

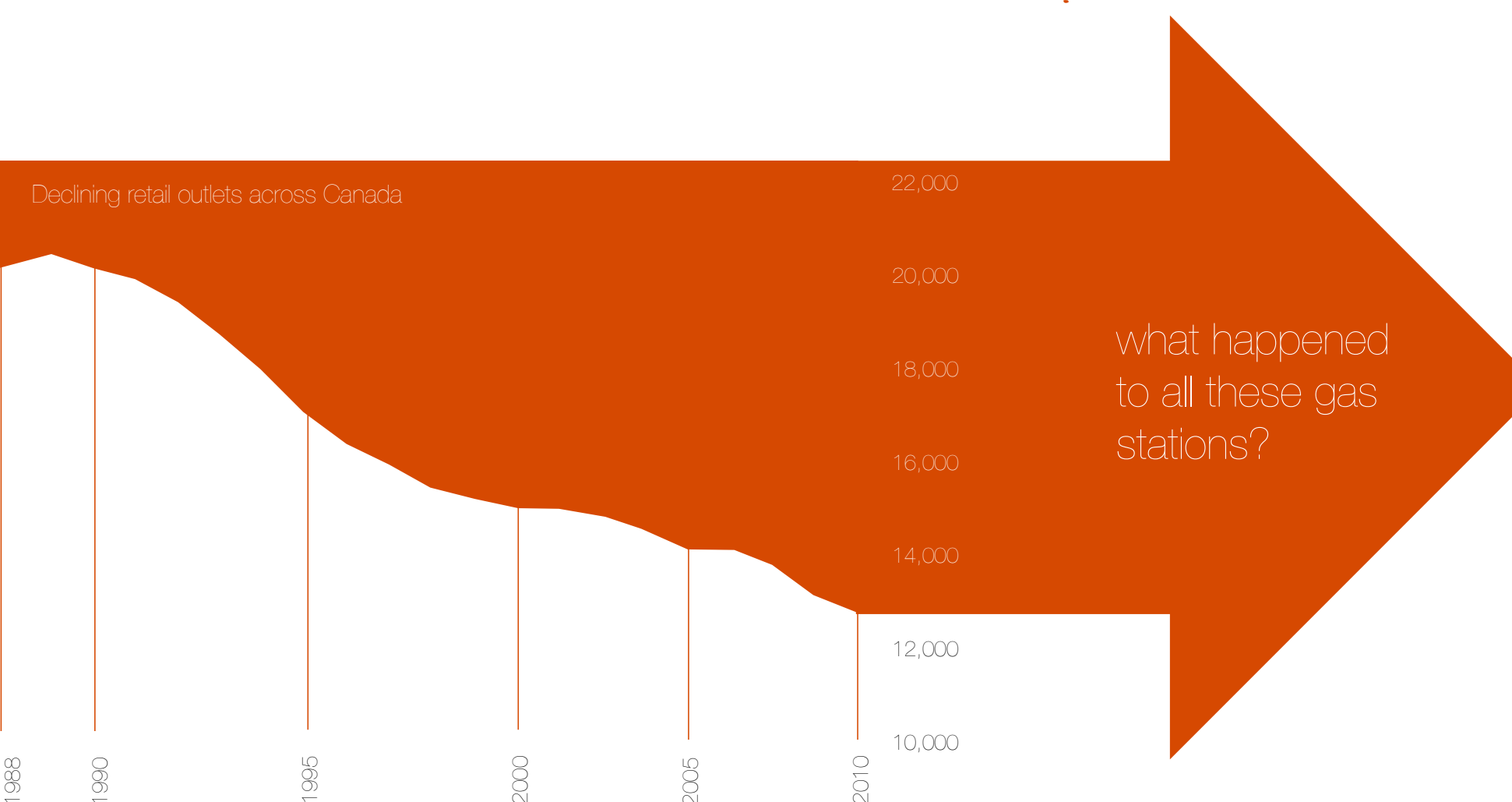
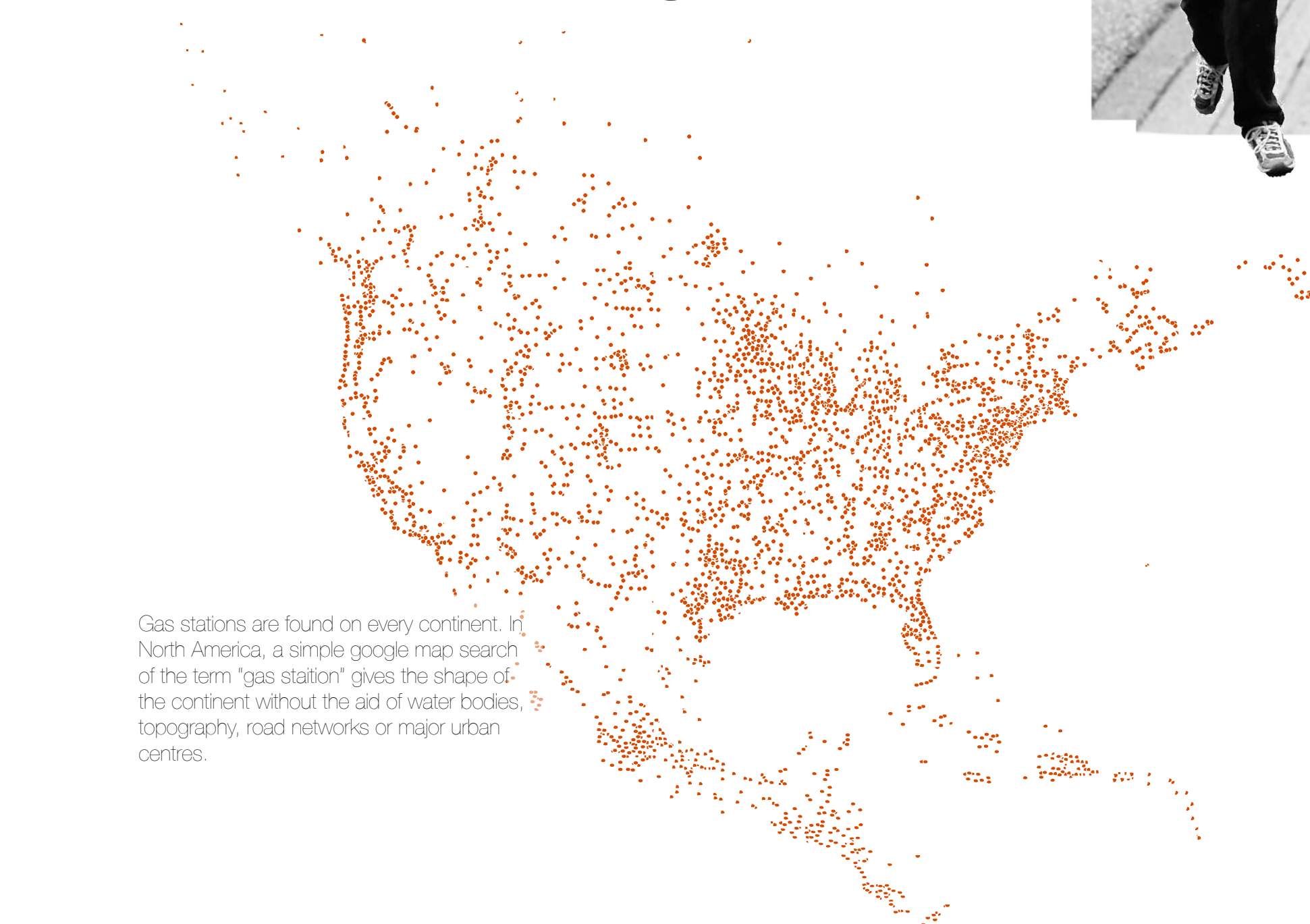
# PUMP IT UP

from corner gas  
to corner green



Pump It Up Corner Green. Main Street and East 2nd Avenue, Vancouver BC.

Gas stations are found on every continent. In North America, a simple google map search of the term 'gas station' gives the shape of the continent without the aid of water bodies, topography, road networks or major urban centres.



what happened  
to all these gas  
stations?

Gas stations occupy a special place in the collective unconscious. Fuel, and re-fuel. A key piece of the criss-crossing continental network of highway infrastructure, gas stations keep us from running out of gas. Or at least they appear to. With the realities of sky high pump prices and climate change, visits to gas stations now incite many emotions - guilt, anxiety, frustration.

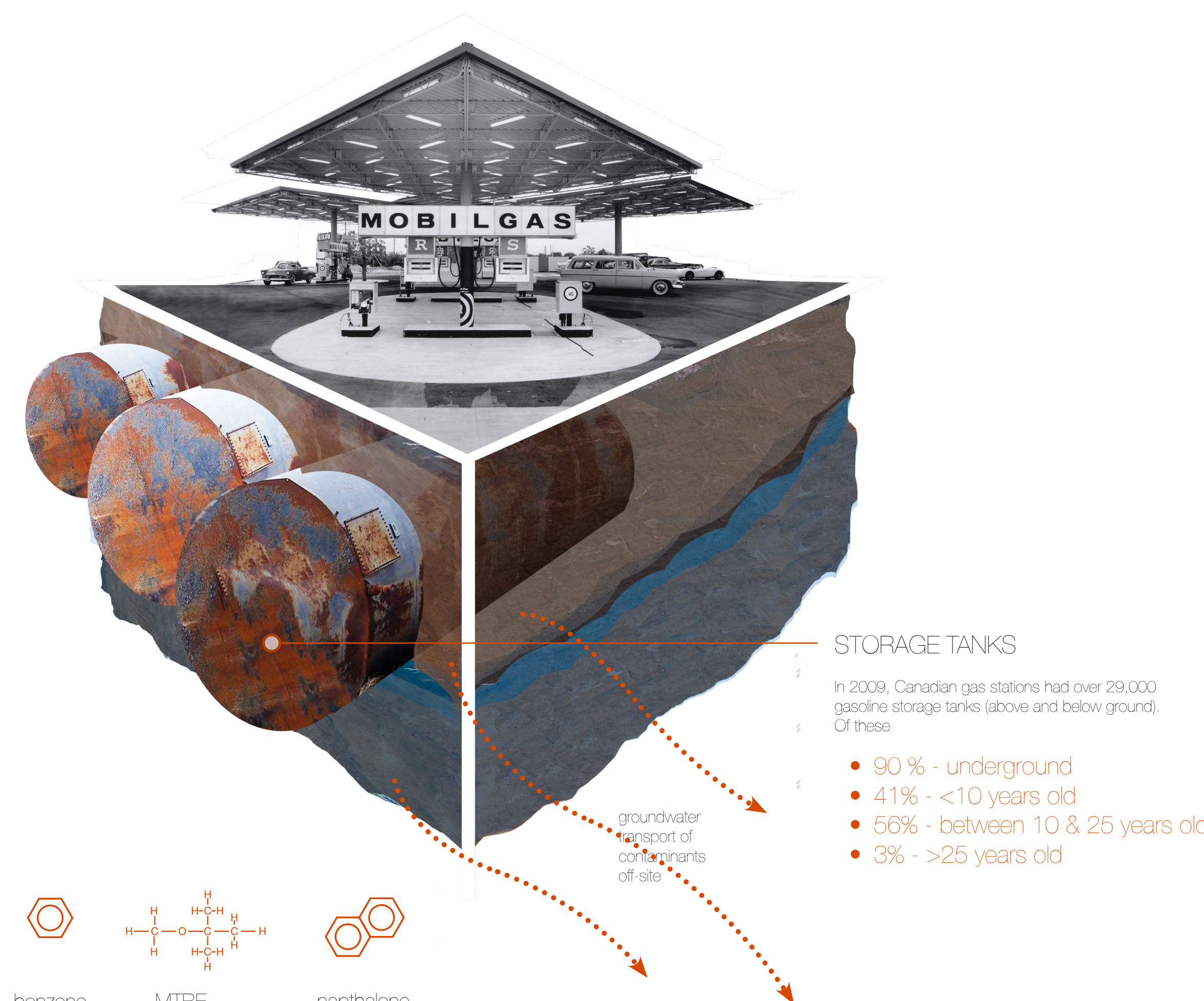
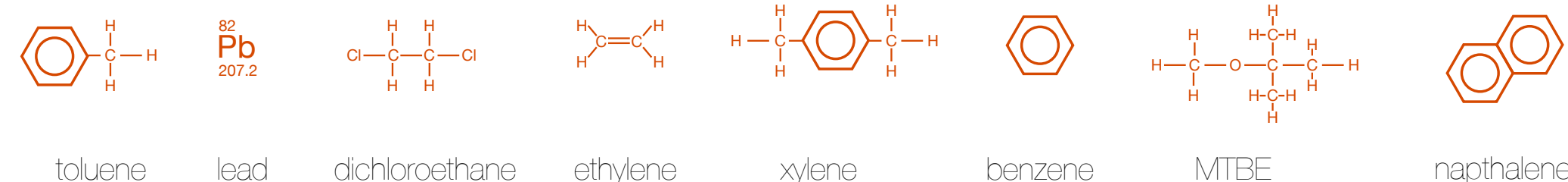


What happens to gas stations when they're no longer profitable? If history is anything to go by, they lay vacant. Abandoned, many with tanks still in the ground, gas stations contaminate soils, groundwater, and the communities that surround them.

**PUMP IT UP** proposes a new reality for the corner gas station. When the pumps close, these sites provide opportunities for remediating the legacy of contamination, and building community assets of public space, local food production and vibrant local economies.

## CONTAMINATION

Gasoline you pump into your car is a complex mixture of chemical compounds including volatile organic compounds (VOCs), and a series of additives blended with petroleum distillates to enable gasoline to be handled safely and easily all the way to the pump. When infrastructure ages or fails, all sorts of noxious substances can leak, into soils, into groundwater and even off the gas station site itself.



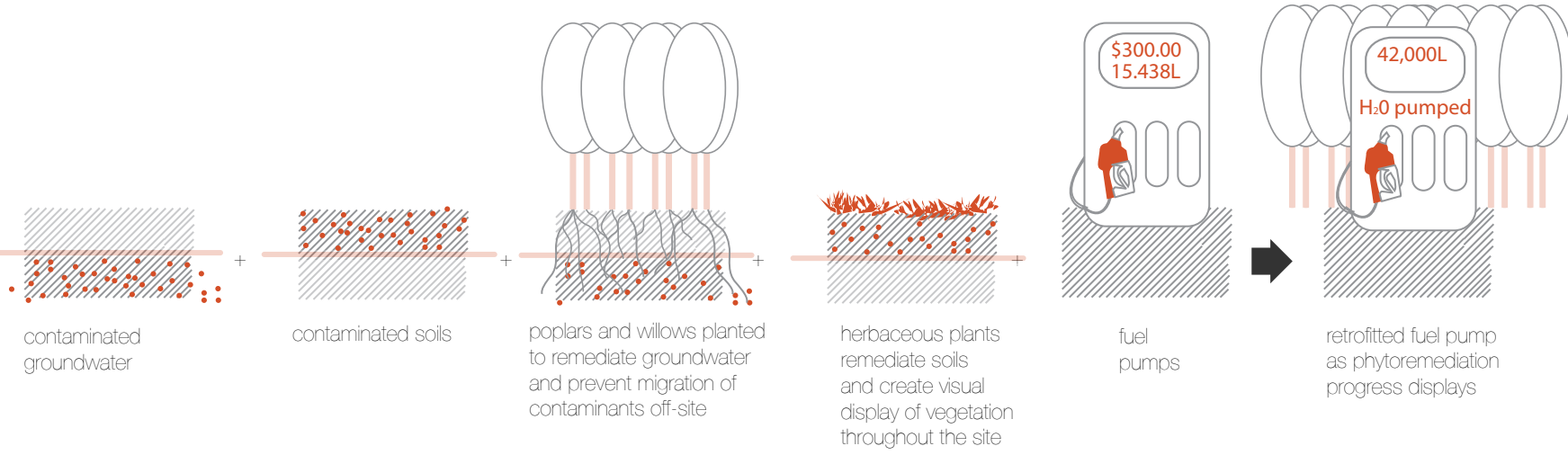




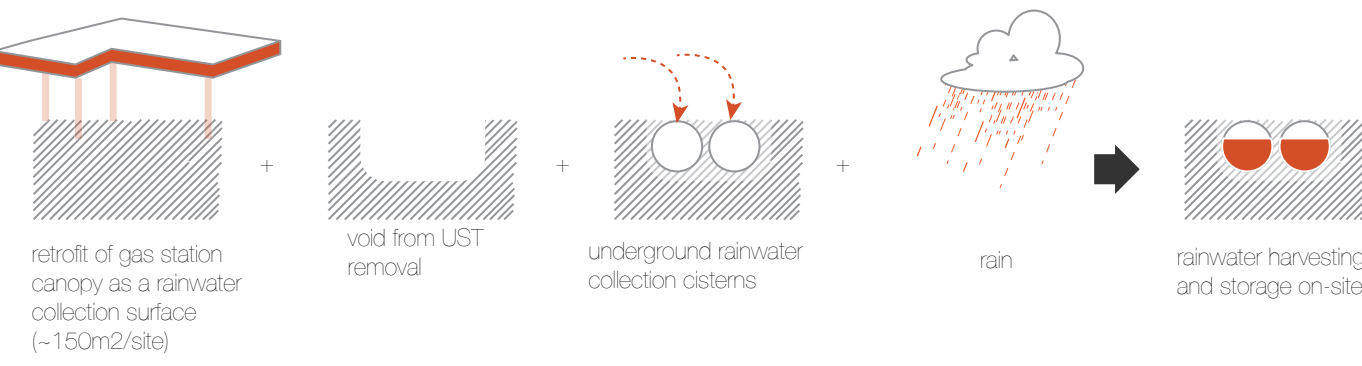
ALIGN  
put in its  
right place



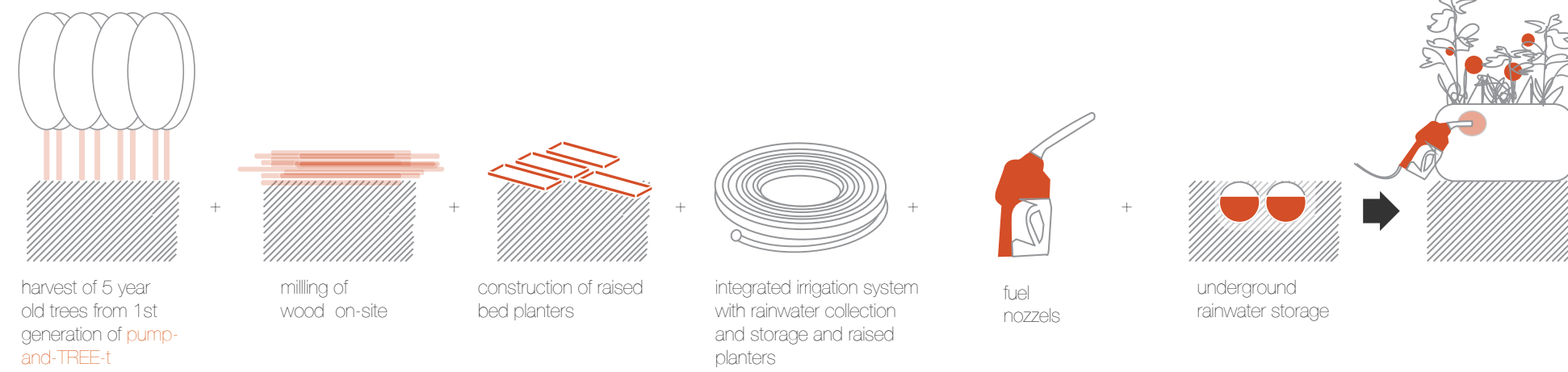
PUMP  
act of bringing  
something to the  
surface



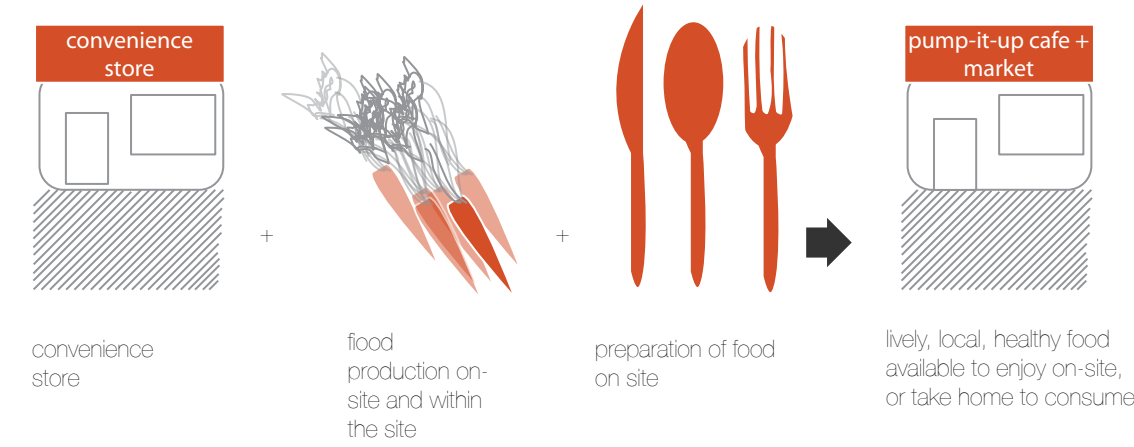
FILL  
an amount of  
something that is  
as much as one  
wants



FUEL  
nutritive material;  
source of power



DISPENSE  
distribute or provide

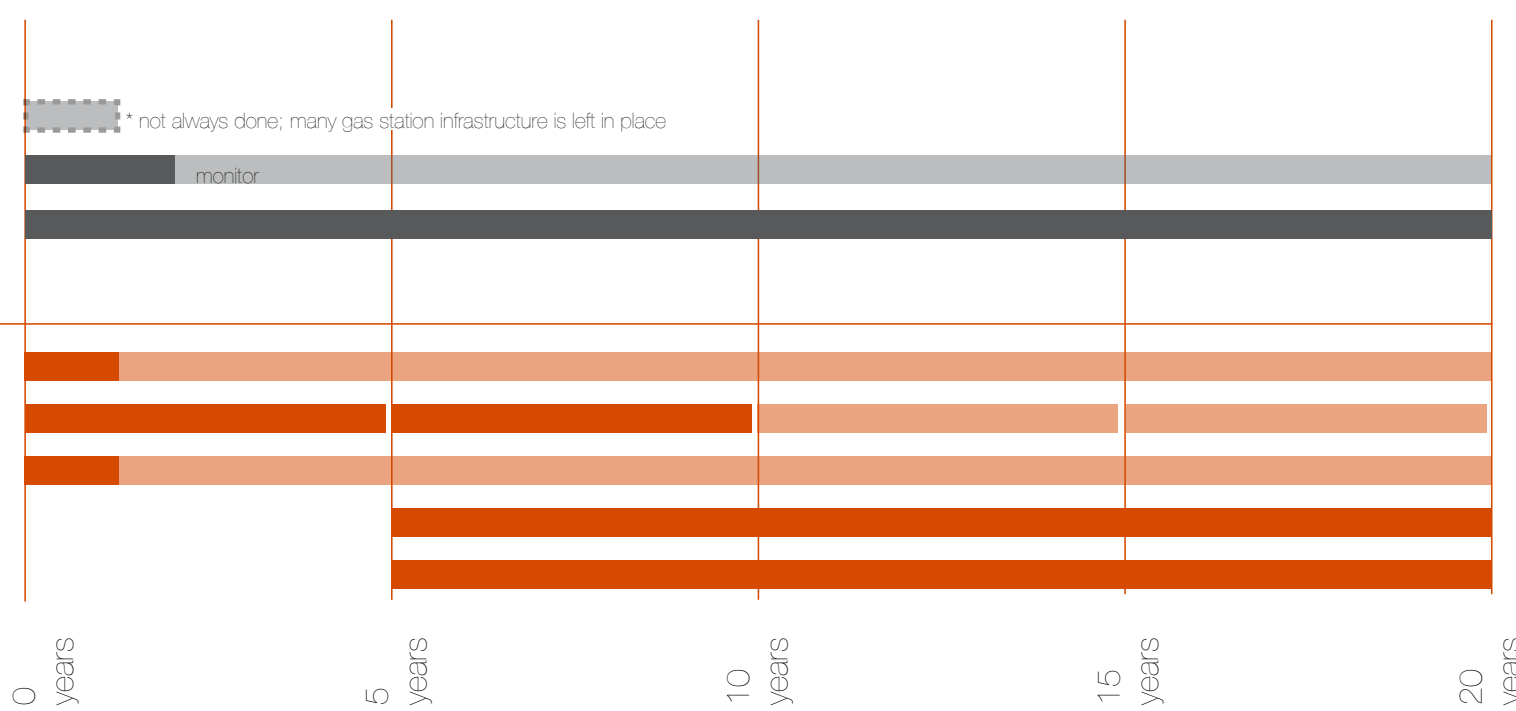


DEFENSE

CONVENTIONAL  
STRATEGIES

**PUMP  
IT  
UP**

STRATEGIES



## tank landforms

adaptively reuse underground storage tanks (USTs) found on site; USTs are cut into sections and filled with urbanite and fill, and planted with phytoremediating herbaceous species, creating microtopography throughout the site, while phytoremediating the fill.

## pump-and-TREEt

reimagines conventional remediation of gas stations, employing hydrophylic poplar tree and willow as solar-powered pumps. Poplar trees seek out subsurface water (groundwater), creating a hydraulic trap to stop the migration of groundwater contaminants off-site, while also treating the water, and volatilizing contaminants. Retrofitted fuel pumps monitor the phytoremediation process, indicated the progress and volumes pumped to date, providing a ever-changing metric for the contemplation of passers-by. \*\*

## filling station

adaptively reuses canopy infrastructure to capture rainwater on site. The underground void from the removal of the petroleum storage tanks becomes the new site for underground cisterns to store rainwater for irrigation.

## corner green station

adaptively reuses and integrates fuel nozzles into the irrigation system as the interface between the planting beds and the rainwater harvest and storage system; this plays with gas station symbolism and infrastructural similarities around fuel and pumping, linking food and fuel in the eyes of those passing by, and those participating in the production, consumption and preparation of food on-site.

## corner green grocer

brings a new reality to the former corner gas station. Once a site for refuelling one's vehicle, this space now becomes a corner green - a community asset, a source of locally-grown food, and central gathering space - from corner gas to corner green. The corner green fuels communities, smiles and the production of local food.

## \*\* Conventional PUMP-and-TREAT

Pump-and-treat (P&T) is a general term for any method that removes impacted groundwater and treats it outside of the subsurface environment. Treatment methods vary, but the basic action is to pump the water from the subsurface contaminant source and treat it above ground.

UST removal  
tank landforms



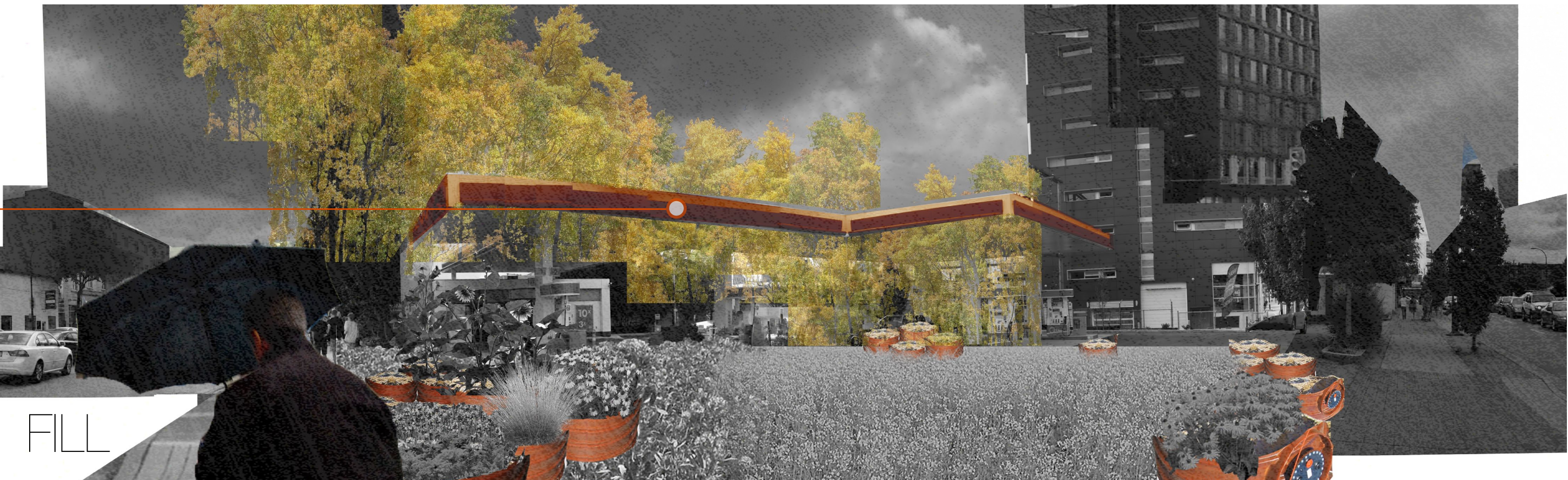
ALIGN

willow  
poplar  
sunflower  
red clover  
red fescue  
fall rye  
black eyed susan  
fall fescue  
goldenrod  
alfalfa  
phytoremediation monitoring pump



PUMP

rainwater harvesting



FILL

5 yr tree removal

raised planting bed construction  
integrated rainwater irrigation system with fuel nozzle raised beds



FUEL

covered outdoor space for pocket markets, cafes and events

retrofitted corner green grocer

