

SELECTED SCIENTIFIC ARTICLES FROM ENGLISH NEWSPAPER

英文 报刊科技 文章选读

主编 朱景梅



甘肃少年儿童出版社

Selected Scientific Articles From English Newspaper

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编写说明

报刊作为一种媒介手段,是人类社会活动及语言活动的记录和镜子。经常阅读报刊不仅可以了解时事,而且可以丰富生活,提高生活品味。对于广大英语学习者而言,阅读英语报刊有助于增加词汇量、扩大视野、提高阅读能力。鉴于此,编者精心挑选了最新的英文报刊中的科技类精华短文,与读者一起分享。

本书所选科技文章涉及多个领域,如能源、生物、信息科学、健康医疗、环境保护、天文学、自然科学、工作与生活等。文章全部来自近几年各大英文报刊,如 Time, The Independent, The New York Times 等。文章以科技为依托,内容新颖丰富,趣味性强,适用于具有一定英文水平的英语学习者及对英语、科技感兴趣的人群。书中所有文章都附有详尽注释,可以帮助读者解决阅读中的难点问题。本书不仅有助于提高读者的阅读能力和语言水平,而且能帮助读者了解最新科技发展趋势,学习生活之道。

在编写过程中,虽然编者尽心查阅各种词典和相关资料,对每篇文章做了详尽的注释,力求准确无误,但是由于题材广泛、涉及背景知识芜杂,因此书中不足之处在所难免,恳请各位读者谅解和指正。

主编朱景梅负责十万余字书稿的编著和统稿、汇总工作。

副主编张晗、曾妹云、雷芙蓉、蔡鑫各负责八万字以上文稿的编著。

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Part I Energy Resources

能 源

1. Biofuel: the Burning Question

生物燃料:燃烧问题

By Cahal Milmo

From today, all petrol and diesel^① sold on forecourts^② must contain at least 2.5 per cent biofuel. The Government insists its flagship^③ environmental policy will make Britain's 33 million vehicles greener. But a formidable coalition^④ of campaigners is warning that, far from helping to reverse climate change, the UK's biofuel revolution will speed up global warming and the loss of vital habitat^⑤ worldwide.

Amid growing evidence that massive investment in biofuels by developed countries is helping to cause a food crisis for the world's poor, the ecological cost of the push^⑥ to produce billions of litres of petrol and diesel from plant sources will be highlighted today with protests across the country and growing political pressure to impose guarantees that the new technology reduces carbon emissions.

On the day when the Renewable Transport Fuel Obligation (RTFO)^⑦ comes into force, requiring oil companies to ensure all petrol and diesel they sell in the UK contains a minimum level of biofuel, campaigners condemned as "disastrous" the absence of any standards requiring producers to prove their biofuel is not the product of highly damaging agricultural practices responsible for destroying rainforests, peatlands^⑧ and wildlife-rich savannahs^⑨ or grasslands from Indonesia to sub-Saharan Africa to Europe.

A study by the RSPB^⑩ published today criticises the introduction of the RTFO as "over-hasty" and "utter folly". The conservation body said there is already widespread evidence that

① diesel 柴油

② forecourt 油站前庭

③ flagship 旗舰,系列

④ coalition 联合,联盟

⑤ habitat 栖息地

⑥ push 奋力,决心

⑦ Renewable Transport Fuel Obligation (RTFO) 可再生交通燃料法

⑧ peatland 泥炭地

⑨ wildlife-rich savannahs 野生动物很多的大草原

⑩ RSPB (英国)皇家鸟类保护协会

biofuel production is destroying vast areas of unspoilt habitat and has made at least one species extinct.

Demonstrators will gather outside Downing Street and other locations including Aberdeen, Bristol, Manchester and Norwich to protest at the “perverse obstinacy” of the Government in going ahead with the RTFO and will call for its abandonment until the impact of biofuel production can be properly assessed.^①

Graham Wynne, chief executive of the RSPB, said: “The volume of biofuel that can be genuinely described as sustainable is at present very small indeed and is nowhere near enough to warrant the 2.5 per cent obligation. The impacts of biofuel production on forests and wetlands are already being seen worldwide. It is a tragedy that customers’ money is going to be spent on driving this destruction.”

The World Bank and the UN have, in recent days, expressed concern about the impact of biofuels on world food prices, sparking riots from Haiti to the Philippines. Gordon Brown, who has put the issue on the agenda at the forthcoming G8 summit^②, has also voiced concerns at EU level about deforestation and loss of habitats caused by biofuel production. And Alistair Darling, the Chancellor, raised the issue at the weekend’s G7 meeting in Washington. But ministers insisted that the RTFO, which will require Britain to produce or import up to 2.5 billion litres of biofuel each year, puts the UK at the forefront of efforts to make the industry sustainable by demanding that suppliers provide reports on where their green petrol and diesel comes from as well as the expected carbon savings.

The Department for Transport estimates 2.5 million tonnes of carbon dioxide will be saved by 2010. The proportion of biofuel will rise to 5 per cent by 2010 in the UK and there is a proposed EU-wide target of 10 per cent by 2020. Jim Fitzpatrick, the Transport minister, said: “Making it easier for motorists to use greener fuel is an important step towards reducing carbon emissions from transport. It should help save millions of tonnes of carbon dioxide in the coming years.” For motorists, there will be no discernible difference at the petrol pump^③. Bio-diesel^④, largely sourced from processed palm oil, soya beans and rape seed^⑤, and bio-ethanol^⑥ for petrol, produced from cereals and sugars, are simply mixed with fossil fuels^⑦.

① 示威者在唐宁街外以及其它阿伯丁、布里斯托、马车斯特、诺维奇等地方集合,以反对政府顽固推行 RTFO 并呼吁作废《可再生交通燃料法》,直到人们能够合理评估生物燃料生产的影响为止。

② G8 summit 八国峰会

③ petrol pump 加油泵

④ bio-diesel 生物柴油

⑤ processed palm oil, soya beans and rape seed 加工了的棕榈油,黄豆和油菜籽

⑥ bio-ethanol 生物酒精

⑦ fossil fuel 化石燃料

But environmentalists insist the projected carbon dioxide savings are based on a false premise because the clearance of huge areas of Indonesian rainforest and peatland or South American savannahs, the use of fertiliser to grow crops, conversion into biofuel and transportation to petrol stations mean emissions caused by the manufacturing of the fuels can vastly outweigh any CO₂ saved once put in a car's tank. ⑩

Researchers at the University of Minnesota published a study in February this year which found that growing biofuel crops on converted rainforests, grasslands or peat bogs^⑪ created up to 420 times more CO₂ than it saved.

Campaigners have pointed to palm oil, one of the key biofuel crops, as a particular menace because many plantations across south-east Asia are based on reclaimed^⑫ forest and peatland, creating carbon emissions that can never be reclaimed by biofuel production. In South America, the Alagoas curassow^⑬, a large bird once found in north-eastern Brazil, has become extinct because sugar cane production wiped out its habitat.

The RSPB study, entitled A Cool Approach to Biofuels, points out that legally enforceable^⑭ standards designed to eliminate such crops from the RTFO will not be imposed until 2011, leaving a three-year gap for non-sustainable biofuel to flood into Britain.

Mr Wynne said: "Proof that biofuels were truly green should have been in place long before the RTFO came into force. The method of production of some biofuel will cause habitat loss, displace food production and emit more greenhouse gases than are being saved."

Campaigners are calling for a legally binding target^⑮ to ensure all biofuels save at least 60 per cent more carbon than they produce. In the meantime, they point to a loophole^⑯ in the RTFO which means that suppliers can answer "don't know" to a question about the previous use of the land that produced the biofuel.

Tesco, which has claimed all its biodiesel comes from rapeseed and soya, was forced to admit palm oil can make up a significant part of its product after a sample analysed was found to contain 30 per cent palm oil.

Norman Baker, the Liberal Democrat transport spokesman, said: "Thanks to flaws in the

⑩ 但是环保人士认为所计划的二氧化碳的减少是基于错误的前提之上的。因为印尼大面积热带雨林和泥炭地以及南美大草原的消失,种植庄稼时化肥的使用以及生物燃料的生成和运输都意味着生产生物燃料所产生的二氧化碳要比汽车使用生物燃料所节约的二氧化碳多许多。

⑪ peat bog 泥炭沼泽

⑫ reclaim 开垦,再生

⑬ Alagoas curassow 阿拉格斯大鸟

⑭ enforceable 可实施的

⑮ legally binding target 具有法律约束性的目标

⑯ loophole 漏洞

Government's system, companies selling these fuels will even be allowed to get away with saying that they don't know whether they've been sourced sustainably or not. ⑤ This makes a mockery ⑥ of the entire idea of sustainability standards. ”

(April 15 /2008 /The Independent)

⑤ 由于政府系统的缺陷,销售公司可以以不知道这些燃料的原料是否具有可持续性为由而溜之大吉。

⑥ mockery 嘲弄,笑柄

2. Dutch City Kept Warm by Hot-water Mines

荷兰城市用热水矿取暖

By David Charter

In an age of rapidly rising fuel bills the discovery of vast supplies of free hot water sounds too good to be true. ^① But that is exactly what one Dutch city has found to run the radiators^② of hundreds of homes, shops and offices.

Heerlen, in the southern province of Limburg, has created the first geothermal power station^③ in the world using water heated naturally in the deep shafts of old coalmines – which once provided the southern Netherlands with thousands of jobs but have been dormant since the 1970s^④.

Tapping “free energy” marks a breakthrough in green technology by exploiting the legacy of the coalmines that emitted so much pollution and helped to create the climate change emergency faced by the planet. ^⑤“With the threat of global warming and soaring energy prices, nobody can afford to sit back^⑥,” said Riet de Wit, a councillor in Heerlen. “We have proven that a local initiative can provide a local solution for sustainable energy. Moreover, our concept can be adapted by former mining regions all over the world.”

The concept sounds simple. The abandoned mineshafts were seen as a blight^⑦ on an area that has struggled to recover economically from the mass redundancies of miners^⑧ in the 1970s. After the mineworks^⑨ were demolished new homes were built and linked to a geothermal power station pumping water up from the mines at a depth of 800 metres, where it reaches temperatures of 35C (95F). The water is used to provide heating for 350 homes and then pumped back into the pit^⑩

① 在燃料费用账单日涨的时代,发现大量免费热水资源简直是天大的好事,让人难以置信。

② radiator 暖气片,散热器

③ geothermal power station 地热发电厂

④ 这家地热发电厂利用废旧煤矿深井中自然加热的水,而这些煤矿曾经为荷兰提供了成千上万的工作,在 20 世纪 70 年代停止使用。

⑤ 煤矿曾是一大污染源,也是全球所面临的气候变化危机的一大元凶。通过使用煤矿遗留物来开发“免费能量”标志着绿色技术的一大突破。

⑥ sit back 不采取任何行动

⑦ blight 枯萎病,疫病

⑧ mass redundancies of miners 矿工的大量冗余

⑨ minework 矿厂

⑩ pit 矿井

after use, where it will again heat up for the cycle to continue. The water will circulate^⑪ two or three times a year.

The only drawback is that the homes need to be close enough to the old mines to make use of the heat, which will be topped up by domestic boilers when greater temperatures are needed.

Scientists estimate that the project will produce 55 per cent fewer CO₂ emissions than a traditional coal-fired power station – and are now working on a carbon capture system to liquefy the CO₂ and pump it back into other disused shafts rather than release it into the atmosphere^⑫. The goal is “emission-free” heating and it could revitalise^⑬ other former mining areas as sources of cheap, renewable energy.

“For wind power, you need wind. If there is no wind, there is no power. But with geothermal energy, you have a constant level of simple heat without any need for conversion^⑭,” said Karl-Heinz Wolf, Professor of Coal and Geothermal Energy at the Technical University of Delft^⑮. “You have it all year round and if you don’t need it, you close the tap until you need it again. You have heat at a certain level and you only have to top it up if you want it at a higher level.”

During the summer the water can be taken from near the top of the shaft where it is cold enough to cool the city’s buildings. So, is this the answer to Europe’s energy crisis? Professor Wolf, who is working on a project to drill down to an aquifer^⑯ 2.5km below Delft where the temperature of the water is 80-85C, said: “It is not difficult to do, the only thing you need is a mine which is in the vicinity^⑰ of the industry or houses you want to heat.”

(October 6/ 2008/Times)

⑪ circulate 循环

⑫ 科学家们估计,这一工程的二氧化碳排放量要比传统燃煤电厂的少55%。他们也正在研制一种碳捕获系统,以使得二氧化碳液化并抽回废旧矿井中,而不是将其排放到大气中。

⑬ revitalize 使复苏,注入新的活力

⑭ conversion (能量)转换

⑮ Technical University of Delft 荷兰代尔夫特工业大学

⑯ aquifer 含水土层(含水量足以成为井水或泉水)

⑰ vicinity 附近,临近范围

3. Cost-saving Fuel Systems in Pipeline

成本节约型管道燃料系统

By Tom Incantalupo

In a suite of offices and a shop in an industrial park in Medford, Bola Kamath^①, a PhD in chemistry and combustion, is developing an oil burner^② he said can cut fuel use by 15 percent to 20 percent and use a third of the electricity of most of the burners that produce heat and hot water in Long Island homes. The “high-low”^③ – it doesn’t have a name yet – is one of several new technologies experts said are in the pipeline and can offer hope for those who heat with oil.

For many consumers, it can’t arrive soon enough: Oil heat customers face what experts said would be the most expensive winter in history. Heating oil averaged \$4.32 a gallon on Long Island in an Aug. 25 state survey, down from an earlier record high of \$4.93 but still about \$1.50 a gallon above a year earlier, potentially adding more than \$1,000 to an annual heat and hot water bill. Kamath’s company, Heatwise Inc., is developing the “high-low” with financial help from the state Energy Research and Development Authority^④, and with technical help from Brookhaven National Laboratory^⑤ on an earlier model. “We’re running some field trials^⑥ now,” said Kamath, who added the technology may be available as early as next year.

Mohammed Khan, the U. S Department of Energy’s project manager for residential furnace and boiler conservation standards^⑦, said the system shows promise but there are reliability issues to be resolved involving the fuel-spraying nozzles^⑧. “There are some challenges to that design,” he said. At Brookhaven Lab, energy resources chief Tom Butcher said the most promising research is focused on burners – the part of the system that combusts the fuel – that can run on less electricity, as Kamath’s does, and also offer a “two-stage” flame like Kamath’s “high-low.” A

① Medford, Bola Kamath 美国地名

② oil burner 燃油炉

③ “high-low” 新型燃油技术采用高低两种加热档。

④ Energy Research and Development Authority 能源研究开发署

⑤ Brookhaven National Laboratory 美国布鲁克海文国家实验室

⑥ field trial 现场试验, 野外试验

⑦ residential furnace and boiler conservation standards 住宅锅炉保养标准

⑧ fuel-spraying nozzle 喷油嘴