

## Cover Story

# A Shower Curtain Whose Light Comes From Bioluminescent Algae

### Can renewable algae be our solution?

We have always needed lighting in the past, and we will continue to need lighting in the future. During our prehistoric time, it was fire that provided light for us. Nowadays, lighting is provided through various means, such as heat and electricity. There is one problem though: our methods of producing heat and electricity often involve burning fossil fuels, such as coal, oil, and natural gas. None of these resources is renewable.

As resources become scarce,

shortages occur, and prices increase. By the end of this century, nearly all of the economically recoverable fossil fuels will be gone.

Research has shown that 67.6% of global electric production originated from burning fossil fuels, while alternative solutions such as bioluminescence have not been fully explored. If bioluminescence is properly developed, it may be possible to slow the imminent future of scarce resources.

Bioluminescence via algae and bacteria is something that should continue to develop in the future, as it has been shown that it is not only renewable, but also has many applications. Bioluminescence is also more efficient than heat or electricity. When one uses heat or electricity for lighting, about 90% of the energy is wasted to heat and UV. On the other hand, bioluminescence's efficiency is 98%, and is the most efficient of all sources of lights. Lighting powered by electricity and heat also has a short lifespan. On the other hand, bioluminescent algae and bacteria, once genetically engineered, can be a potentially longer lasting source.

With all the development and research around bioluminescent algae and bacteria, even a bioluminescent shower curtain that eliminates the need for electricity in the bathroom would be possible as well. We all have to rely on alternative resources eventually, and bioluminescent algae and bacteria are resources that worth a look.

Drivers of Adoption

