

### **Slide 1-list of questions**

This presentation will explain what fracking waste is and how CT towns can be impacted. To date, 35 CT towns have passed ordinances banning this waste.

### **Slide 2 Map with yellow flags**

Each small yellow flag are places in & around Pennsylvania where fracking waste is disposed of. So much waste is being produced & shipped out to at least 8 states. In PA, over a billion gallons of liquid wastes have been produced & hundreds of thousands of tons of solid wastes, in a single year. This waste is coming from over 10,000 wells drilled, and 80,000 more wells are anticipated. CT is on track to receive this waste due to a law passed in 2014.

### **Slide 3-Map of CT**

Waste would be transported into CT by tanker truck. There currently are 3 privately-owned,for-profit hazardous waste treatment facilities that could apply for permits once regulations are finalized. These are located in Bristol, Meriden and Bridgeport

### **Slide 4-Map of Ct with triangles**

But Bristol and Meriden have already banned fracking waste. Bridgeport has not. The smaller diamonds are where Publicly Owned Treatment Works or POTWs are licensed to accept non-domestic, transported waste. We don't know yet what DEEP's regulations will be. It is possible that partially-treated but still- contaminated-effluent could be send to these smaller facilities after an initial treatment. This type of permitting has occurred in other states.

### **Slide 5- gas wells**

This comes from a report issued by the National Council on Radiation Protection, which is a Congressionally chartered agency, Their report focused on how the public can be exposed to radioactivity in fracking wastes. The shale deposit in PA is known by geologists to be the most radioactive in the country. And there are many other naturally occurring toxins also buried in this shale deposit.

### **Slide 6 Diagram with Air pathways**

Again from the same National Council on Radiation Protection report. This slide shows how radioactivity can travel through the air and the different pathways it can take to enter the human body.

### **Slide 7 Second soil/water diagram**

Similar slide showing what happens when either soil or water is contaminated. Surface water includes visible water like tributaries, the Norwalk River, LI Sound. Ground water includes aquifers that supply drinking water. Radioactivity and other toxins are buried in the shale deposit and hazardous chemicals used for fracking can all follow these exposure pathways.

### **Slide 8 Graph with data**

This data from US Geological Survey research shows how radioactive this waste is. The shapes and colors on the graph are individual wells that were tested.

Radium causes breast cancer, bone cancer and liver cancer and is associated with leukemia. It takes about 4,000 years for this radioactivity to completely decay, and the end product is lead. So anywhere it leaks or spills, it will be around for a very long time. Remediation costs are enormous if it can even be done.

### **Slide 9-**

These are some of the other toxins associated with fracking waste.

### **Slide 10 Picture of body**

Hundreds of toxic chemicals used in the fracking process.

This graphic shows research done in 2011 chemicals that were being voluntarily reported. We don't have a complete list of what is used as the oil & gas industry is allowed to keep trade secrets. Soluble in water means these chemicals can mix-with water and run-off or leach into the ground. Volatile means they vaporize and travel through the air. So the same pathways shown in the National Council on Radiation Protection slides apply.

### **Slide 11- College research headlines**

Since 2011 hundreds of studies have been done. Health problems are now being reported that match what we know the toxins in fracking waste can cause. Thousands of spills are occurring. Chemical and radioactive contamination is occurring in other states. These are all states that regulate waste (as opposed to banning it)

### **Slide 12- waste pics**

These are different types of solid and liquid waste. In some states the solids go to landfills or are used in construction. The liquids are partially treated and reused but end up becoming too toxic to use anymore and are sent for final treatment and disposal

### **Slide 13**

These are the EPA ECHO records for the 3 HazMat facilities in CT.

The white boxes show where they have had no violations.

Yellow and red are where they are out of compliance and have had significant violations.

More detailed information can be found on the Rivers Alliance website

### **Slide 14**

This is some of the more detailed information available on Rivers Alliance website.

All the blue lettering are active links that will open more detailed pages.

### **Slide 15-Potential Chain**

Refers to how other states have been contaminated and how waste could be handled in CT once regulations are finalized. Some states allow permits to re-use the waste.

Pennsylvania recently reversed their solid waste re-use. CT has a temporary moratorium preventing spreading fracking waste on roadways- but leaves it to DEEP's discretion as to

whether to permit this in the future. Loophole: There is no current moratorium or ban on solids in CT.

**Slide 16 State vs Local Ban**

The statewide ban being proposed is replete with loopholes that the local bans close up- another important reason for local bans. The language used in the local bans was developed by Riverkeeper- funded by Robert F. Kennedy Jr.

**Slide 17- map of local region**

In our region, local laws started passing in 2011. In addition to local bans, 15 NY County Legislatures have banned fracking waste from being used, stored or treated in their county. Over 400 NY municipalities are now protected from fracking waste contamination. Vermont has a statewide ban.

**Slide 18**

In CT, 35 towns and cities have already passed ordinances. There are more towns & cities that are working towards banning fracking waste.