

*City of Liberty*

*City Engineers*

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# *City of Liberty*



# **City of Liberty's Birth**

- **Our mayor's great grandmother dreamed of having a city independent of the foreign oil supply.**
- **She had witnessed several wars that were based on foreign oil trade.**

# City of Liberty's Energy System

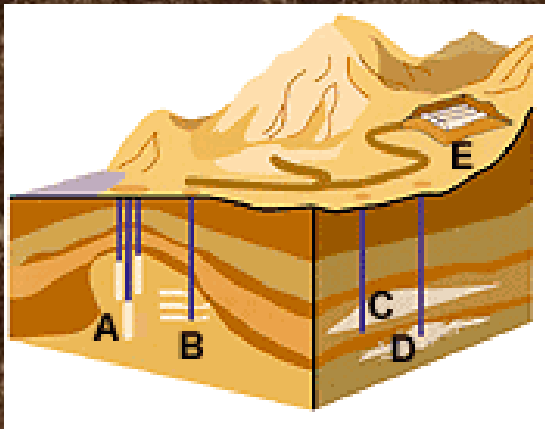
- **It provides a steady flow of energy independent of other countries fuel supplies. (This means that we only depend on our own supply of fuel.)**
- **Our energy system is a solid oxide fuel cell system.**
- **Fuel cells are very clean because they reduce air pollutants since the combustion process is not used.**
- **The solid oxide fuel system can turn our non-renewable natural gas into renewable fuel.**



# City of Liberty's Fuel Supply

**Our main source of fuel is natural gas.**

*Storage:* Salt caverns are used to store the natural gas. In the caverns it is hard for the gas to escape and pollute our air.

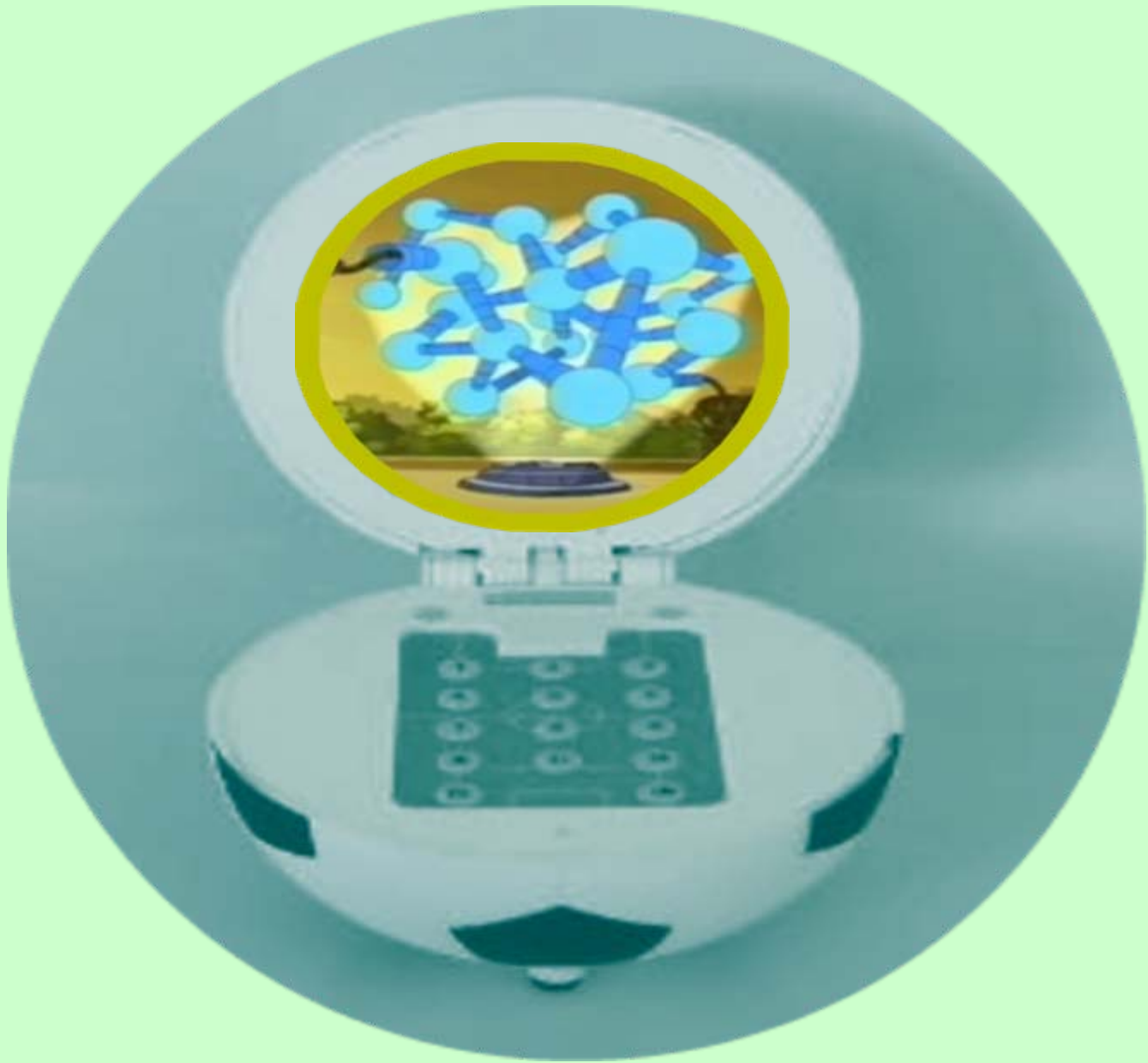


*Landfill supply:* Our alternative fuel is methane, which comes from the landfill. This process is favorable to our environment because it reduces the emission of methane in the air.



# How the City of Liberty is Powered

- **Our solid oxide fuel cell power plant is able to provide enough kilowatts for our entire city.**
- **In case of emergencies, we have 14 solid oxide fuel cells units placed in buildings throughout the whole city.**



## City of Liberty's **Communication System**

- **The HCS (Holographic Communication System) uses specialized phones for its communication system.**
- **HCS phones are in the shape of a ball. They open when accessed. The person you are talking with will pop up as a hologram, allowing you to talk to him or her face-to-face.**



# City of Liberty's Communication System

- **The HCS phone system allows you to check your e-mail from any place in the world.**
- **It protects your computer from viruses and invaders that want to harm your computer.**
- **It has packet switching capabilities. This means that the data has multiple paths to flow. Therefore, several phone calls can occupy the same space.**

# Using Solid Oxide Fuel Cells' By-Products in our Transportation System



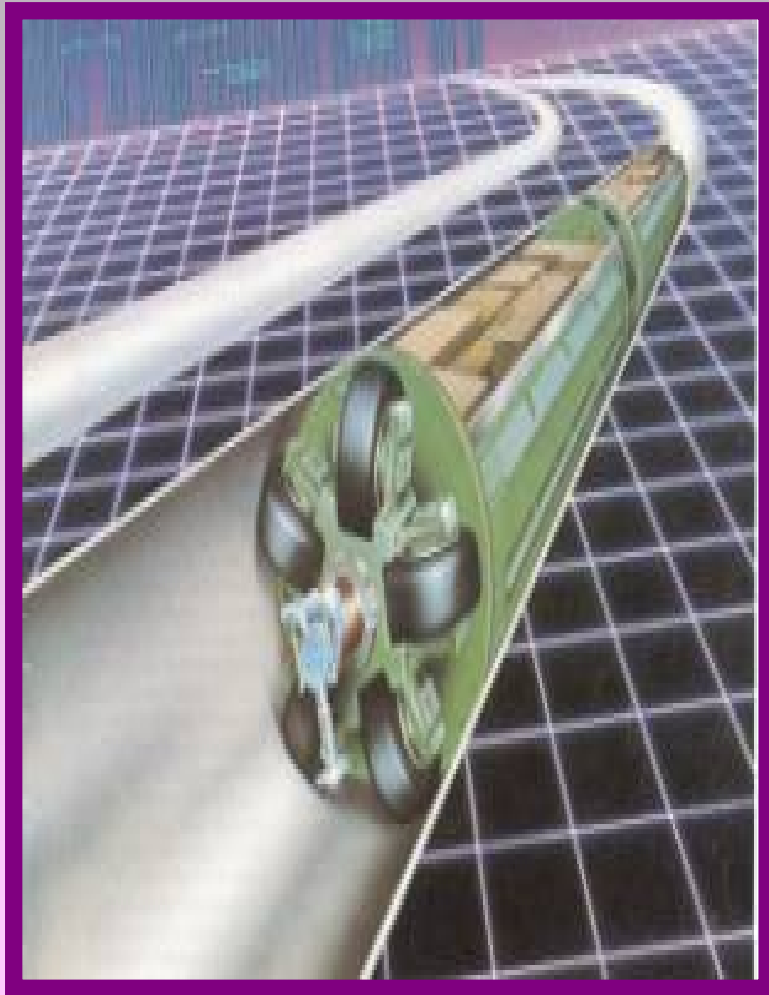
## PASSENGER VEHICLES

- Vehicles are powered by steam that is the by-product of the fuel cell system.
- The vehicles receive the steam through an underground pipeline system.
- Vehicles are equipped with dual power systems that allowed them to be powered by the steam or electricity.

# City of Liberty's Mass Transportation System

- **Our Hi-Speed Air Train (HSAT) System provides transportation for our city.**
- **It is powered by solid oxide fuel cells that are on-board each vehicle. Since the cells produce steam also, they provide the cooling system for our customers during warm weather.**
- **It is an elevated system that also provides a quiet ride even at hi-speed.**
- **Since HSAT is fully powered by fuel cells, it does not pollute the air.**

# City of Liberty's Freight Transportation



- **Capsule (Wheeled) pipelines are used to transport freight such as mail, parcels, grains and other products.**
- **The steam from the solid oxide fuel cells provides the energy for the turbines that move the capsules through the pipeline.**
- **They reduce traffic congestions because less freight trucks are used.**





*City of Liberty is a wonderful place to  
make your home.*

*It has a worry free-environment.*