

# Heating Houses Using a Friction-Based Heating System that Employs Renewable Energy Sources

El Shazly, Shady

Kilic, Ahmet

Air pollution is one of the biggest problems today. One of the major causes of air pollution is the use of non-environment-friendly household heating systems. Scientists have been searching for heating methods that produce less air pollution. Natural gas-based heating is also more economical than the use of electrical heaters, which applies only to natural gas producing countries. Our research indicates that natural gas produces less air pollution than coal and wood, but there are still disadvantages: Natural gas can be expensive for countries that don't produce it. Imported gas becomes a luxurious way of heating. Therefore, people desire to go back to the more economical way of heating, which can be detrimental to the environment. Even countries that produce natural gas still face disadvantages. While it doesn't pollute as much as coal and wood, it's still a pollutant. Countries that produce natural gas are still dependent on other countries. Therefore, we felt a need to find a new way of heating, which led us to the use of friction in producing a heating system. Since we can't use friction between solids, we used friction between liquids, which has never been heard of before. The oil is used for up to 250-300 days, working non-stop 24/7. Oil is used in a closed loop circuit, and it's used until it gets ruined so there are no pollutants. With a better design we can meet household heating requirements. It can save the environment and the economy since it produces no pollutants.