

## YRE International Award 2009

### Foram premiados quatro dos seis trabalhos de escolas portuguesas no âmbito do Prémio Internacional Jovens Repórteres para o Ambiente.

Jovens Repórteres para o Ambiente (JRA) é um Programa internacional de educação para o desenvolvimento sustentável, que envolve actualmente 23 países da Foundation for Environmental Education - FEE.

Este Programa que decorre em Portugal desde 1994, destina-se fundamentalmente aos estudantes do Ensino Secundário, e às escolas profissionais, pretendendo contribuir para uma preparação dos jovens para o exercício de uma cidadania activa. Os jovens são incentivados a realizar investigações de carácter ambiental, comunicando os resultados do seu trabalho através de reportagem escrita e/ou fotográfica.

Anualmente são realizados concursos que distinguem os melhores trabalhos realizados pelas escolas. O concurso Nacional está a decorrer nas modalidades artigo, fotografia, vídeo e apresentação.

No âmbito da FEE, Portugal destaca-se ainda pelo facto de possuir o maior número de projectos inscritos (147) o que corresponde a cerca de 30% da rede internacional.

A coordenação internacional organiza anualmente o "YRE Award" que premeia os melhores artigos e fotos em língua inglesa de toda a rede. Nele participaram seis trabalhos de escolas portuguesas dos quais quatro foram premiados:

- dos sete prémios atribuídos na categoria de melhor fotografia três foram entregues a Portugal;

o "Innovation award" também foi entregue a Portugal, tendo sido este trabalho redigido por uma escola portuguesa em parceria com uma escola Turca.

### 3 prémios em fotografia

#### ["A black hole in the clouds", Portugal](#)



#### 1º prémio [Escola Sec. 3ºCEB Al Berto, Sines, Portugal.](#)

The 225 meters tall chimneys from a thermoelectrical central in Sines, Portugal, supposedly prevent pollution from contaminating the surrounding areas. However, miles away some other small town feel the pollution it causes. Will we see the day when this no longer needs to happen?

#### **Escola Sec. 3ºCEB Al Berto, Sines, Portugal.**

**3rd prize:**

**"Water, source of life?", Portugal**

Escola Artur Gonçalves, Torres Novas, Portugal.



The human action, through the substances it releases to the river or the practices of an intensive agriculture, has led to the growth of both organic and inorganic matter that exists in the water courses.

This excess of nutrients causes a large growth of algae and others microorganisms, lowering the available oxygen what's meaning reduction of the quality of the water. This phenomenon is known as eutrophication. The fact that the water is covered by all these decomposed substances makes it difficult to move the oxygen and the entry of sun light disturbing the species which make that their habitat.

**Daniela Afonso, Joana Lopes, Tiago Damião.**

**Escola Artur Gonçalves, Torres Novas, Portugal.**

**5th prize:**

**"A miracle worker", Portugal**

Escola Sec.3º CEB Poeta Al Berto, Sines, Portugal.



This man is separating paper and carton for recycling. If we separate correctly we can help him and, at the same time, save hundreds of trees.

**Escola Sec.3º CEB Poeta Al Berto, Sines, Portugal.**

**Prémio em Innovation Award (artigo em cooperação com a Turquia):**

**"From Waste to Electricity", Turkey & Portugal**

Escola Secundária da Amora,

Since the beginning of Industrial Revolution, most of the cities in industrialized countries, have been struggling with the wastes that are released by the factories. Besides the unwanted industrial wastes, which may cause irreparable effects to the environment, the municipal wastes are also a problem that has been faced with. Thanks to the brainstormings of environmentalists all around the world, many different ideas have been found, in order to prevent the landfill problems.

### Problems with waste management:

Like all industrialized cities, Ankara and Seixal have been having a waste management problem since they became one of the most populated cities of Turkey and Portugal. This problem has been gradually increasing as well as the population of the cities. For long years, the two cities have not recycled their wastes, instead they collected them in landfill sites which are not far away from the city centers. This not only caused some pollution problems but also threatened the lives of people living close to the areas with the risk of explosion, caused by the increasing amounts of methane gas.

### Solutions:

In order to solve the waste management problems, in both cities a recycling facility have been built up, in which the gases that are produced from municipal and industrial wastes are converted into electrical energy. The recycling plants (Amarsul Landfill Site in Seixal and Mamak ITC Landfill Site in Ankara) also have impacts such as the removal of the risk of explosion, emission of odor, providing employment opportunities and reduction of gases that cause climate change in the landfill sites. Besides, they aim to decrease the amount of waste that has to be piled in the landfill area.



**Mamak Landfill Site**

Further research and development studies are ongoing for the application of innovative technologies for energy production from waste.

### How the system works in a recycling facility:

When the waste starts to decompose it produces gases. These gases are pulled out of the landfill to avoid combustions and explosions. There is a system of perforated tubes where the gas is drawn out - biogas wells. This biogas is made of a mixture of gases, carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>). Methane is used as an energy source, so it's important to know if there is enough amount of it in that mixture, so that about 45% to 50% can be dragged out.



**Biogas Well-Amarsul Landfill Site**

In order to check the correct amount of methane in the biogas, there is an automatic system that measures it and controls the opening or closing the wells according to the amount needed. This system is controlled by technicians that can adjust the parameters of control. Ultimately, the biogas is compressed, burnt in Moto generators and converted into electric energy.

### Outcomes:

The improvement of the environment in the landfill sites and in the surrounds is an important aspect, because in the Energetic Use of Biogas, the compounds that cause unpleasant smells, are drawn out and destroyed during the process. This is a means to reduce the unpleasant smells. Another important thing is that it helps reducing the greenhouse effect caused by gases with methane.



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Pode ainda seguir-nos em: [twitter.com/abae\\_pt](https://twitter.com/abae_pt)

The recovery of biogas represents an energetic advantage to the economy in both countries: taken from waste products in landfill sites it generates power that can be used for self-consumption or/and sale to the National Energy Company. Moreover in Ankara the waste heat and energy yielded during the transformation of biogas is used for a greenhouse which is used to grow tomatoes.



**Greenhouse-Mamak Landfill Site**