and all electric vehicles.	
SUMMARY	“We the People” have choices. Make no mistake, no matter which option we choose, or allow to be chosen for us by our elected officials, or chosen for us by for-profit corporations, “We the People” will ultimately be paying for the entire project. Make no mistake, when for-profit corporations “cook the books” and ignore costs (i.e. externalize costs) to make their product appear profitable, “We the People” always end up paying these hidden costs in addition to the corporations' profits. Compiled by: Milt Hetrick, Feb 2012.¹⁶	

¹ Person years, i.e. 50,000 people for 1 year or 25,000 people for 2 years.

² [TransCanada’s Keystone XL Pipeline](http://www.transcanada.com/docs/Key_Projects/know_the_facts_kxl.pdf) – Know The Facts, May2011,  http://www.transcanada.com/docs/Key_Projects/know_the_facts_kxl.pdf

³ “Based on jobs information provided by TransCanada for the FEIS, KXL US on-site construction and inspection creates only 5,060-9,250 person-years of employment (1 person-year = 1 person working full time for 1 year). This is equivalent to 2,500-4,650 jobs per year over two years” [Pipe dreams? Jobs Gained, Jobs Lost by the Construction of Keystone XL](http://www.ilr.cornell.edu/globalaborinstitute/research/upload/GLI_KeystoneXL_Reportpdf.pdf), Cornell University Global Labor Institute, Sept 2011. http://www.ilr.cornell.edu/globalaborinstitute/research/upload/GLI_KeystoneXL_Reportpdf.pdf.

⁴ [Keystone Pipeline Project](http://www.transcanada.com/keystone.html),  <http://www.transcanada.com/keystone.html>
 “On Nov. 14, TransCanada announced it supports proposed legislation within the State of Nebraska to move the Keystone XL pipeline project forward. If passed, this legislation...will ensure a pipeline route will be developed in Nebraska that avoids the Sandhills.”

⁵ A Solar Photovoltaic Panel (PV) converts light into electrical power. California maintains a list of approved solar PV suppliers. http://www.gosolarcalifornia.org/equipment/pv_modules.php 70% of the world’s solar PV panels are being manufactured by China today.

⁶ [Keystone Pipeline System – Feb 2011](http://www.transcanada.com/docs/Key_Projects/keystone.pdf),  http://www.transcanada.com/docs/Key_Projects/keystone.pdf

⁷ “TransCanada does not set oil or gas prices. In fact, the price of international oil prices has no impact on the operation of our pipeline and we do not profit from changing market changes. Prices are set on a global level. Recently, for example, oil that is imported and sold on the U.S. Gulf Coast is trading for just over \$102 U.S. per barrel. Western Canadian oil is currently trading for \$68 U.S. per barrel.” **TransCanada’s Keystone XL Pipeline** – Know The Facts, May2011, [Note: Alberta, Canada bitumen is worth less than the light sweet crude from the North Sea because refining costs are higher]

⁸ [“Koch Brothers Positioned To Be Big Winners If Keystone XL Pipeline Is Approved”](http://www.reuters.com/article/2011/02/10/idUS292515702420110210) by David Sassoon, [InsideClimate, Reuters](http://www.reuters.com/article/2011/02/10/idUS292515702420110210), Thu Feb 10, 2011 2:03am EST, <http://www.reuters.com/article/2011/02/10/idUS292515702420110210>

⁹ The manufacturing practices of current Petrochemical corporations include disposal of their waste products into the atmosphere, into the water and into the soil causing significant health issues for humans (neurological, pulmonary, cancer, ...) and non-humans as described in the series of books by Diane Wilson, e.g. “An Unreasonable Woman: A True Story of Shrimpers, Politicos, Polluters, and the Fight for Seadrift, Texas.”

¹⁰ Worldometers.net has a simple first order method of seeing the size of the hydrocarbon energy reserves as well as our consumption rate for each source of energy.

¹¹ Assumed 35 lb / panel

¹² Design life for solar PV panels is typically 20-30 years before significant degradation in performance

¹³ Assumed to have ¾" wall thickness and density of 503 lb/ft³

¹⁴ **Keystone Gulf Coast Expansion (Phases III and IV)**, "The proposed Keystone Gulf Coast Expansion Project is a 1,661-mile (2,673-kilometre), 36-inch crude oil pipeline that would begin at Hardisty, Alta. and extend southeast through Saskatchewan, Montana, South Dakota and Nebraska. It will incorporate the 298-mile (480-kilometre) portion of [the completed] Keystone Phase II through Nebraska and Kansas to serve markets at Cushing, Okla. Keystone Phase III will continue south from Cushing to a delivery point near terminals in Nederland, Texas to serve the Port Arthur, Texas marketplace. Also proposed is an approximate 47-mile (76 kilometre) pipeline to transport crude oil from Liberty County, Texas to the Houston, Texas area [read as Koch brother's refineries]."

Ref: [Keystone Pipeline System – Feb 2011](http://www.transcanada.com/docs/Key_Projects/keystone.pdf).  http://www.transcanada.com/docs/Key_Projects/keystone.pdf

¹⁵ Ogallala Aquifer, Water Encyclopedia, <http://www.waterencyclopedia.com/Oc-Po/Ogallala-Aquifer.html>

¹⁶ The author of this table is a retired engineer/physicist who is not affiliated with any political party nor employed by anyone. He enjoys stepping out of the sandbox he played in most of his life to "reframe" what he observes happening today. Envisioning a sustainable future has become his life's work.

As an "independent observer" but an integral member of the interdependent web of life on Planet Earth, he remains confident that humans can continue to thrive on this planet for hundreds of millions of years – but only if they develop a new standard of ethics – some call it Ecomorality: the Ethics of Sustainability and Evolving Consciousness.

With a new ethic, humans can continue to evolve in consciousness, express their creativity in concert with the Cosmos for hundreds of millions of years simply by "borrowing and returning" all Earth materials rather than "stealing and consuming."

A primary focuses of the new ethic is first on population control, then on harvesting daily sunlight for food energy and human "tool" energy, then on collective learning /education (something homo sapiens are really good at by the evidence of their evolving awareness & consciousness), then on unlimited (but sustainable) creativity and enjoyment (another outstanding capability of homo sapiens).

To do this, humans must re-learn to live using current sunlight (as does all other life on the planet) – any non-renewable energy extracted from Earth is replaced in like kind for future generations; all materials extracted (including non-renewable hydrocarbons) are recycled – every atom – for future generations. Humans can and must transition from being consumers/dumpers to being respectful, responsible borrowers/returners.