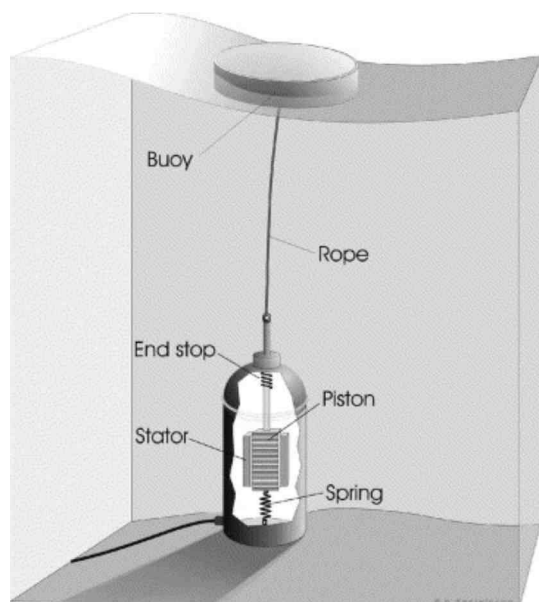


EXAMEN : Baccalauréat général - Série S-SVT ou S-SI	Session 2013
ÉPREUVE : Evaluation spécifique de Langue en section européenne	
<b>PHYSIQUE-CHIMIE en langue ANGLAISE</b>	
Thème : « Energie : les enjeux énergétiques »	<b>Sujet n° 10</b>

### Wave Power Project – Lysekil



The goal of the Wave Power Project Lysekil is to test a new concept to generate electricity by using the motion of sea waves and over a long period of time. The research area is situated on the west coast of Sweden, about 1 nautical mile (2 km) west of the Islandsberg peninsula in the municipality of Lysekil .

The concept is based on a system of unique piston driven generators. A so-called linear generator stands protected on the seabed and is driven via a rope by a buoy on the surface. Several generators can be combined into groups, some 20-100 m beneath the surface and can further be combined into groups using standard cables on the seabed. With the help of power electronics, the

generated alternating power is converted into direct current, which is then taken to land by means of standard cables and connected to the power grid through a DC/AC converter. This system using a buoy, a rope and a generator is expected to be cheap, sturdy, environment-friendly, and able to resist extreme conditions at sea.

Apart from technical and functional verification and development, the system will also be evaluated scientifically from environmental, marine biological and marine ecological points of view. The local authority in Västra Götaland has given permission to deploy up to 40 buoys and a maximum of 10 wave power devices at the site.

From <http://www.el.angstrom.uu.se>

#### Questions:

1. Present and comment on this document
2. Do not forget to focus on at least one physics topic for example energy conversion.
3. Compare the presented system with another way of producing electricity?