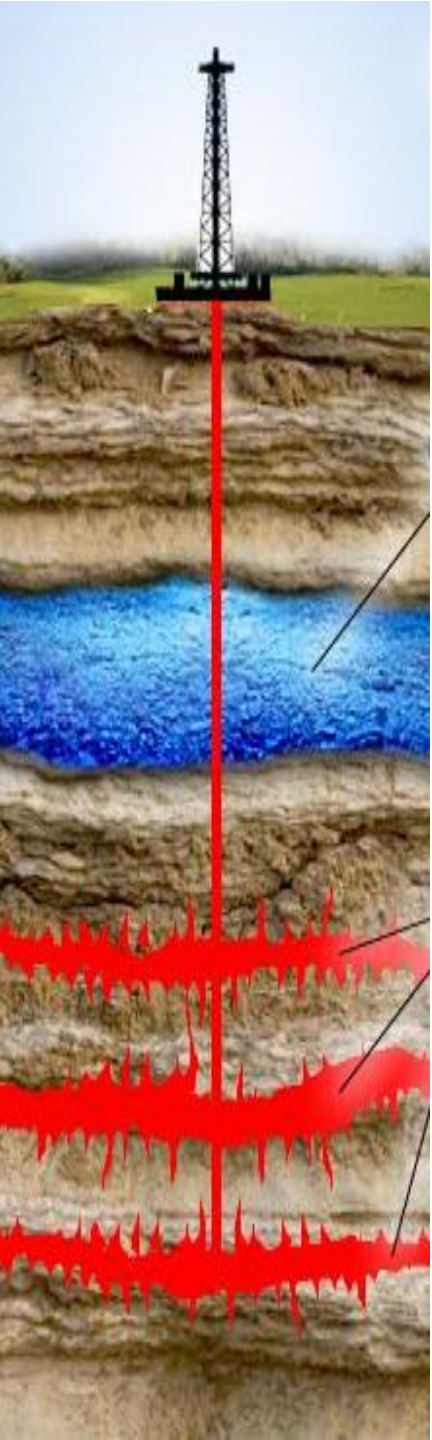


FRACKING IN SOUTH AFRICA

THE PROS AND CONS



Francois du Toit

CEO

African Conservation Trust



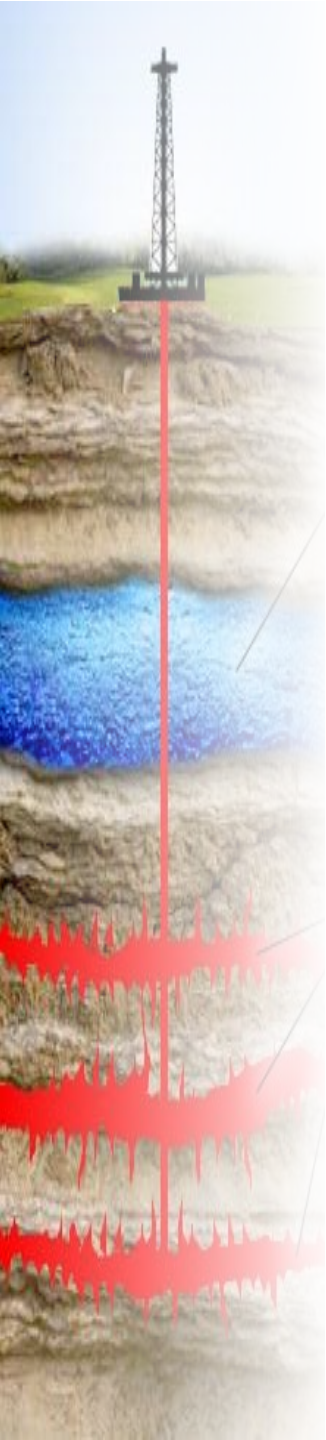
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What is Fracking?

- Hydraulic Fracturing

- Drilling of wells into tightly compacted rock strata to depths of 3 to 5 kms
- Injection of water, sand and chemicals via well into strata
- Splitting of rock seams below the surface to fracture the layers
- Capturing gas
- Disposal of wastewater return

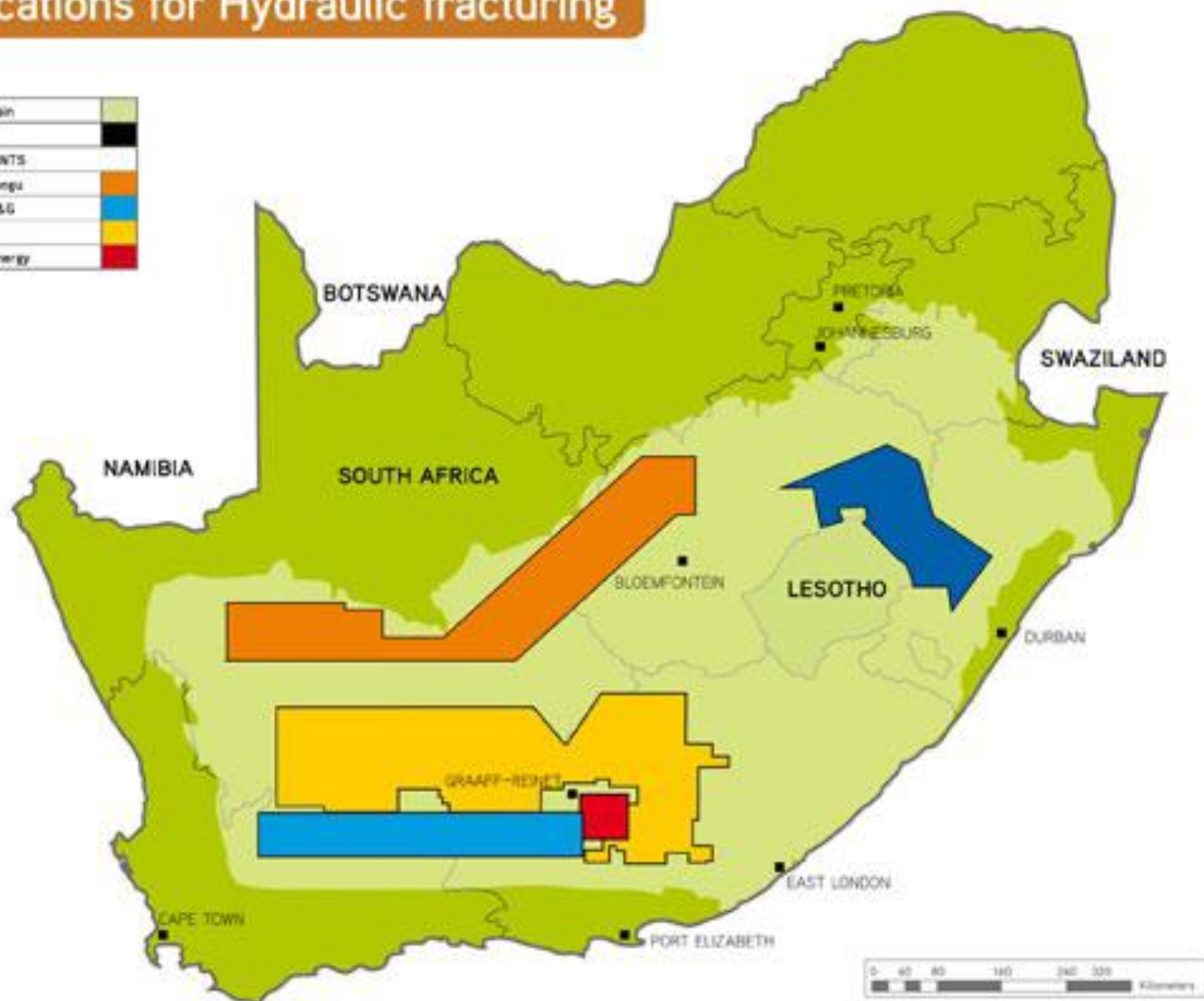


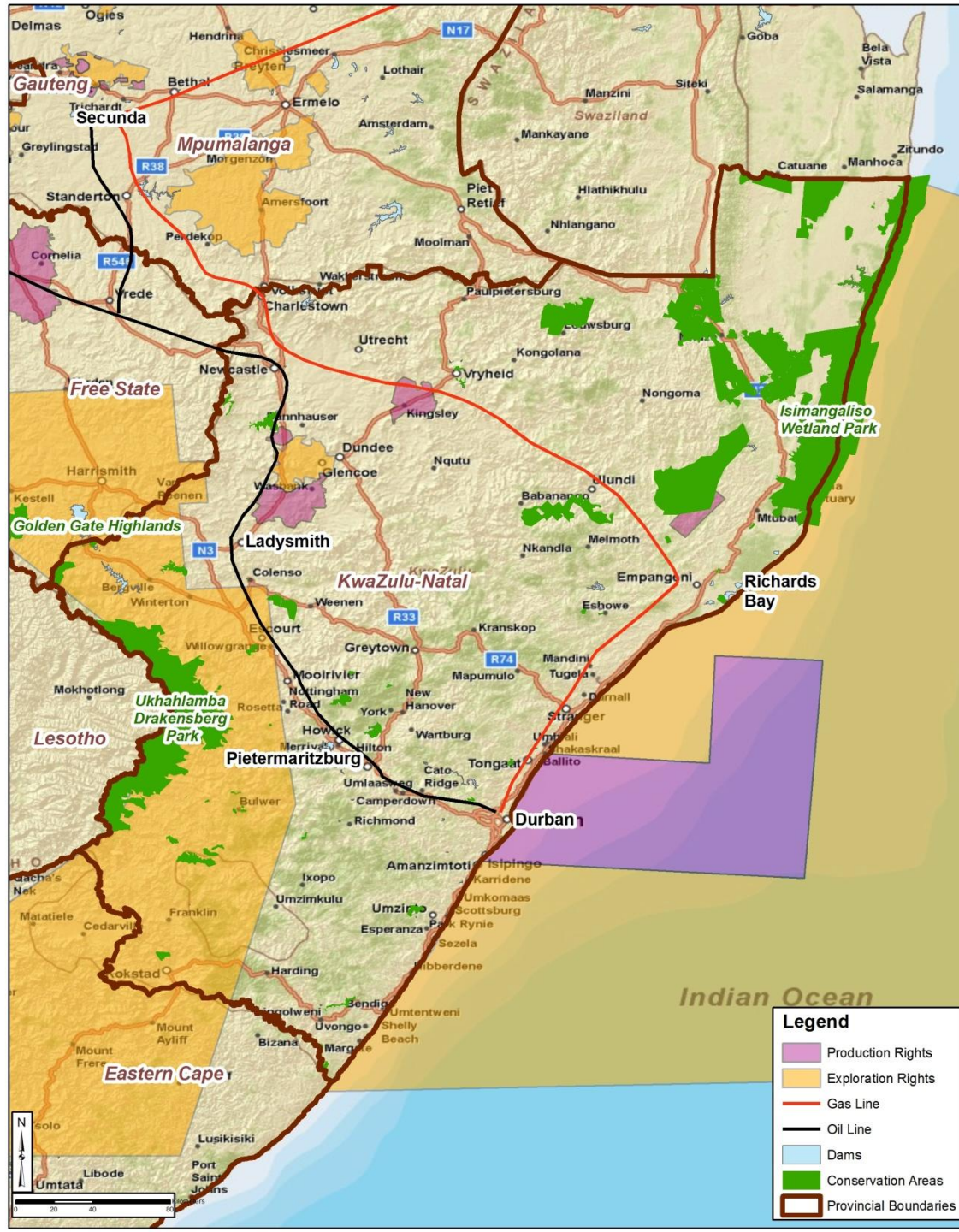
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Applications for Hydraulic fracturing

Karoo basin	
Cities	
APPLICANTS	
Sungu Sungu	
Falcon O&G	
Shell	
Sunset Energy	





Economic and political spin-off

- Why the appeal to government?
 - Poverty
 - Unemployment
 - 50% of “better life for all” promises unfulfilled
- What does fracking offer?
 - R200 billion a year to the country's GDP
 - More than 700 000 job opportunities



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International politics

- 2013 - SA exploration
- 2015 - US overtakes Russia in gas production
- 2017 - US overtakes Saudi Arabia oil production
- 2030 - SA to be energy self-sufficient
 - Integrated Resource Plan
- 2035 - US to be self-sufficient in oil & gas



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International politics cont.

- “Pursue policies that work to decrease the reliance of European nations on Russian sources of energy.”
 - Mitt Romney
- “Develop a 100 year supply of natural gas that's right beneath our feet,”
- “Cut our oil imports in half by 2020 and support more than 600,000 new jobs in natural gas alone.”
 - Barak Obama
- Another “Cold War” looming?
- Where will Saudi Arabia be if it loses energy dominance?



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International politics cont.

- BRICS dynamics.
 - Russia and Brazil are energy self-sufficient.
 - China has already started drilling for shale gas.
 - India is assessing the availability of shale gas
- European Parliament rejects a ban on shale gas (Nov 2012)



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Implications for SA

- Less dependence on oil imports
- Less susceptible to volatile international energy prices
- SA afraid to “miss out” on the BRICS boom
- SA business’ role?
- Your role?



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Environmental concerns: Air

- Air emissions
 - Methane leaks - originating from wells
 - 3.5%–12% emissions higher than for conventional gas
 - Diesel or natural gas powered equipment
 - Compressors, drilling rigs, pumps etc.
- Transportation related emissions & dust
 - 2,000 Trucks, motor vehicles, etc.
- Wind blown emissions from the drilling rigs
- Higher well-to-burner emissions than conventional gas



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Environmental concerns: Water

- Up to 13 000 cubic metres per well
 - Large projects in the US use up to 19 000 cubic metres of water
- Additional water when wells are refractured
 - May be done several times
- Contamination of underground water
- Evaporation dams leakage and emissions
- Methane and radioactivity
 - Water flowing back from gas wells contains huge amounts of radium and methane
 - Small dumpsites of soil...



Socio-economic concerns

- Ecosystems
- Farming and grazing
- Water from land becomes unsafe to drink
 - US: some communities forced to provide bottled water to their horses, let alone themselves
- De-valuation of land
- Health concerns
- Increasing reliance on social grants



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Unique SA scenario

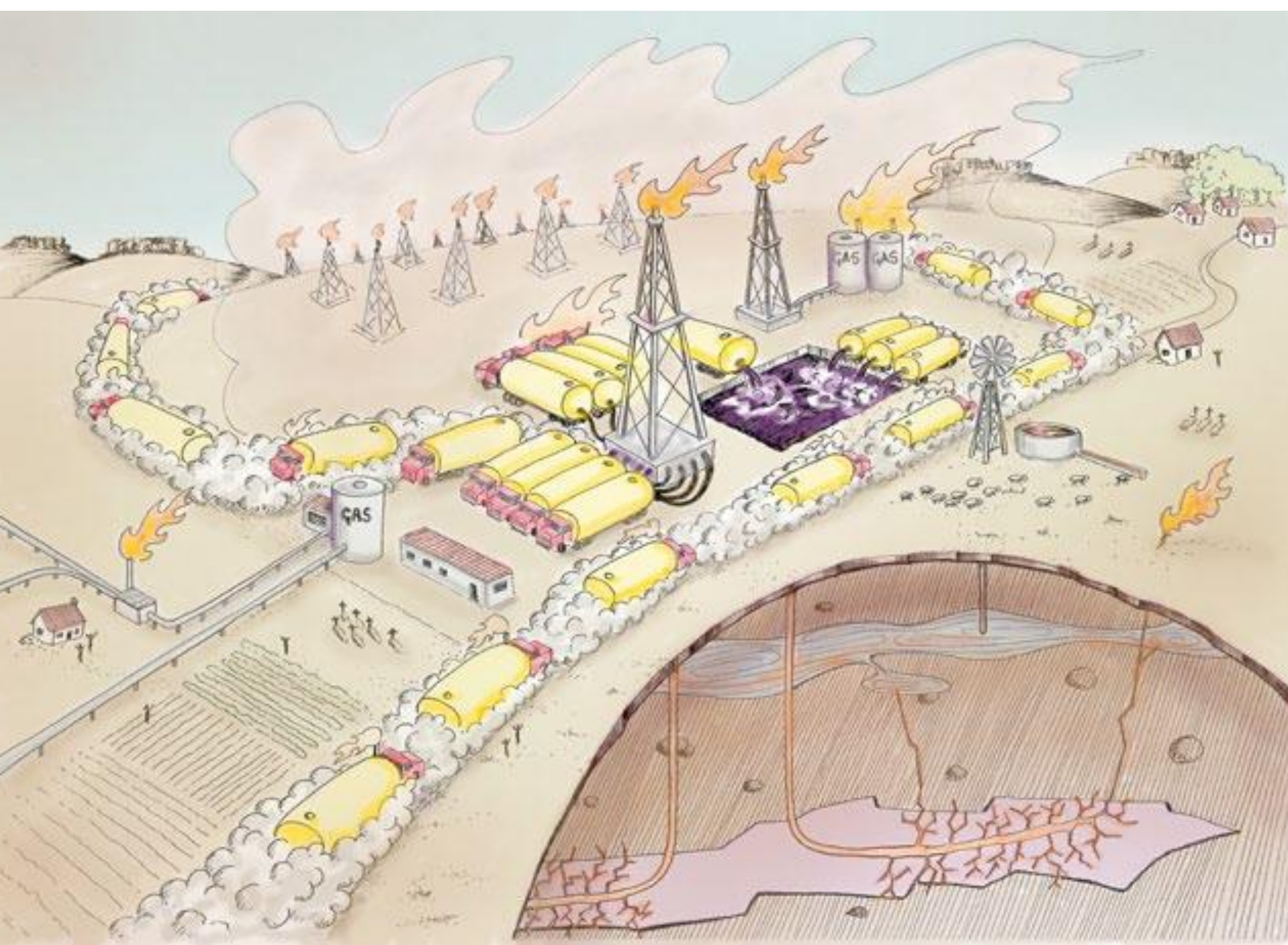
- Politics
 - Lack of accountability
 - Lack of consequences
- Racial dynamics
 - Middle class (mainly white) vs Low income (mainly black)
- Bread & butter issues vs Environmental issues
- Perennial objectors – lost credibility?
- Concept resistance vs Project resistance?



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A recipe for ONE Frack

UP TO...

20 million litres



water

+



chemicals

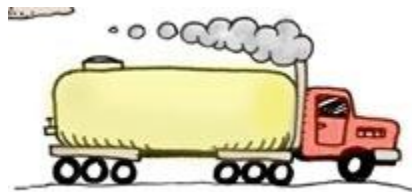
+



sand

150 thousand kgs

2,000 diesel burning



trucks









The Truth about Job Creation

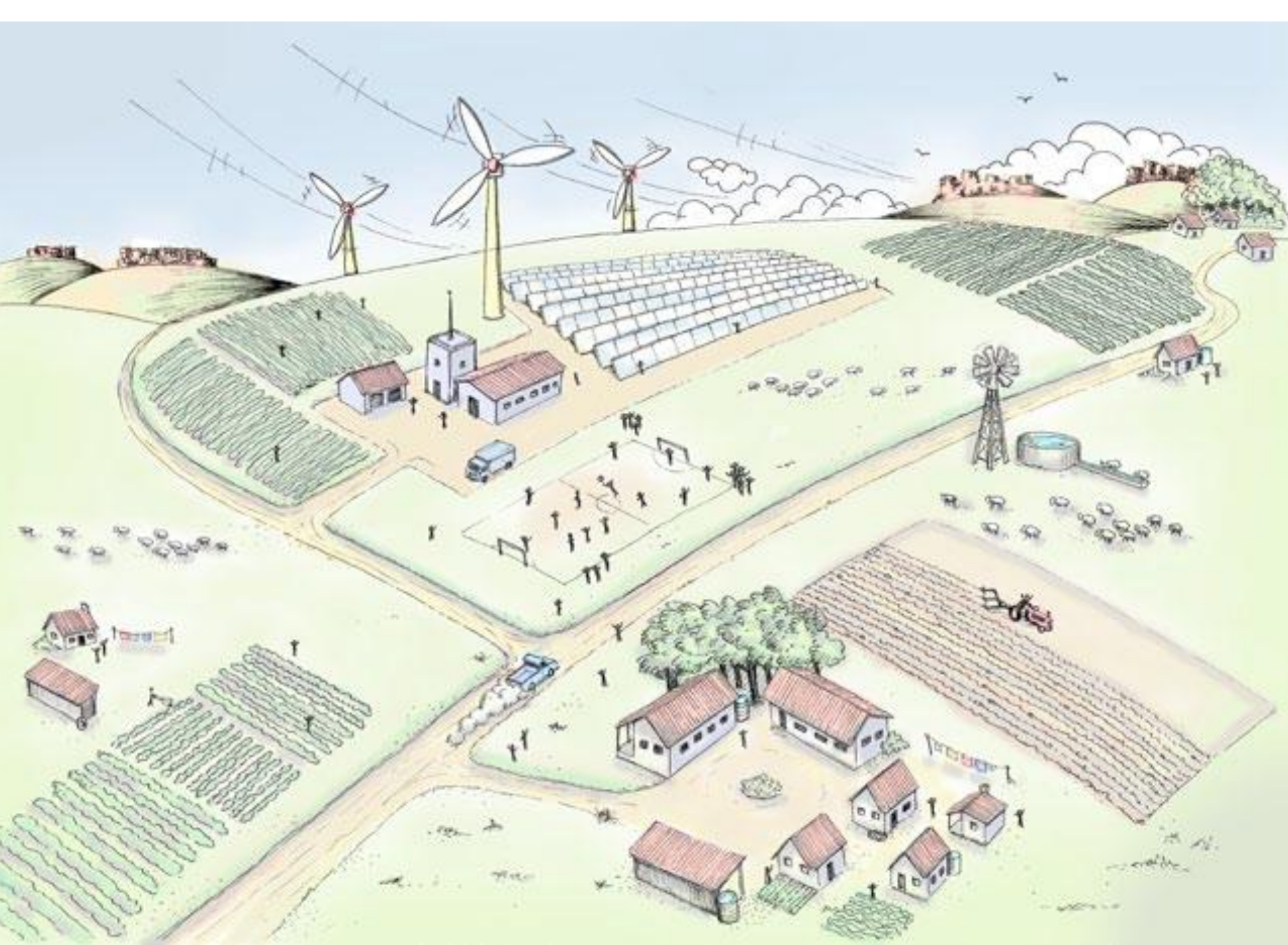
An R8 million investment generates...

- **Natural gas** 5
- **Coal** 7
- **Smart grid** 12
- **Wind** 13
- **Solar** 14
- **Biomass** 16
- **Building retrofits** 17
- **Public transport** 22



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The Choice is Yours

- Choose “*clean*” natural gas now
 - Reap now...(actually 5 to 10 years)
 - Pay in next generation
- Choose alternatives now
 - Reap now
 - Reap in next generation

You can choose to *agree* or you choose not to *agree*,
but you cannot choose not to choose





This is my choice for our children...



Thank You

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