



FACULTY OF
PUBLIC HEALTH

Secure, healthy, inclusive and green – four
dividends of a healthier future

Professor John Middleton

President, Association of Schools of Public Health in
the European Region

www.fph.org.uk

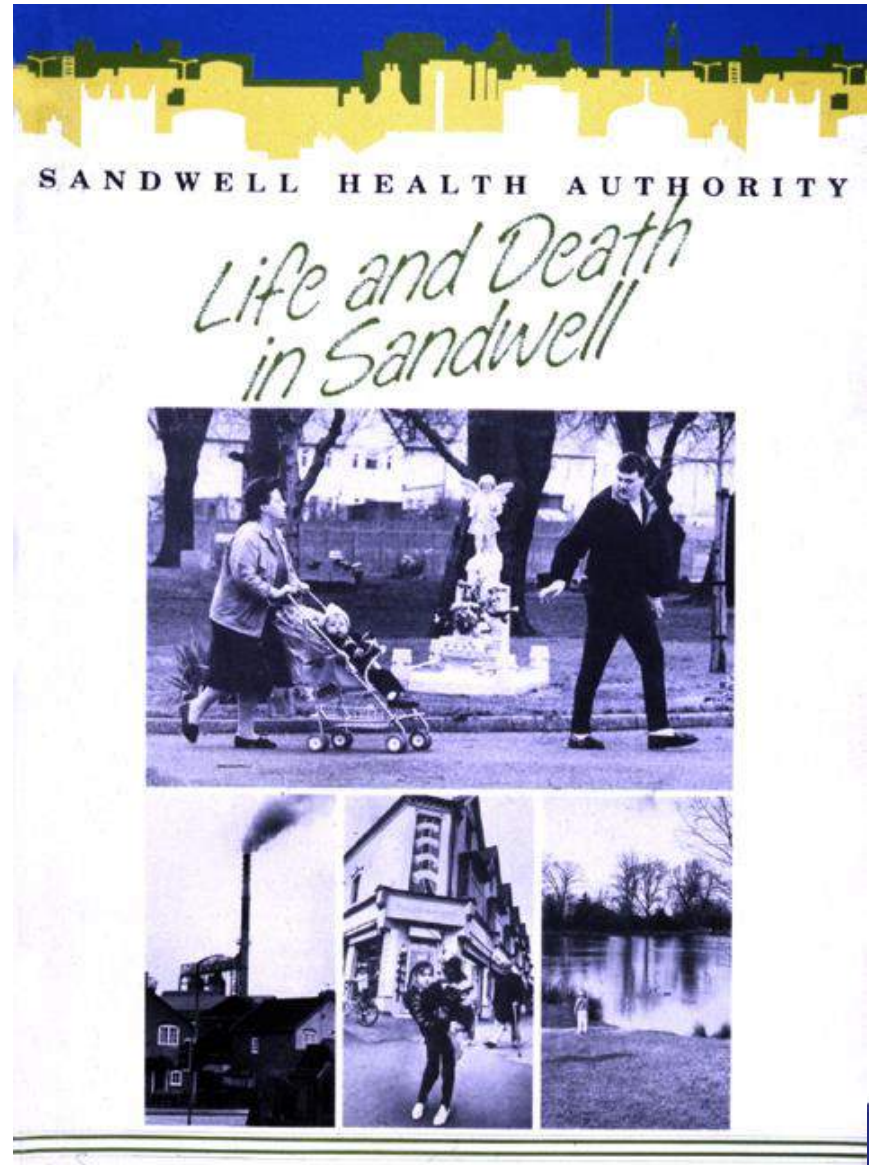
Secure, healthy, inclusive and green – four dividends of a healthier future Professor John Middleton

Public health is :

The science and art of promoting health,
preventing disease and prolonging life through the
organised efforts of society

Acheson 1988, after Winslow 1927, WHO 1948

***it's not who your
doctor is, it's who
you vote for, that
most affects your
health***



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Royal College
of Physicians



Fair Society, Healthy Lives

The Marmot Review

Strategic Review of Health Inequalities
in England, post-2010

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Views And Reviews

The UK's current health problems should be treated with urgency

BMJ 2017; 359 doi: <https://doi.org/10.1136/bmj.j4526> (Published 02 October 2017) Cite this as: BMJ 2017;359:j4526

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Health inequalities, the slow-down in life expectancy, and the north-south divide **all** need tackling

Alarm about the nation's health is a rational response to recent evidence. Current national health problems should be treated with as much urgency as a winter bed crisis in the NHS. The recent evidence has three components that are probably linked: improvement in life expectancy, going on for 100 years, has slowed since 2010; health inequalities, which probably reduced during the 2000s, have grown again since about 2012; and the persistent north-south divide in health—particularly marked among younger people.

Life expectancy

Between 1920 and 2010, life expectancy increased from 55 to 78 in men, and from 59 to 82 in women. We simply got much healthier as a society, remarkably quickly. Over this period, life expectancy increased by about one year every four years. To see how remarkable that is, think that if you rose at 6 in the morning, by noon you still have as long to live as you did when you woke—six hours every 24 hours. There was, however, a marked slowing of the rise after 2010. From 2011 to 2016 life expectancy increased by about one year for every 6.5 years in men and one year for 10 in women.

London children fainting in class because parents are too poor to feed them



Hunger: There is a growing demand for food banks and free school

Lifestyle Tech Sport

News UK > UK Politics

The real cost-of-living-crisis: Five million British children 'sentenced to life of poverty thanks to welfare reforms'

Charity's report blames benefit cuts, increased cost of living and stagnant wages for looming crisis

Reilly Hughes, Jonathan Owen | [@reillyhughes](#) | Sunday 28 May 2017 | [293 comments](#)



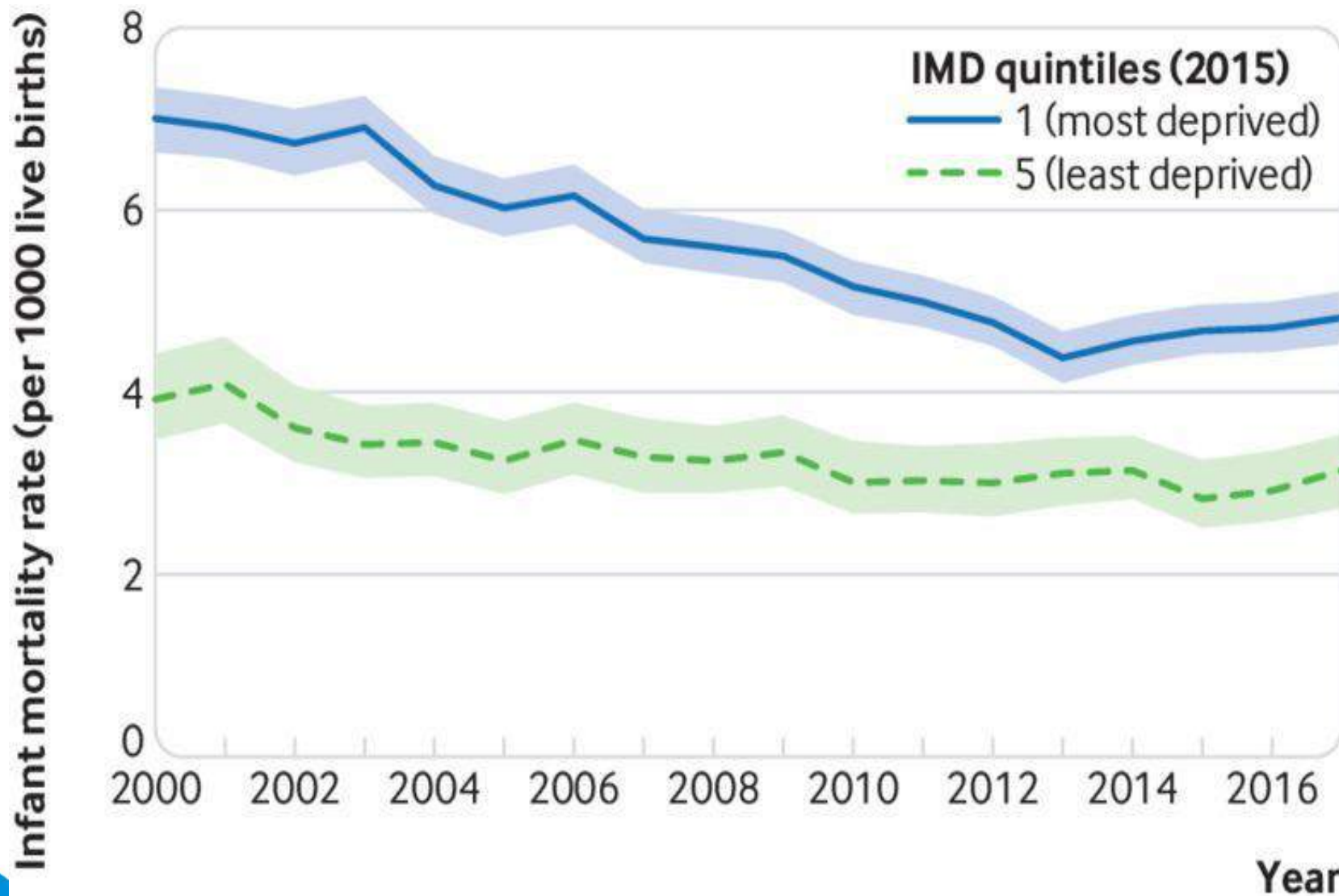
Jobless youth are 'public health time bomb', says WHO

By James Gallagher
Health and science reporter, BBC News



Youth unemployment in the UK is a "public health time bomb waiting to explode", according to a review by the World Health

Related 5





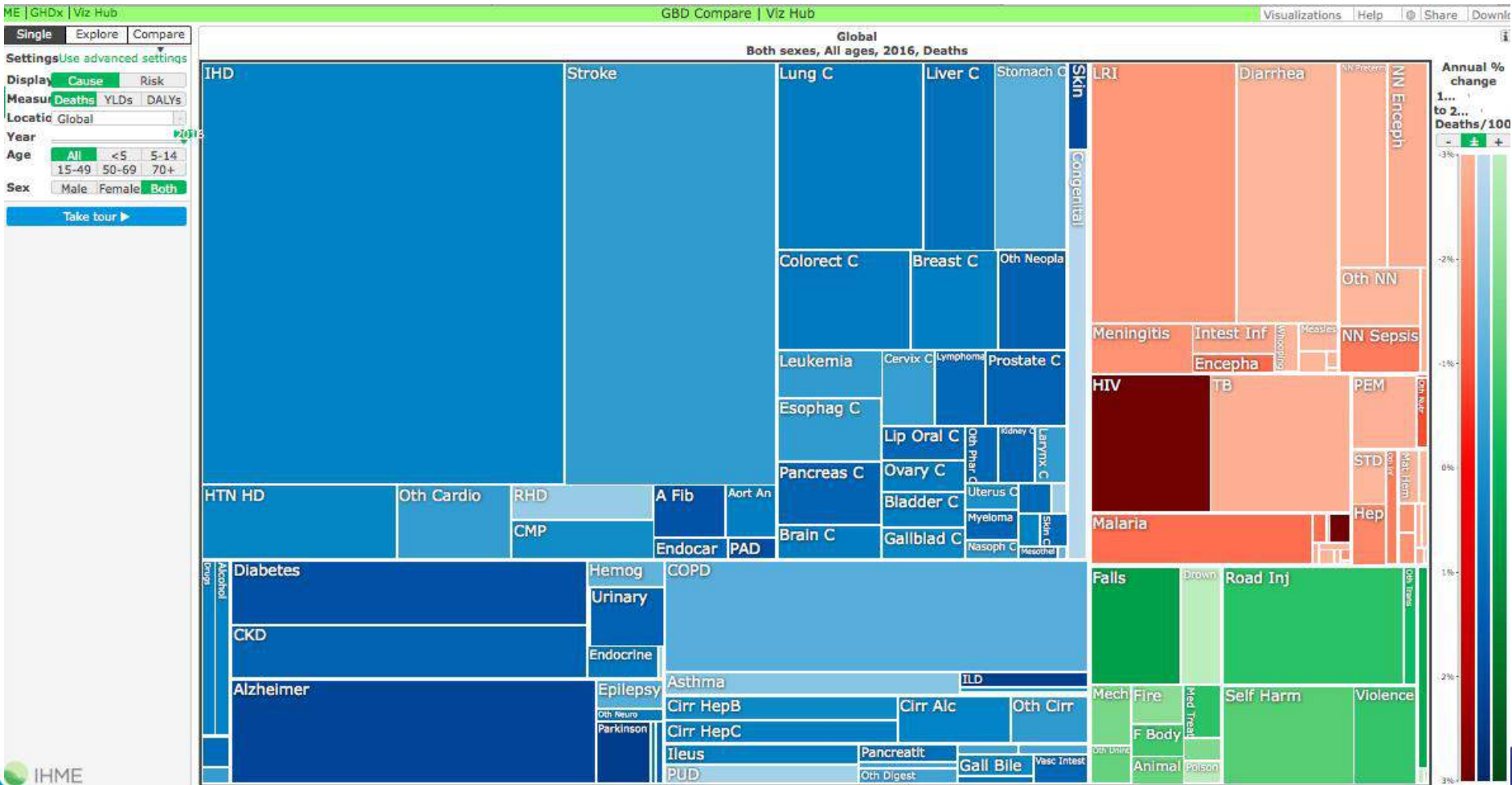
Global burden of disease study, 2017

Globally, mortality rates have decreased across all age groups over the past five decades, with the largest improvements occurring among children younger than 5 years. However, at the national level, considerable heterogeneity remains in terms of both level and rate of changes in age-specific mortality; increases in mortality for certain age groups occurred in some locations.

Countries have saved more lives over the past decade, especially among children under age 5, but persistent health problems, such as obesity, conflict, and mental illness, comprise a “triad of troubles,” and prevent people from living long, healthy lives, according to a new scientific study.

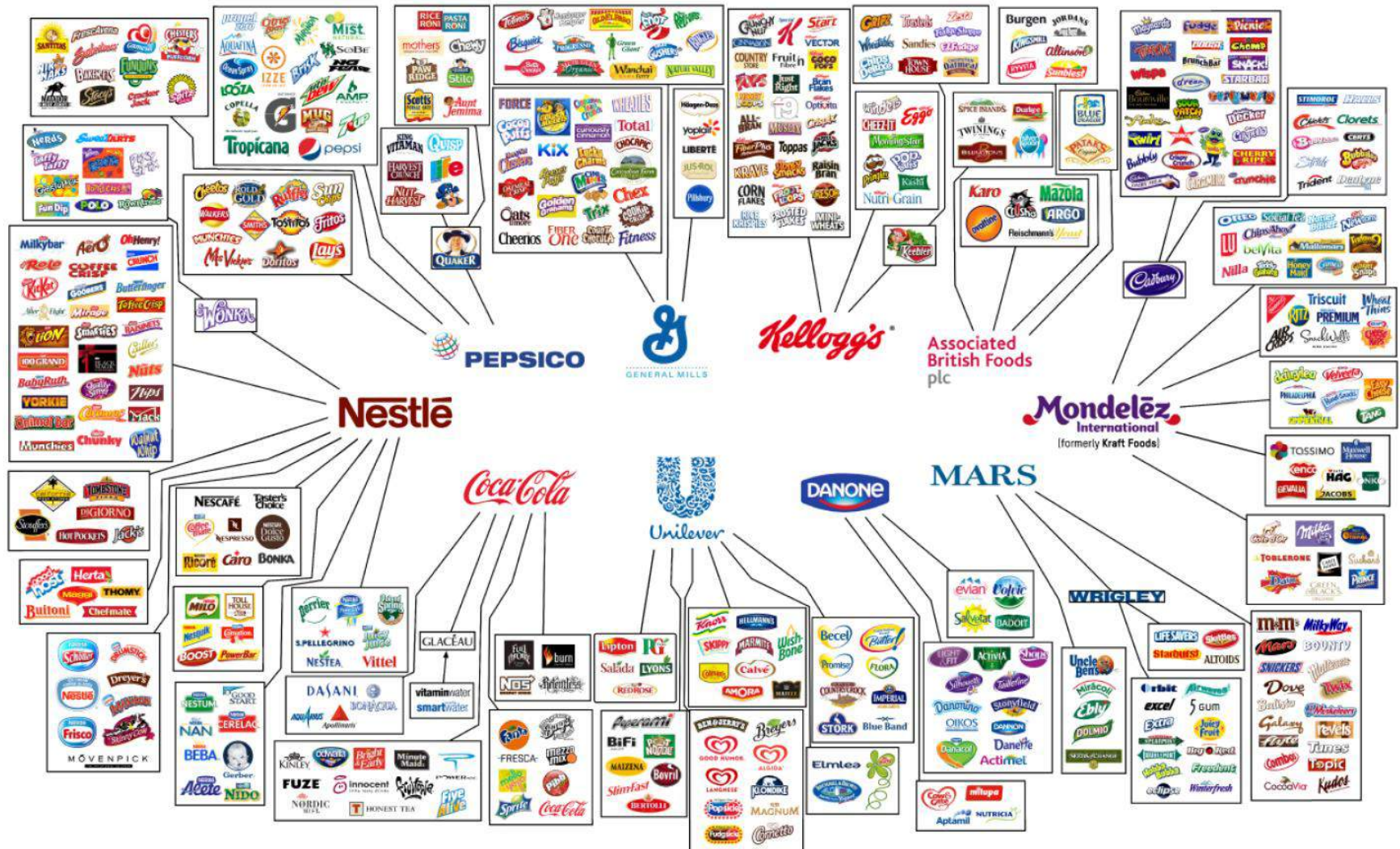
Total deaths in children younger than 5 years decreased from 1970 to 2016, and slower decreases occurred at ages 5–24 years. By contrast, numbers of adult deaths increased in each 5-year age bracket above the age of 25 years.

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These 10 Corporations Control Almost Everything We Eat



19 June 2009
BMJ



Climate change

Time to act? [Commissioners](#) [policy](#) [policy](#) [policy](#) [policy](#) [policy](#)

How much could generic statins save the NHS? [page](#)

Are older antipsychotics obsolete? [page](#)

The benefits of "off-pump" CABG [page](#)

New football boots and toxic shock [page](#)

Never get between a she-bear and her cubs [page](#)

THE LANCET

www.thelancet.com

Volume 373 • Number 9576 • Pages 1628-1734 • May 16-22, 2009

"Climate change is
the biggest global
health threat of the
21st century."

See The Lancet Commissions page 1693

bmj.com



CLIMATE CHAOS

WWF is calling on the power sector to cut carbon dioxide emissions. Drastically. It's both essential and achievable, says **Kirsty Clough**.

Climate change is happening now, and we're living with its effects every day. When summer floods struck the picturesque village of Boscastle, cars and trees were washed away and buildings devastated. Over 150 people had to be airlifted to safety. Is this a glimpse into a future where extreme and devastating weather events will be even more common, and our climate plunged into chaos? Yes, if we continue to pump CO₂ into our atmosphere at present rates.

Tony Blair's recent acknowledgement of the urgency of climate change and his declarations about taking on the challenge are encouraging. But policies on paper and words delivered amid media frenzy aren't enough. Last year the UK's carbon dioxide emissions were actually on the rise. If we are to achieve our national goals to cut carbon dioxide by 20% by 2010, and 60% by 2050, we need to take urgent action.

Cars and industry are often assumed to

new global climate change campaign. *PowerSwitch* challenges this sector to become carbon dioxide-free by 2050 in developed countries, and to switch from coal to clean in developing countries.

It's not as hard as it sounds. A report

Ex-King Coal...

- still produces 40% of global electricity
- is the single largest source of global CO₂ emissions
- produces over half of the CO₂ from the power sector
- produces 70% more CO₂ emissions per energy unit than natural gas
- causes air and water pollution and mercury increases

written for WWF, *The Power To Save Our Climate*, shows how the power sector could easily cut its emissions by 60% (from 1990 levels) by 2020. Moreover, these cuts could save the industry £1.9

power – by wind, biomass, combined heat and power and so on. All that's required is an extension of existing policies and their effective implementation. We need to remove the barriers that prevent the take-up of cost-effective energy efficiency measures; and set stronger targets for managing energy demand, emissions trading and, most of all, renewable energy. Only then can we ensure that our energy supply is truly sustainable – and not critically dependent on supplies from as far away as Russia or from politically unstable countries in the Middle East.

As winter beds down and the UK turns up the heating, the government must take a tough stand and stop bowing to pressure from the power sector. Quite simply, climate change must be stopped dead in its tracks – because if it isn't, floods like those that traumatised Boscastle will no longer be the exception, but the rule. 🐾

Kirsty Clough is WWF's PowerSwitch climate campaign officer.

WWF, 01483 426444, www.wwf.org.uk



Sweltering cities

Heat: the next big inequality issue

▲ Even this year, 65 people have perished from nearly 44C (111F) heat in Karachi, Pakistan - a city used to extreme heat. Photograph: Akhtar Soomro/Reuters

The deadly global heatwave has made it impossible to ignore: in cities worldwide, we are now divided into the cool haves and the hot have-nots

by Amy Fleming with Ruth Michaelson and Adham Youssef in Cairo, Oliver Holmes in Jerusalem, Carmela Fonbuena in Manila and Holly Robertson in Phnom Penh



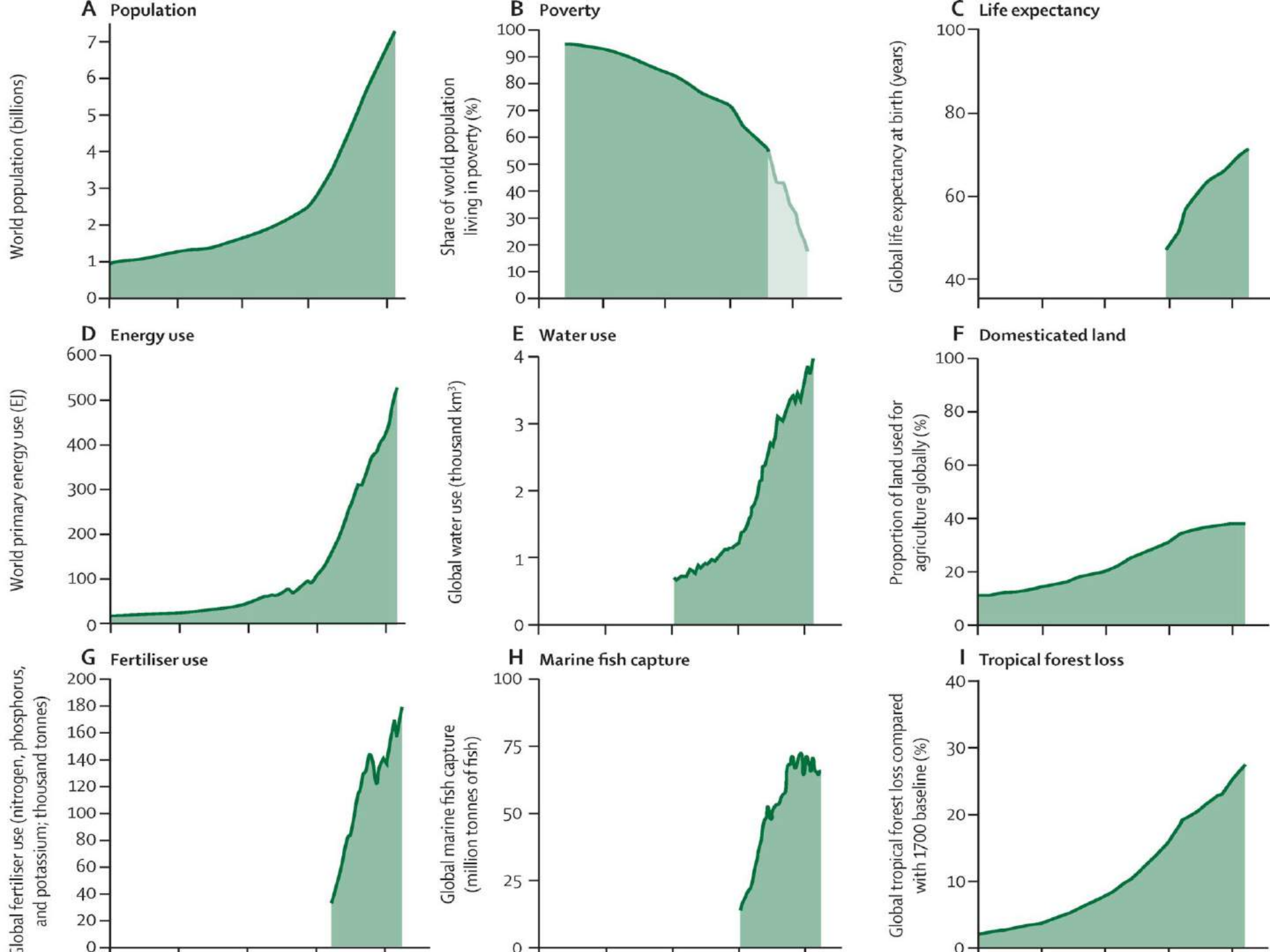
Sweltering cities

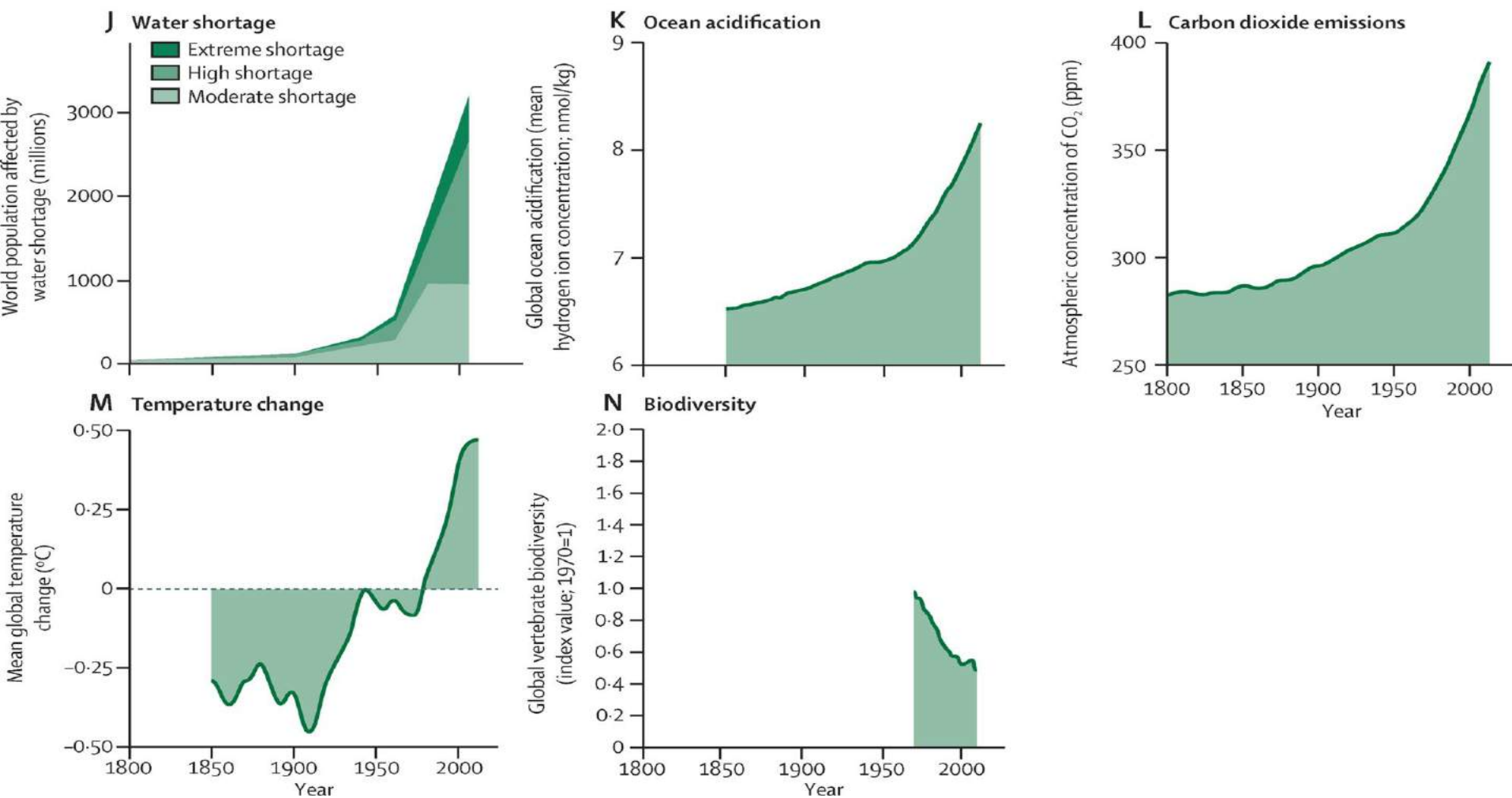
Halfway to boiling: the city at 50C

▲ In a city at 50C, the only people in sight are those who do not have access to air conditioning. Illustration: Kevin Whipple

It is the temperature at which human cells start to cook, animals suffer and air conditioners overload power grids. Once an urban anomaly, 50C is fast becoming reality

by Jonathan Watts and Elle Hunt





Lancet Rockefeller Commission on Planetary Health Lancet, 2015

Interconnectness: Loss of agricultural land through global warming, crop failure, food riots, Arab Spring, Syrian war

Climate Change Helped Spark Syrian War, Study Says

Research provides first deep look at how global warming may already influence armed conflict.

By **Craig Welch**, for National Geographic

PUBLISHED MON MAR 02 10:03:00 EST 2015



A sand tornado passes through as thousands of Kurds stream into Dikmetas, Turkey, from Syria in September 2014. Years after rural residents fleeing drought poured into Syria's cities, helping to spark a civil war, the region remains in turmoil.

**GET CLOSER
TO THE EDGE**

BECOME A
MEMBER TODAY
(It's free!)

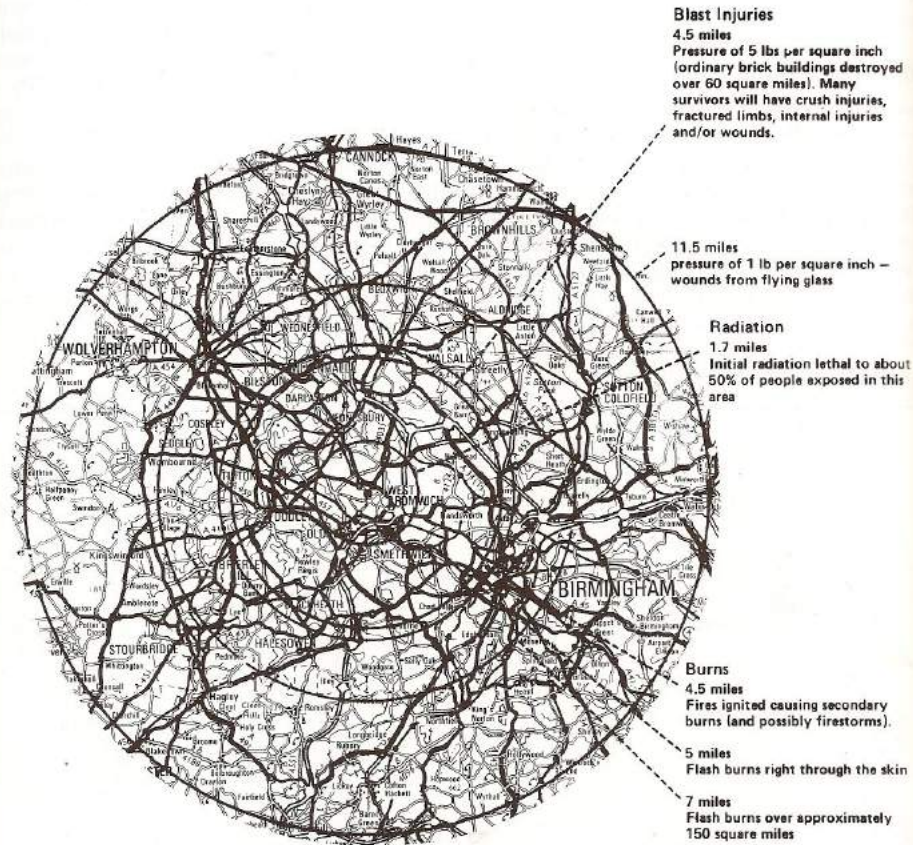
JOIN US



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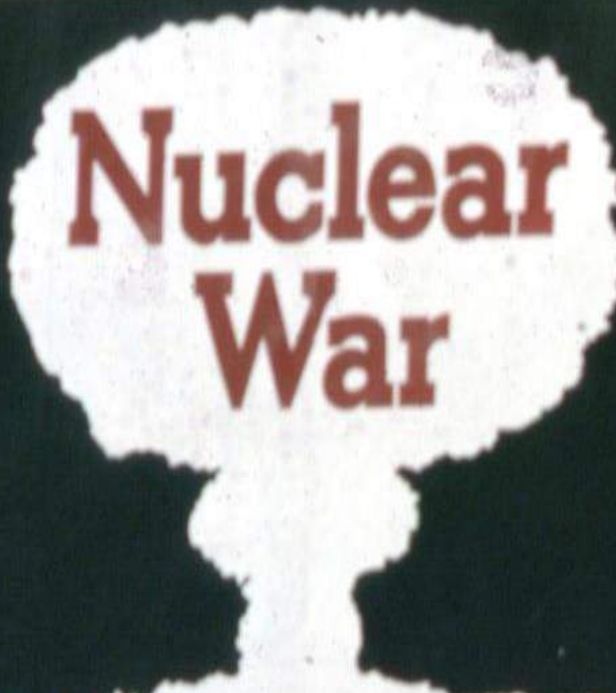


**MEDICAL EFFECTS OF A ONE-MEGATON
NUCLEAR AIRBURST OVER WEST BROMWICH**
(equivalent to one million tons of TNT)



kilometres 0 5 10 15
miles 0 5 10

← ROLLINS →



**Nuclear
War**

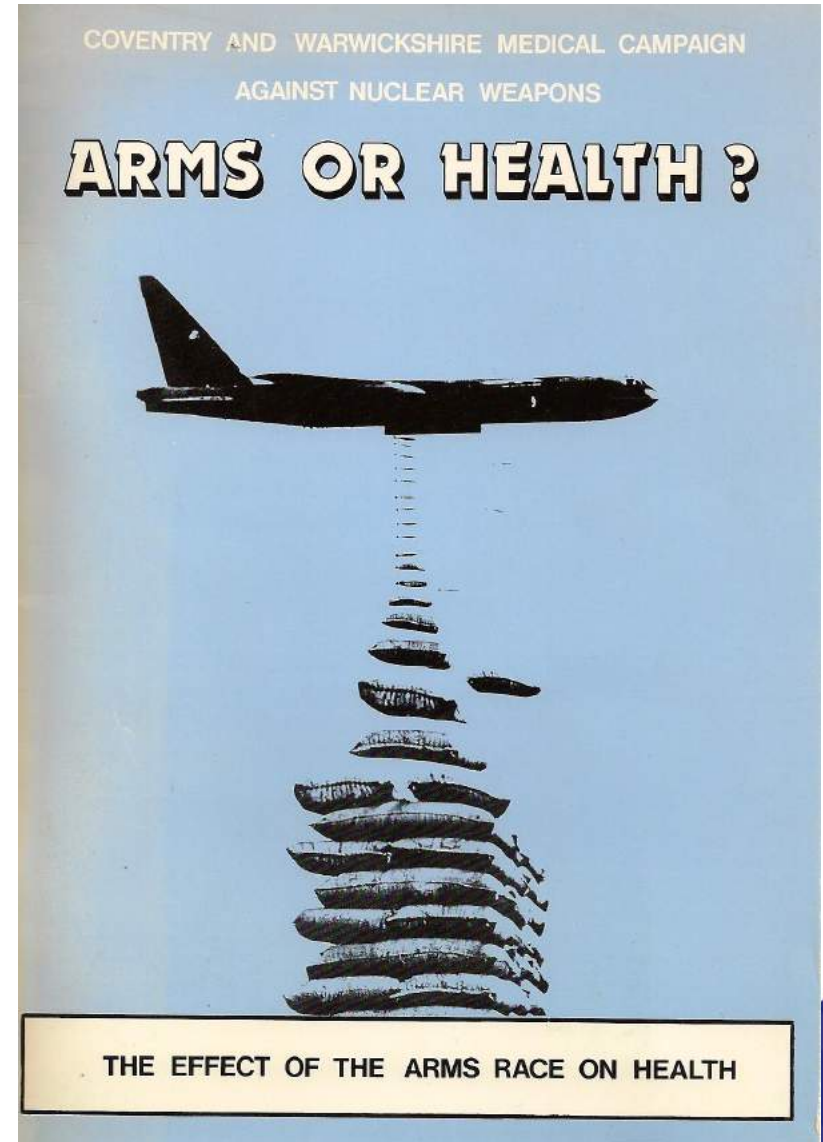
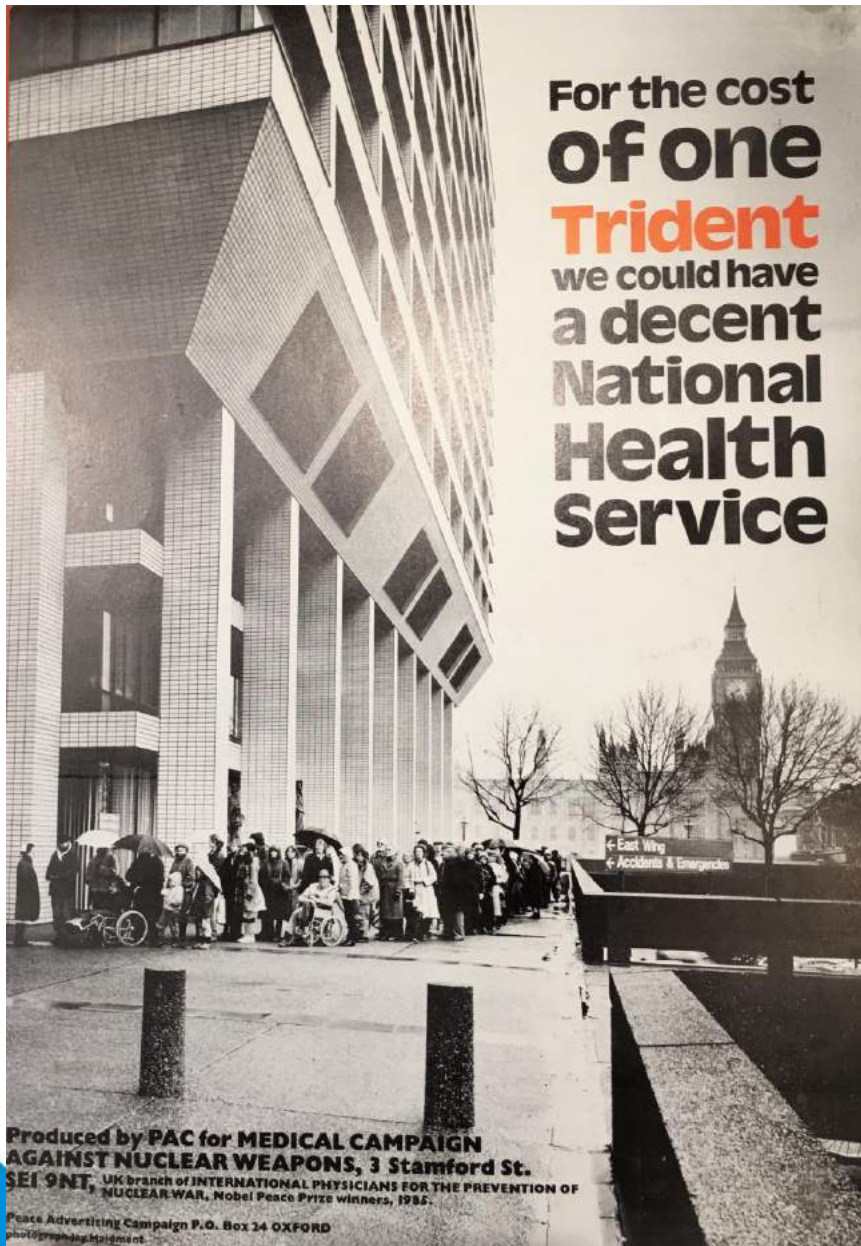
**No Cure
Only
Prevention**

Physicians For Social Responsibility

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Royal College
of Physicians



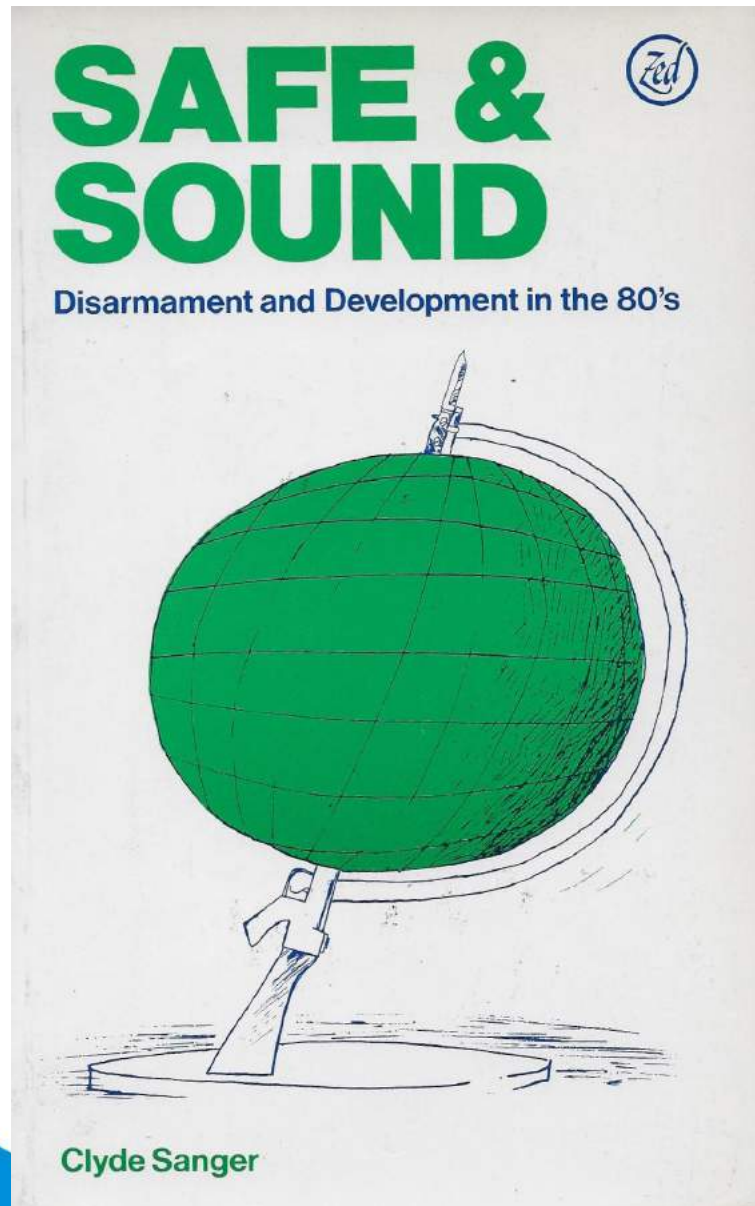


An acceptable level of health for all the people of the world by the year 2000 can be attained through a fuller and better use of the world's resources, a considerable part of which is now spend on armaments and military conflicts. A genuine policy of independence, peace, détente, and disarmament could and should release additional resources that could well be devoted to peaceful aims and in particular to the acceleration of social and economic development of which primary health care, as an essential part, should be allotted its proper share'.

Global Health for all by the year 2000

World Health Organisation, 1980

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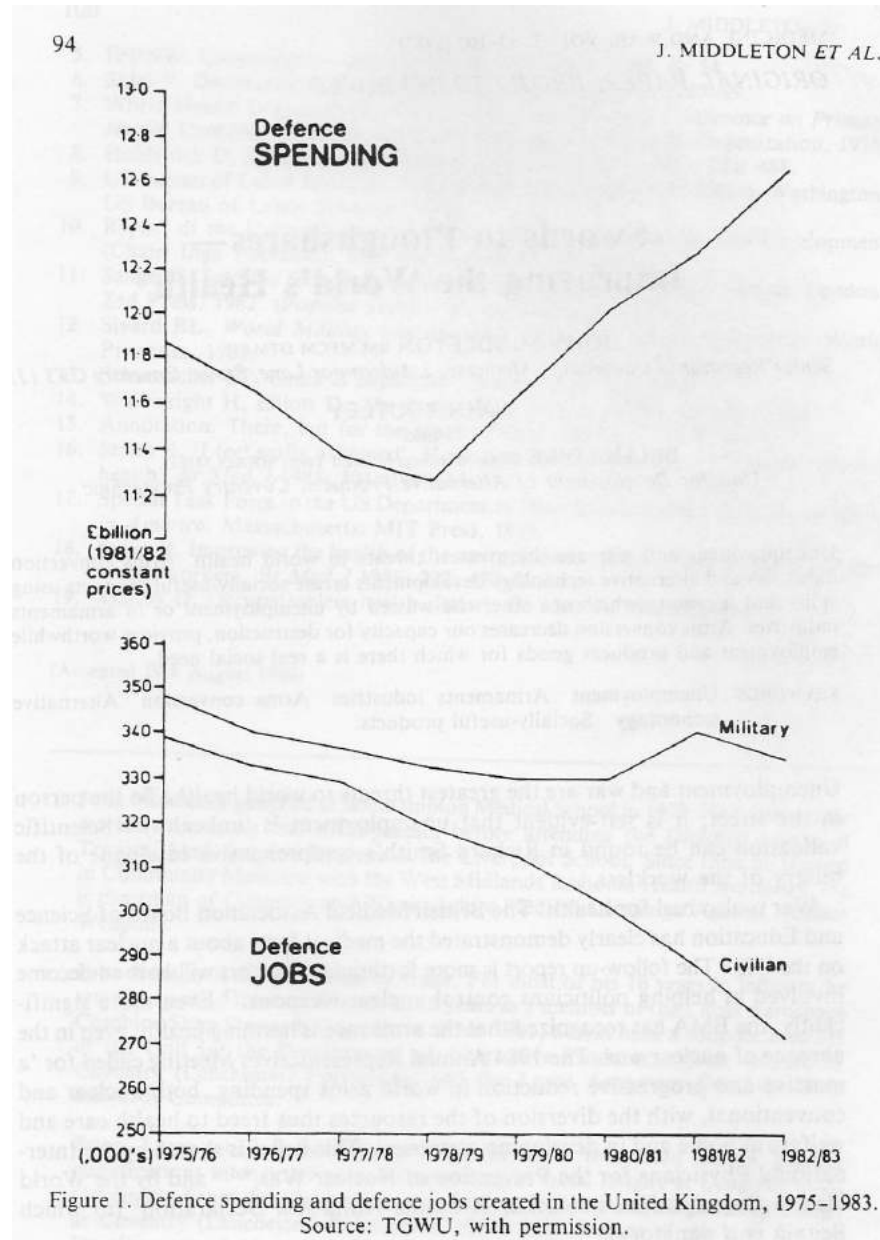


Department of Political and Security Council Affairs
United Nations Centre for Disarmament
Report of the Secretary-General

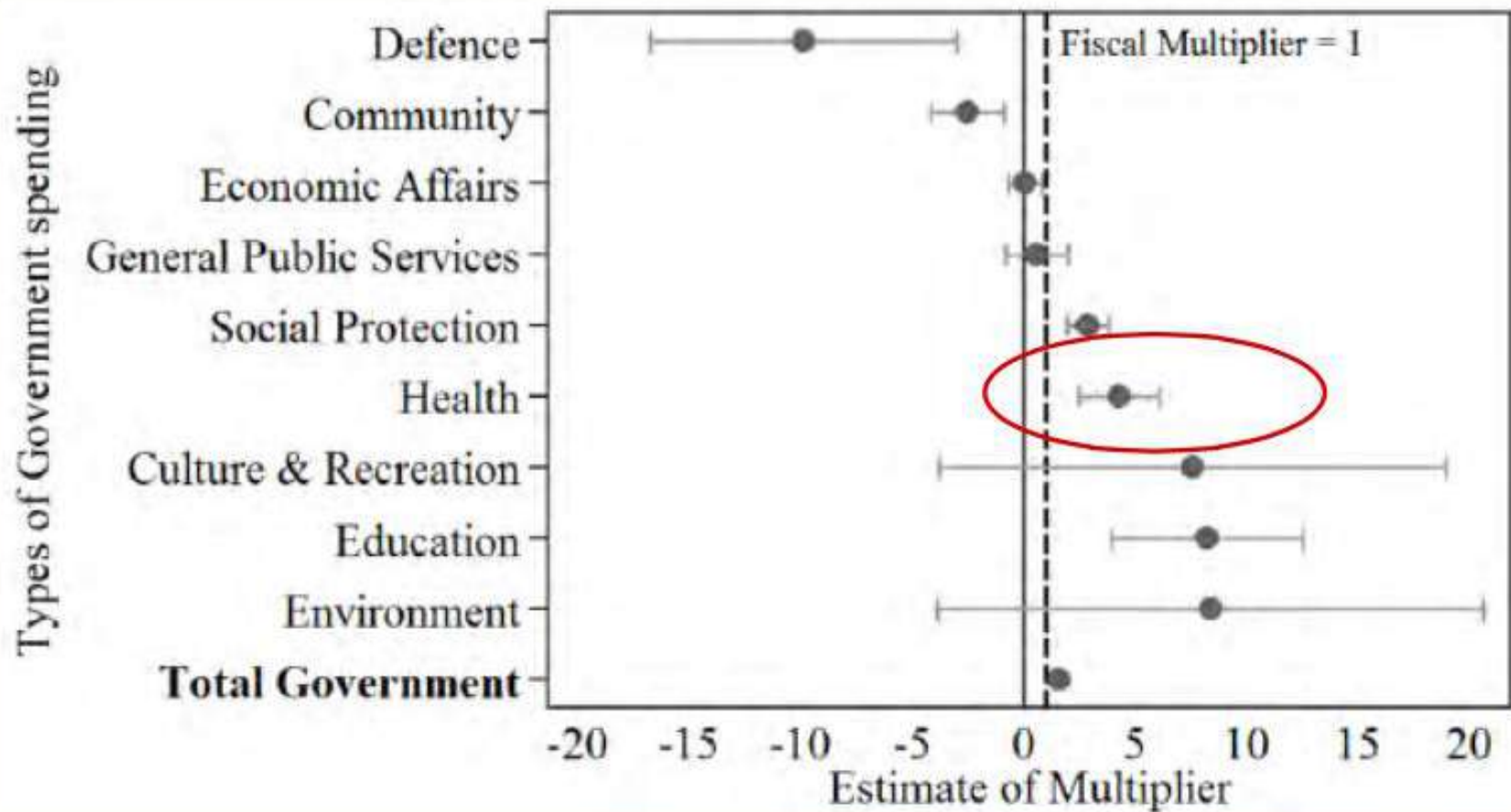
The Relationship between Disarmament and Development

United Nations
New York, 1982

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Fiscal Multipliers



Source: Reeves et al 2013

‘The Peace dividend’

Yevgeny
Vuchetich ‘Let
us beat swords
into
ploughshares’
United Nations
Art Collection,
1959





An Alternative Plan



PRODUCT AREAS

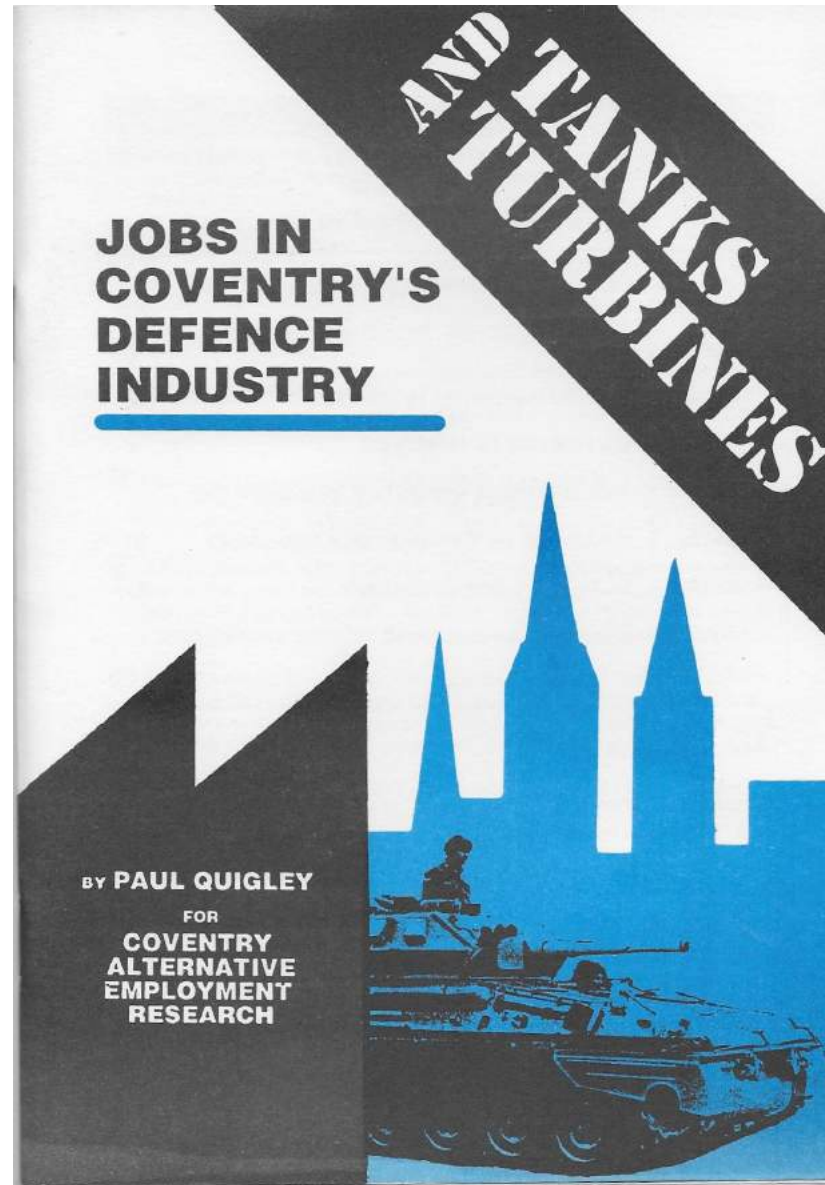
- 1 Medical equipment**
- 2 Alternative energy sources**
- 3 Oceanic equipment**
- 4 Remote handling devices**
- 5 Transport equipment**
- 6 Braking systems**

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Coventry
Alternative
Employment
Research
'CARE'
project, first
report 1987





The Top MoD Contractors in Coventry, 1987

UK-based MoD contractors which are also major local employers
ranked by value of contracts received by parent company^a

Employer	Local Employment	Parent Company ^b	Value of MoD Contracts 1986/87 (£ M)
1. GEC Telecom- munications	8878	The General Electric Co. Plc	over 250
2. Rolls Royce	4266	Rolls Royce Ltd	over 250
3. British Telecom	1272	British Telecom Plc	50 – 100
4. Lucas Industries	594	Lucas Industries Plc	50 – 100
5. Dunlop	2805	BTR Plc	25 – 50
6. Austin Rover	2525	Austin Rover Group Ltd	25 – 50
7. Alvis	890	United Scientific Hldgs. Plc	25 – 50
8. Courtaulds	3069	Courtaulds Plc	5 – 10
9. Massey Ferguson	2239	Massey Ferguson Hldgs. Ltd	5 – 10

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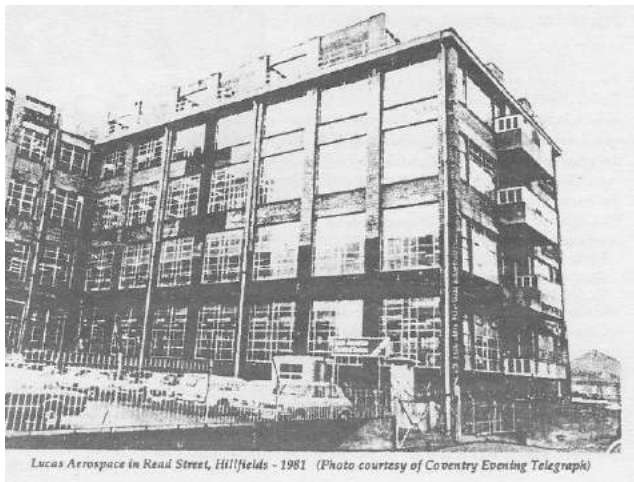
Rolls Royce Parkside

Former
Coventry defence
industry sites



Alvis, Holyhead Road

Lucas
Aerospace
Hillfields



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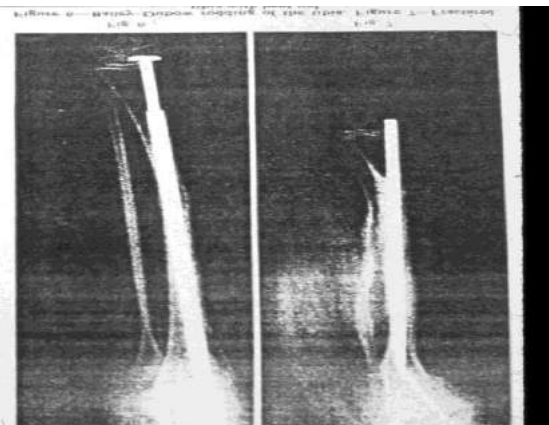
Alvis Cars



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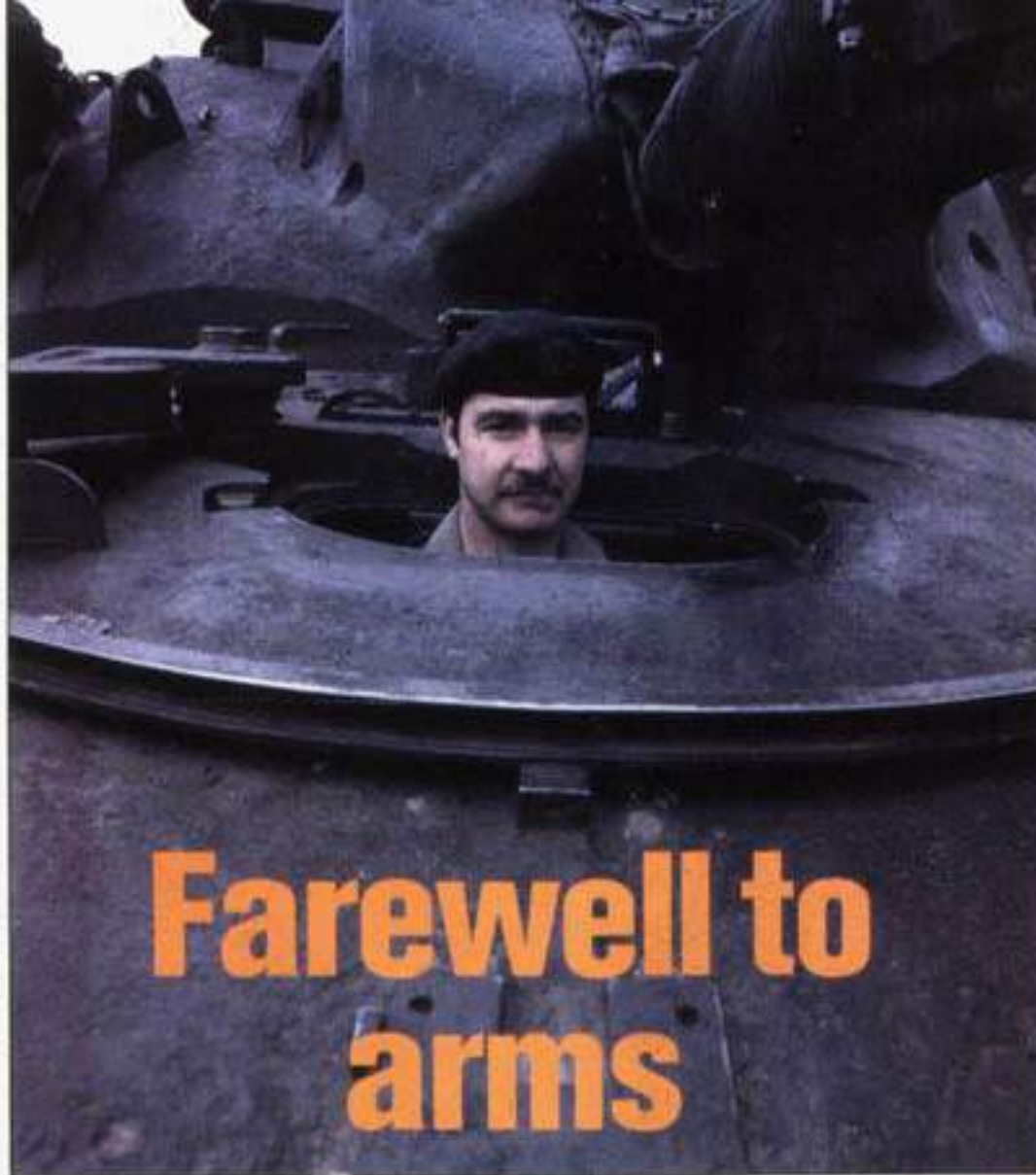


Health and care related products from Lucas Shop stewards supported projects 1978-1990





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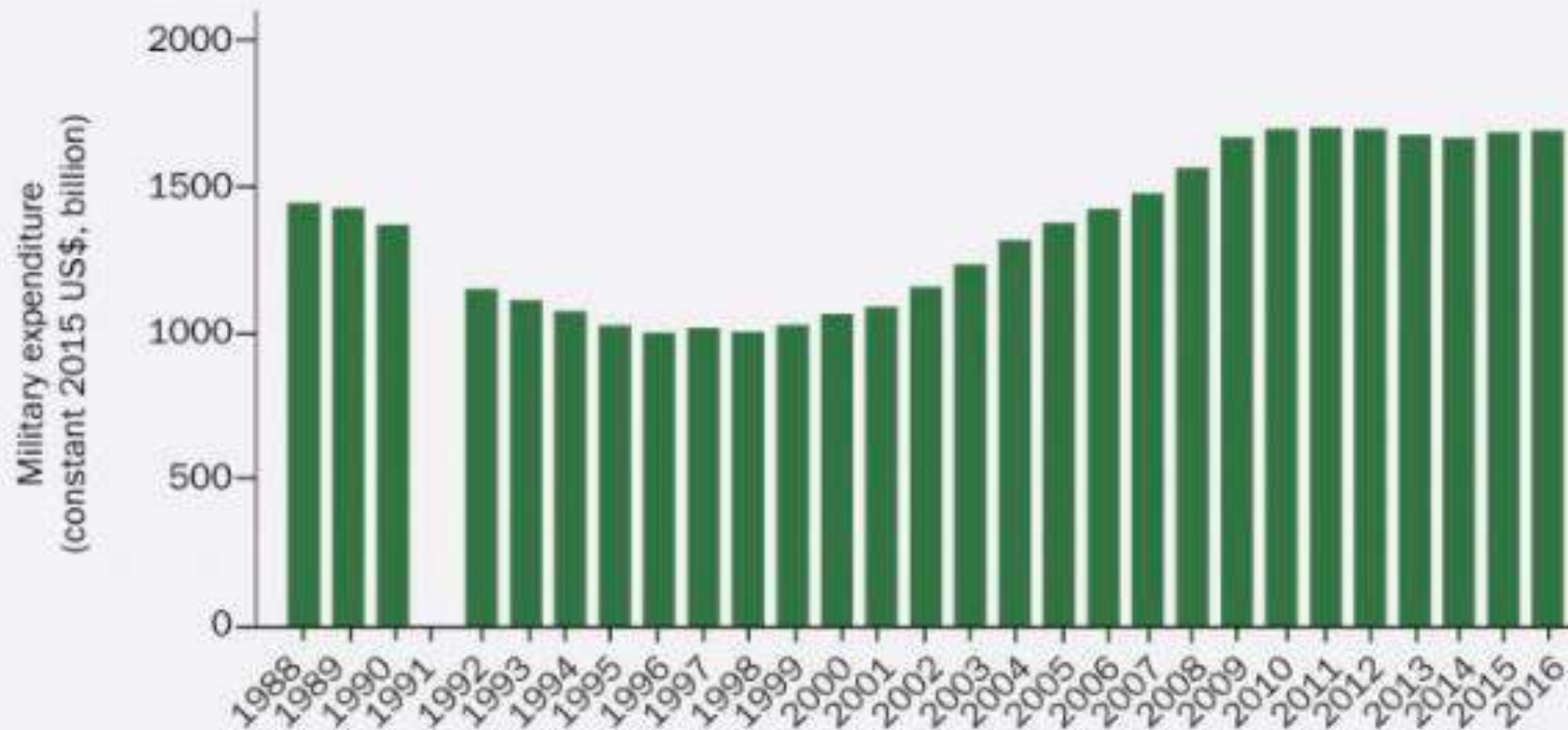


“We’re treated like shit that’s
been left on the doorstep. No

www.fph.org.uk



World military expenditure, 1988–2016



Data: SIPRI Military Expenditure Database (24 April 2017)

www.sipri.org

© 2017 SIPRI



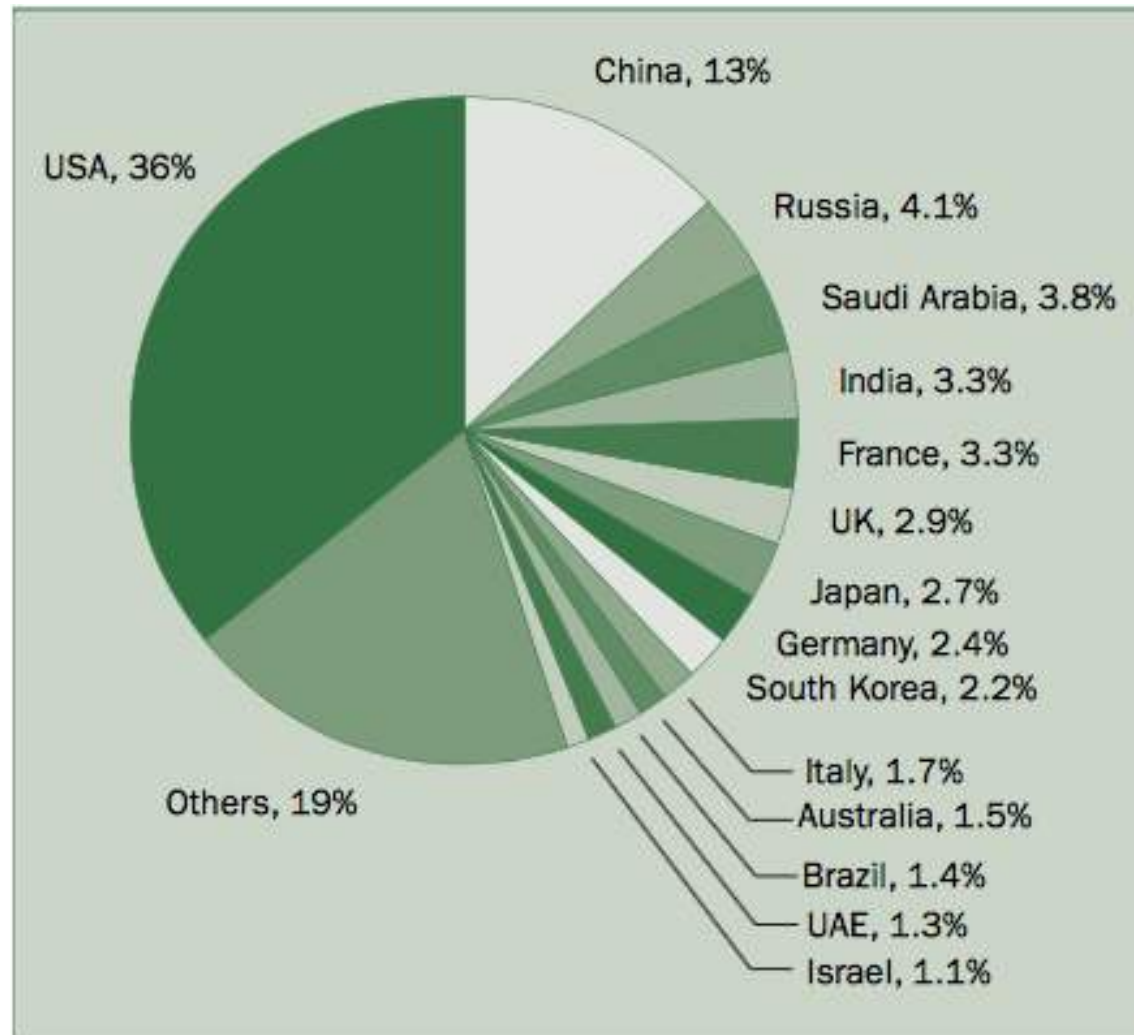
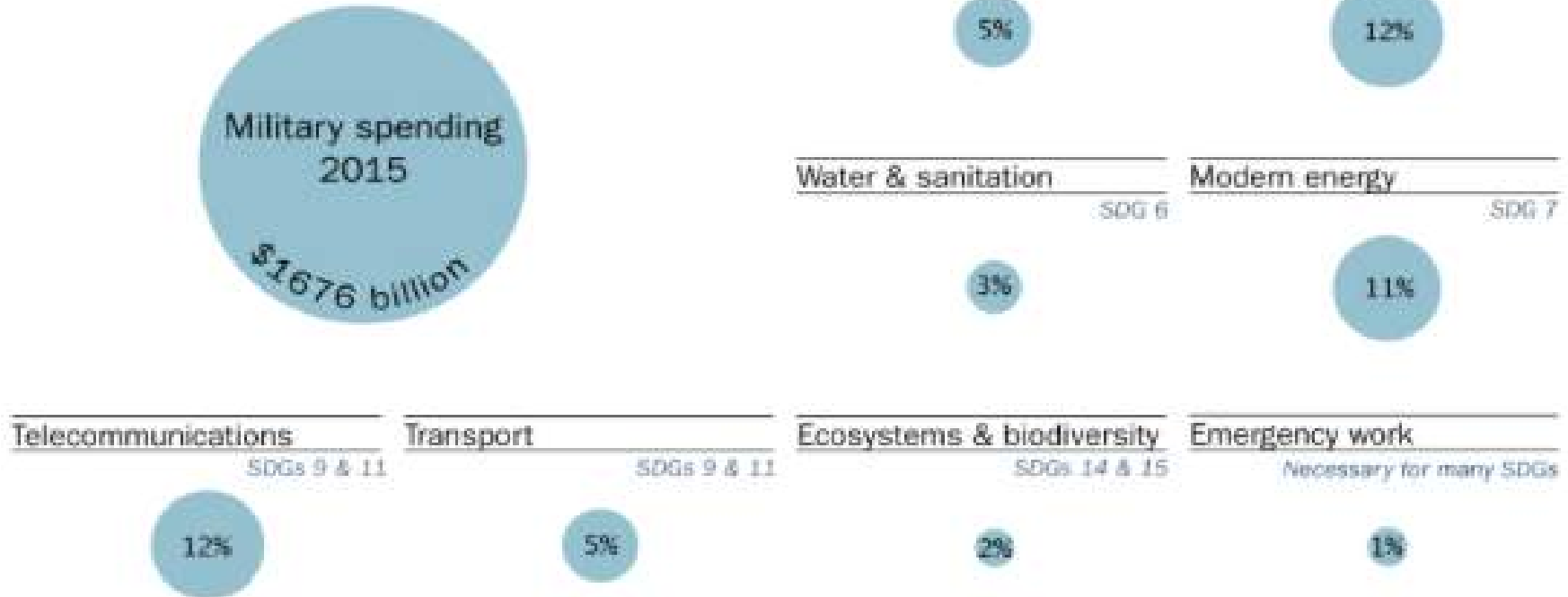


Figure 2. The share of world military expenditure of the 15 states with the highest spending in 2016

Opportunity cost

What could the reallocation of global military spending achieve?

The annual cost of the UN's Sustainable Development Goals (SDGs) as a share of total global military expenditure in 2015.



Sources: SIPRI, Sustainable Development Solutions Network and UN Food and Agriculture Organization

www.sipri.org
© 2016 SIPRI

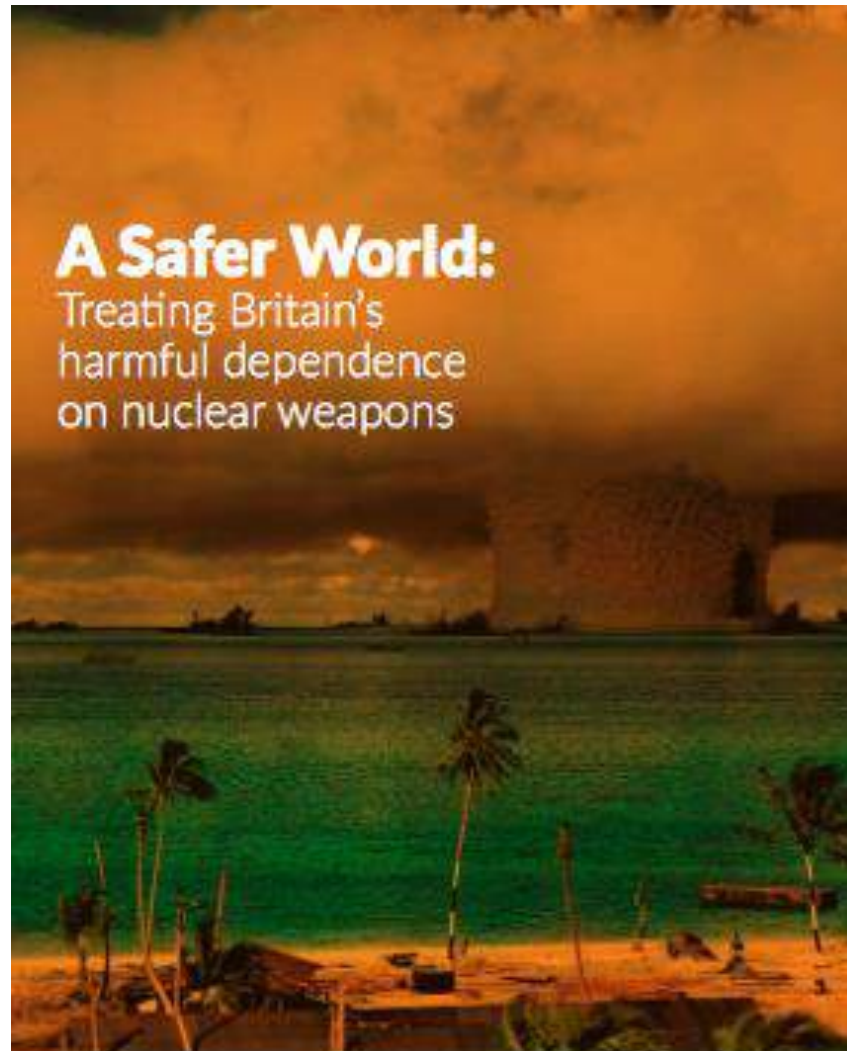


The cost of different SDGs as a share of global military expenditure in 2015.

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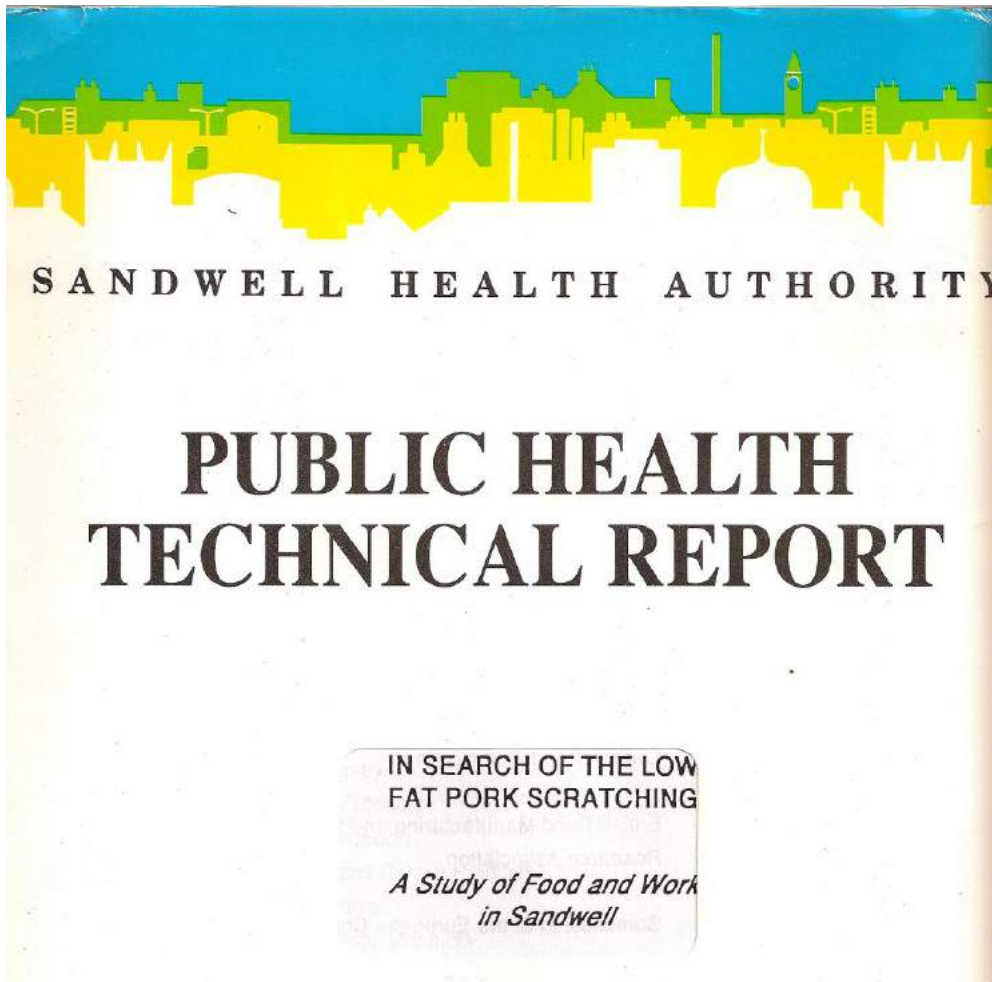
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‘The Health Dividend’

The conversion of military industries for peaceful purposes is therefore a major local, national and international public health issue, and one which requires urgent attention. It is the most obvious example of my overall theme: that economic diversification can be a powerful force for the public health; whether it is in the tobacco, alcohol, food, armaments, or other anti-health industries (Middleton, 1992). Paul Field and I call this the "health dividend"- in the same way that there logically a social dividend to be gained from redirecting the resources for warfare into welfare, so there is a health dividend to be gained from converting industry for disease into industry for health.



Sandwell Express and
Star, 1st December 1989



Sandwell food coops



Growing Healthy Communities

A Community Agriculture Strategy for Sandwell 2008 – 2012



"Sandwell as the garden of England is a bit far fetched, but it is not impossible for Sandwell to increase the food we can supply to ourselves."

Dr John Middleton, in *Regenerating Health: a challenge or a lottery?* The 8th Annual Report of the Director of Public Health, 1996.



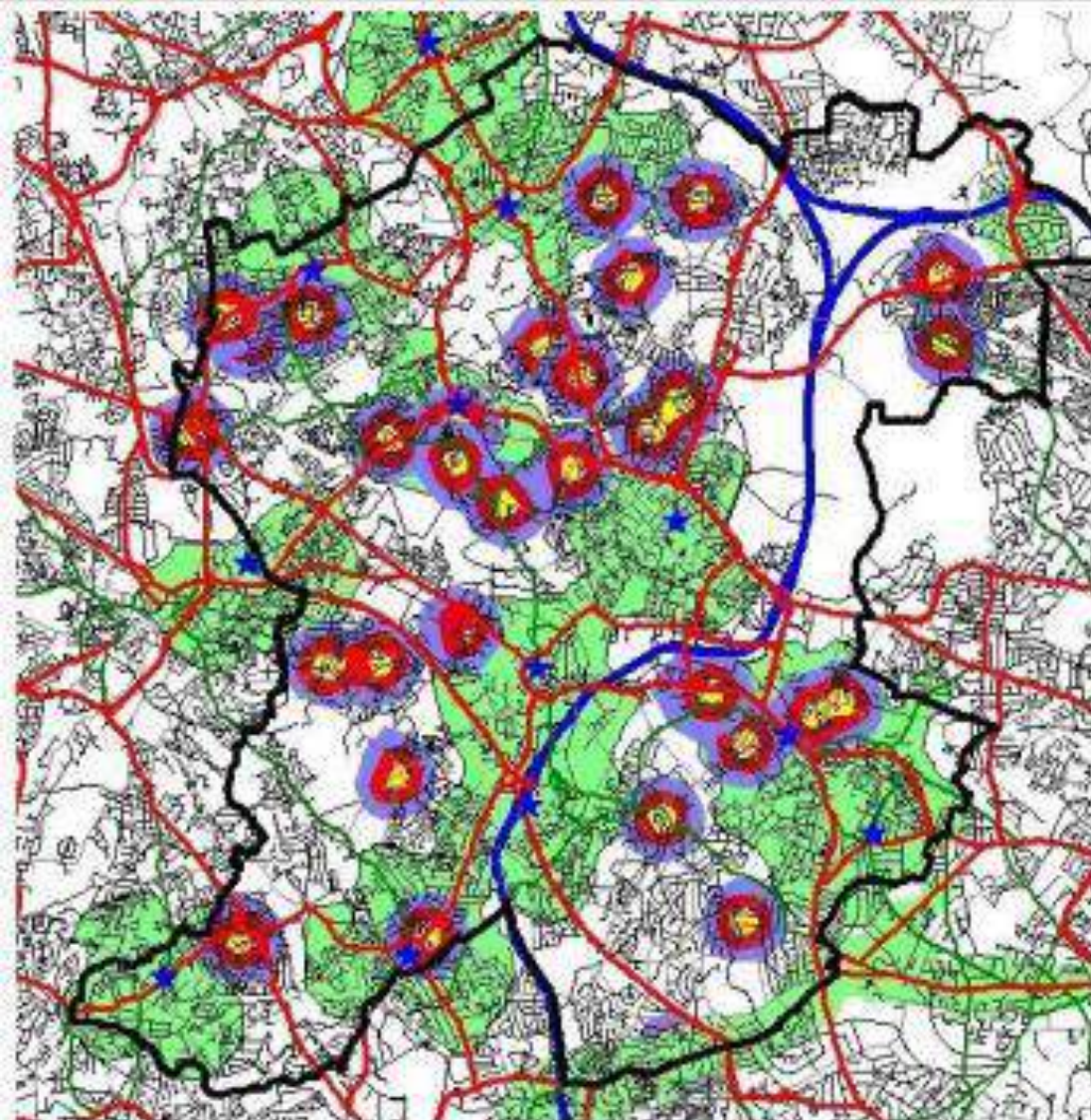
Access to Fresh Food in Sandwell

KEY

-  Sandwell Boundary
-  Supermarkets
-  Public Transport isochrones around Supermarkets (10mins)

Walking Distance around Eatwell Stores:

-  200 Metres
-  400 Metres
-  600 Metres

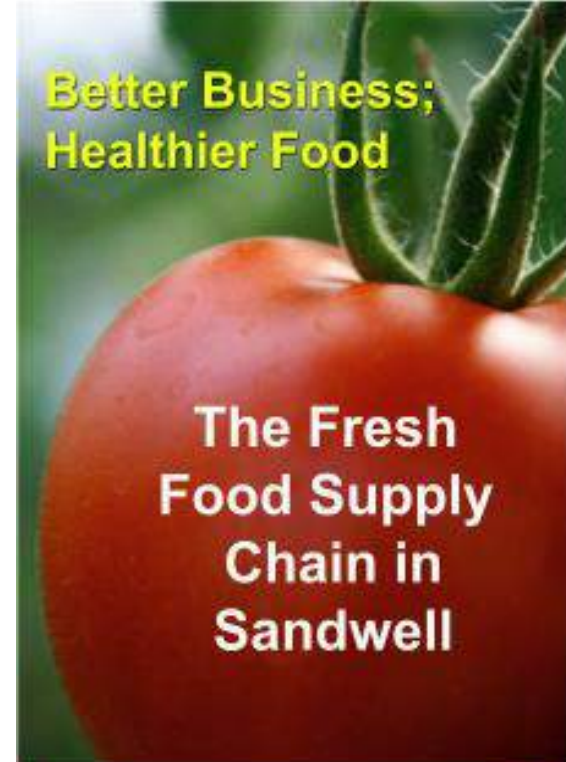
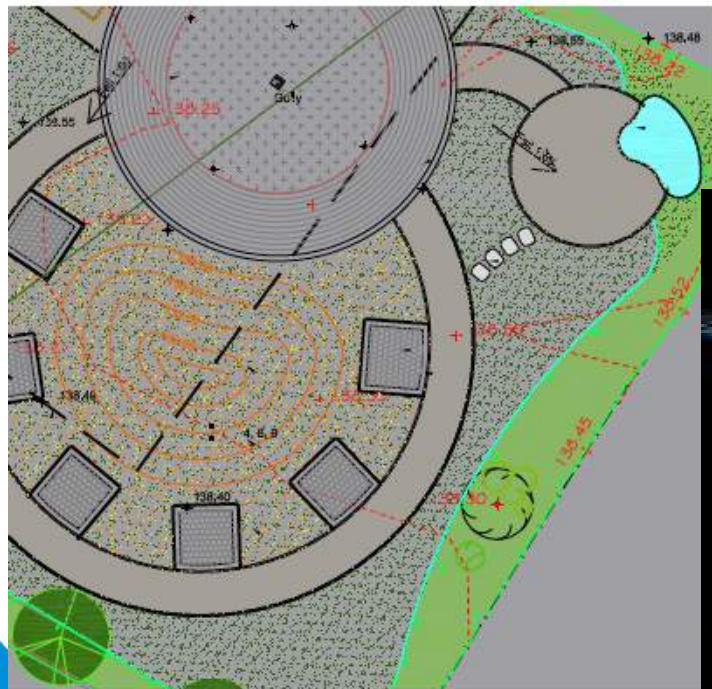


Sandwell study and strategy for jobs and health in the food industry, including retail :

Now adopted by the Black Country Local Economic Partnership (LEP)



Sandwell food systems planning
A map for the future



**Better Business;
Healthier Food**

**The Fresh
Food Supply
Chain in
Sandwell**



**Black Country LEP EU Structural and
Investment Funds Strategy**

Revised January 2016

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Now pork **SCRATCHINGS** are a super food as top athletes endorse a new low-fat version of the old favourite bar snack

- New scratchings have 47 per cent less fat than the original pub snack
- Recipe is backed by model David Gandy and Paralympian star David Weir
- They are made from prime pork rind and have 70% pure protein in a bag
- Pork scratchings thought to come from West Midlands in Victorian times

By [JACK CRONE FOR MAILONLINE](#)

PUBLISHED: 08:52, 31 May 2015 | UPDATED: 19:29, 31 May 2015



New recipe: A company has turned pub favourite pork scratchings into a nutritious low-fat super-snack

CURING
THE
TOBACCO
ECONOMY



The Research Partnership



SUMMARY

Curing the
Tobacco
Economy,
Sandwell
Health
Authority,
1989

Counter Arguments

HOW IMPORTANT IS TOBACCO TO SMALL RETAILERS?



Counter arguments
Action on Smoking and Health 2016,

Good Health?
A Study of the Drinks Retailing Industry
In Sandwell

by
Paul Field
with the special assistance of
Sue Day

The Research Partnership

A series of red, hand-drawn scribbled lines, resembling a signature or a stylized underline, located below the text 'The Research Partnership'.

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Inclusive design:

‘The inclusion dividend’

MEDILINK NEWS WEST MIDLANDS

Welcome to the Winter Issue of Medilink West Midlands News



Winter 2003/04

ACADEMICS AND INDUSTRY SOLVE REAL-LIFE CLINICAL PROBLEMS

A rare event took place in the West Midlands recently which brought together professionals in the medical manufacturing market with research leaders from Aston University and the University of Birmingham. The goal: to explore commercial solutions for two real-life clinical problems.

Metal on Metal resurfacing

- Can the bearing surface be coated to reduce wear?
- Can the bearing surface be coated to alter the type of released particles?



Motivated by the dislocation between university and industry, Medilink West Midlands partnered with Aston and Birmingham Universities to bring together an initial group of participants around a common goal.

Thirty industry representatives listened to presentations from each University on research being carried out in the field of surface coating technologies. Peter Marquis, Professor of Biomaterials at the School of Dentistry, University of Birmingham, raised the question about coatings moving more toward dynamic facilitators as opposed to just barriers. And Dr Kevin Cooke of Teer Coatings presented a new technology for coating medical devices.

A lively discussion took place around the idea of engineering surfaces to manipulate donor cells in the context of stem cell transplantation, presented by Clinician Mark Cobbold from the CRUK Centre for Cancer Studies.

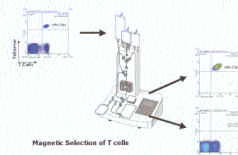
Dr Subodh Deshmukh, Consultant Orthopaedic Surgeon at the City Hospital,

challenged the group by asking for solutions in stimulating nerve growth for faster healing under coatings on prostheses.

Professor John Sullivan, Head of Surface Science Research Group at Aston University said: "The workshop was excellent. That sort of forum, with people from industry and medicine, was ideal. And as a result of it, I have met and arranged to see a surgeon who was there."

"This was a great opportunity for companies to learn of the expertise regionally which could help them," noted Dr Milla Shah, Business Development Manager at the University of Birmingham. "And the clinicians were very positive about working through their problems with academia and industry – and we've identified several partnerships established at the workshop."

Medilink West Midlands has received such a positive response from this event it is starting a series of Technology Transfer Workshops on a range of topics.



FIRST STEPS TO ACCESSING THE NHS MARKETPLACE – 6 FEBRUARY 2004

If you've been trying to sell to the NHS but don't know where to begin, or if you know who to target but are having trouble getting through – then book your diary for 6 February to meet with the key decision makers and learn your route in.

In partnership with Locate in Birmingham, this event will begin with an overview of the market opportunities within the medical and healthcare sector – perfect for companies doing less than 15% business in the medical field or anyone interested in the bigger picture.

It will continue with introductions to the decision makers at PASA, NHS Logistics, and the Community Trusts, and an overview of exactly what they are looking for in a supplier and how you can get your products in front of them.

A series of follow-up sessions are planned to bring actual problems faced in the NHS to industry, but in order to understand how you can present the commercial solutions for these problems you need to attend the 6 February event.

For a complete agenda and booking form, please call Medilink West Midlands on: 01902 424 001.

PICTURES OF YOUR PRODUCTS

Do you need professional pictures of your products but don't want to spend a fortune?

Medilink West Midlands is hiring a professional advertising photographer for a day at our office – so for less than £100 you can have publication-quality photos taken of your products.

Contact us immediately to reserve your place, we're scheduling for late January and spaces are limited.

www.MedilinkWM.co.uk



INCLUSIVE Design

Five principles on which inclusive design for disabled people is founded:

technology should serve people not people serving technology
disabled people are made disabled by services that have been designed to exclude

them and to make them dependent

disabled people should be involved in design to bring their insights to make better products

that better design for disabled people is better design for all

that manufacturing systems must be adapted through better design so that goods are not custom made for disabled people, but are adaptable through modular construction for different consumer needs.

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Design Standard – AHeAD and MWM



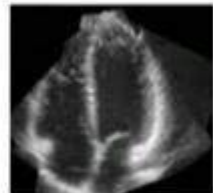
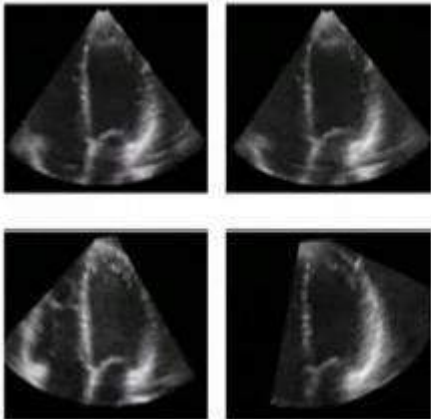
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Design Standard – AHeAD and MWM



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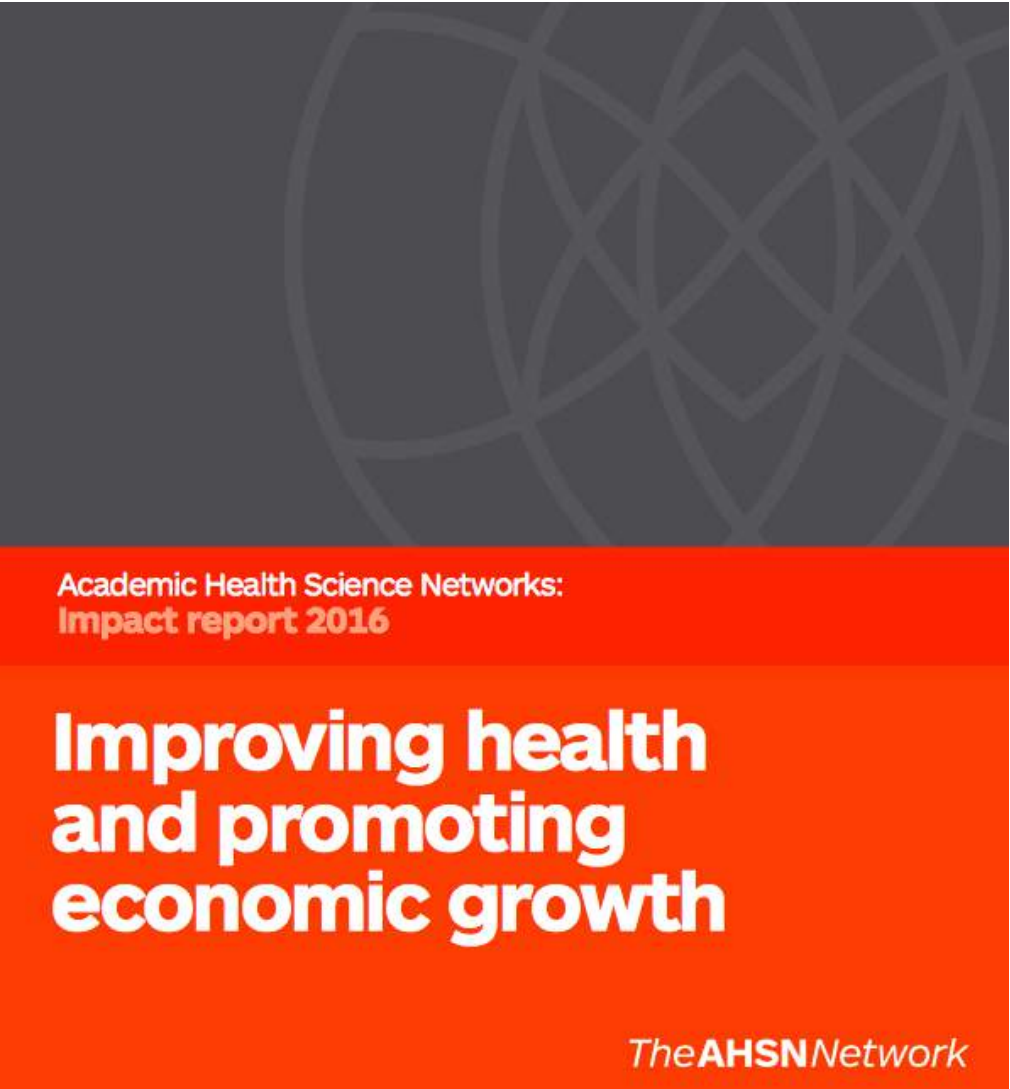
NHS
Innovation
Projects



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Driving economic success

‘Bespoke services covering the entire innovation life cycle from conception of an idea through to its eventual realisation of commercial success’



Academic Health Science Networks:
Impact report 2016

**Improving health
and promoting
economic growth**

The AHSN Network



Mike Cooley: Author of *Architect or Bee?*

One of the leaders of the Lucas Shop Stewards Combine and mastermind of Human Centred Technology

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Science
Science blog network

526 6
Adrian Smith

Wednesday 22 January 2014
10:52 GMT

The Lucas Plan: What can it tell us about democratising technology today?

Thirty-eight years ago, a movement for 'socially useful production' pioneered practical approaches for more democratic technology development.

Workers at Lucas Industries, Shaftmoor Lane branch, Birmingham, 1970. Photograph: /Lucas Memories website, lucasmemories.co.uk.

It was in January 1976 that workers at Lucas Aerospace published an Alternative

Advertisement

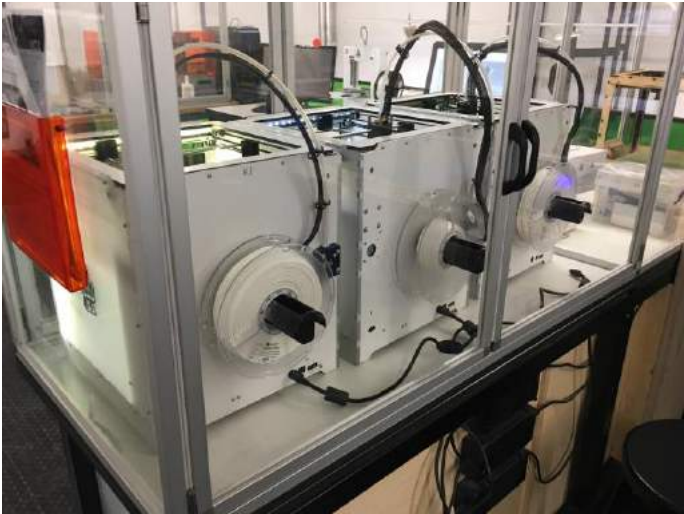
"A spider conducts operations that resemble those of a weaver, and a bee puts to shame many an architect in the construction of her cells. But what distinguishes the worst architect from the best of bees is this, that the architect raises his structure in imagination before he erects it in reality."

Institute of
Making,
University
College
London

Library of materials



3D printers



Liz Corbin,
Director

Secure, healthy, inclusive and green – four dividends of a healthier future Professor John Middleton



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A high-performance, one-bed house design

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Labs

A Fab Lab is a technical prototyping platform for innovation and invention, providing stimulus for local entrepreneurship. A Fab Lab is also a platform for learning and innovation: a place to play, to create, to learn, to mentor, to invent. To be a Fab Lab means connecting to a global community of learners, educators, technologists, researchers, makers and innovators - a knowledge sharing network that spans 30 countries and 24 time zones. Because all Fab Labs share common tools and processes, the program is building a global network, a distributed laboratory for research and invention. Here in this section you can explore the official list of Fab Labs.

You can read more about Fab Labs on the Fab Foundation website [here](#).

Expand the Network

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Machines

All Fab Labs share common tools and processes in order to build a global network, a distributed laboratory for research and invention. Here you can find and add all the Machines available in the global Fab Lab Network, a global database of technologies locally available.

Expand the Network

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Machines

3D printer



MakerRobo
MakerRobo UP



Other Machine Co
Othermill



Styrocut
Styrocut 3



Probotix
Fireball V90



LaserPRO
Spirit GX 40W



ABB
IRB 1600-145 kg



Universal Laser Systems
VLS 6.60



Primesense
Carmine 1.09



Roland
BN-20



LaserPRO



BCN3D Technologies
BCN3D +

‘FAB labs’ Iceland above Left Website pages machines and world distribution

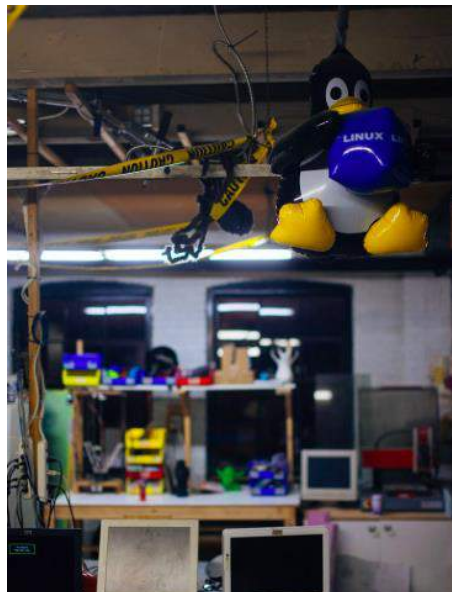
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'Hackerspaces' / makerspaces



Maker Spaces Silicon Valley , California



Chinese Maker Naomi Wu (aka SexyCyborg) configures a Raspberry Pi 2.

RaumZeitlabor ,
Mannheim, Germany

Free Software
hackerspace
Canada



The Green dividend:

BIRMINGHAM POST.net



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Latest Business News

Green schemes will aid Midlands construction industry

Feb 18, 2010 By Tom Scooney

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A scheme to help property owners 'green up' their houses and businesses could mean a £40 million bonanza for the struggling Midlands construction industry, the planners behind the project have said.

The 'green new deal' launched by Birmingham City Council was set up to help homeowners and businesses upgrade properties with energy-efficient fittings.

It will see up to 25,000 homeowners and 1,000 businesses offered the chance to have significant energy improvements made to their properties both through insulation and small scale generation, which in the long term will leave them in profit.

And consultant Matthew Rhodes said the scheme would not just benefit

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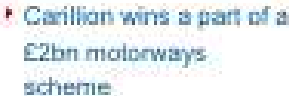
   

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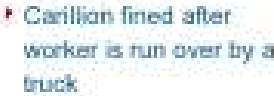
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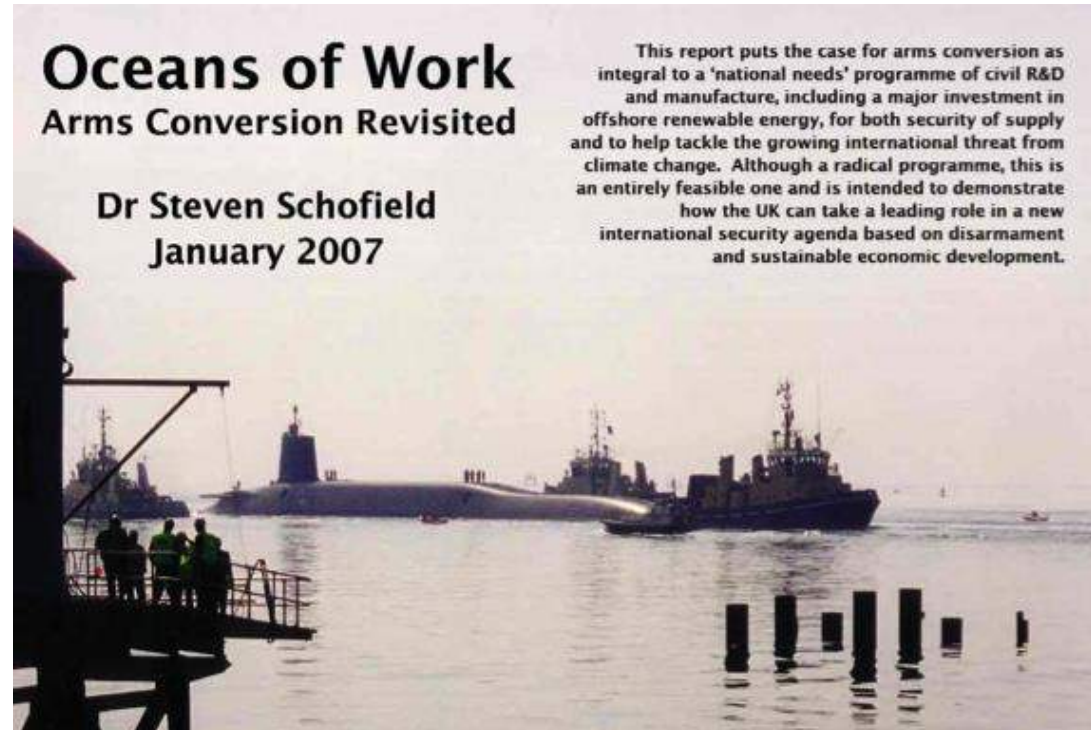
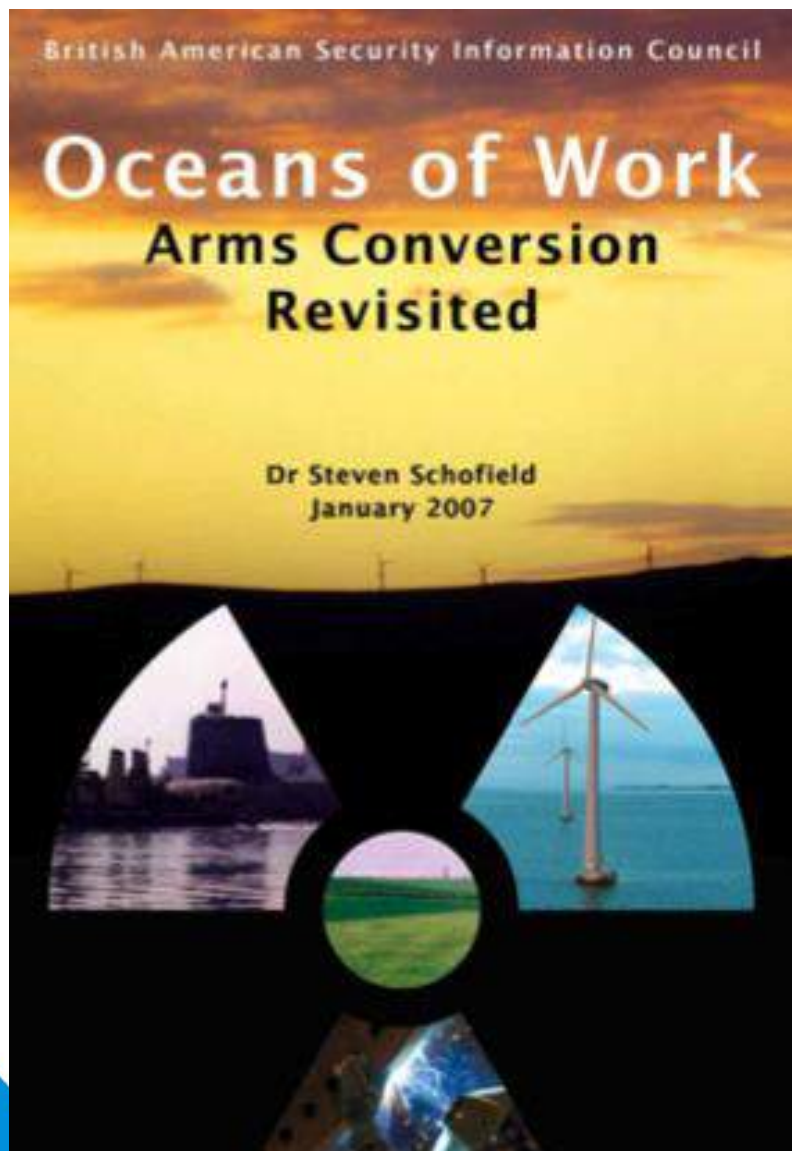


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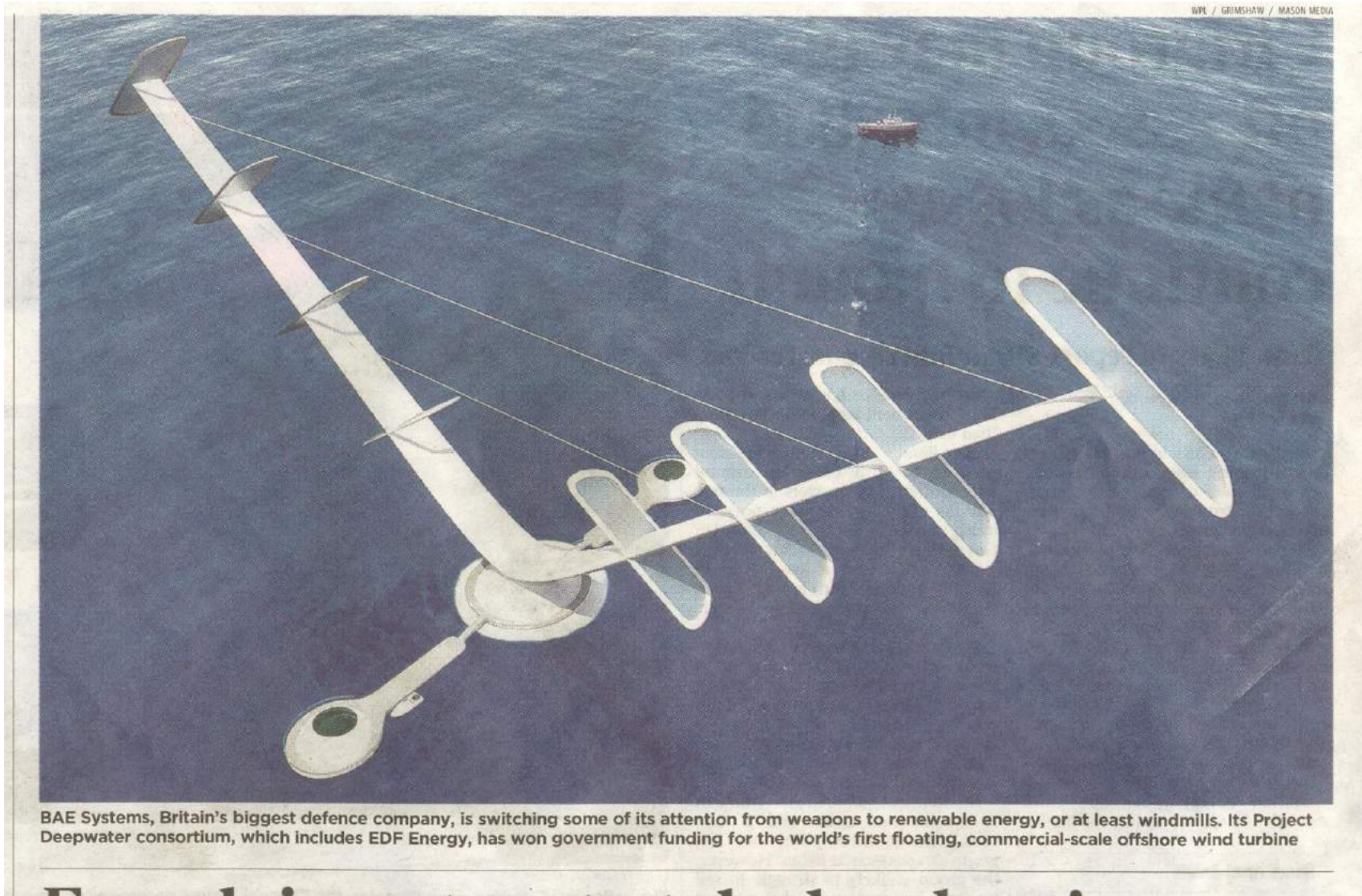
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The green recovery ?



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TRIDENT & JOBS

The case for a
Scottish Defence
Diversification
Agency





Source: The Boeing Company



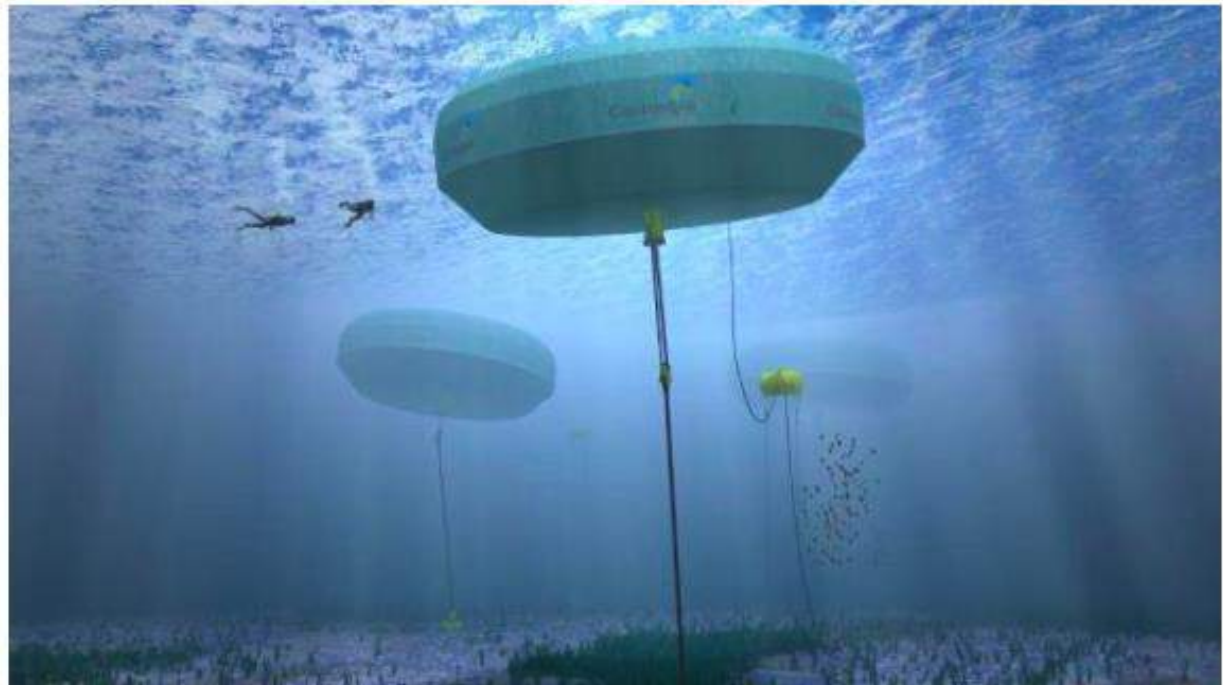


THE  TIMES

Greek goddess will rule the waves at marine energy farm off Cornwall

Ben Webster, Environment
Editor

November 7 2016,
12:01am,
The Times



The Ceto uses the motion of waves to generate electricity. One can supply enough annually for 400 homes



ADM2Renewables

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In association with:



IET Teacher Building
Glasgow

October 6, 2011



Devonport: Trident alternatives

An overview of green employment potential

Rosyth – like Devonport a naval base for nuclear submarine decommissioning – currently supplying offshore structures to two UK wind farms, sustaining 100 jobs.

Campbeltown, an ex RAF base now home to a wind turbine tower factory, employing 130-200 people.

The isle of Wight, manufacturing offshore wind turbine blades for Vestas with a workforce of around 800. The port of Hull, producing its first blades for Siemens later this year with an anticipated workforce of 1000.

Nigg, Burntisland and Methil on the Scottish east coast, making subsea structures for offshore wind farms and be-spoke marine energy devices.

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Environment

Solar panels surpass coal-fired electricity in previously 'unthinkable' feat

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Ian Johnston Environment Correspondent | Tuesday 4 October 2016 | 74 comments

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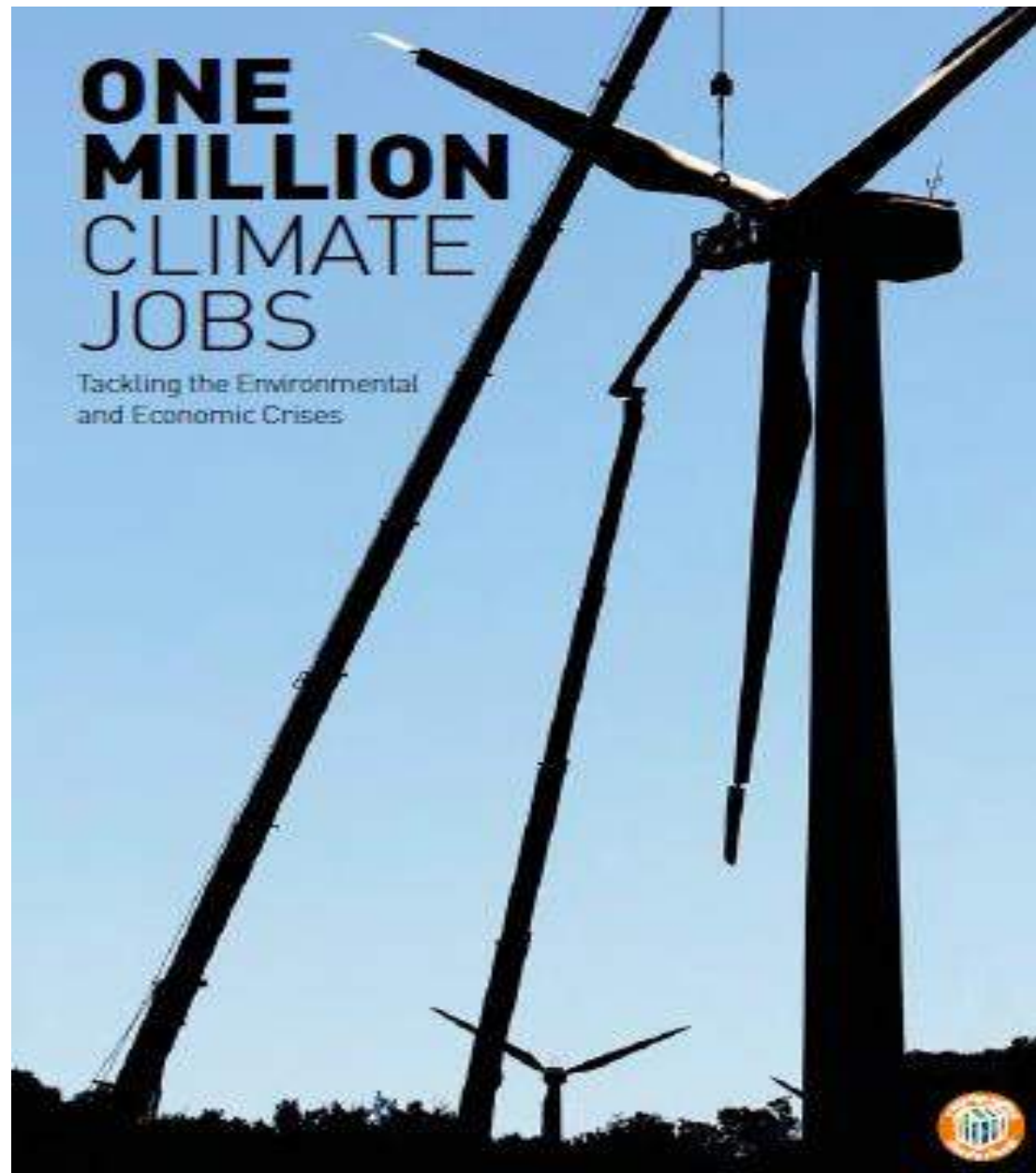
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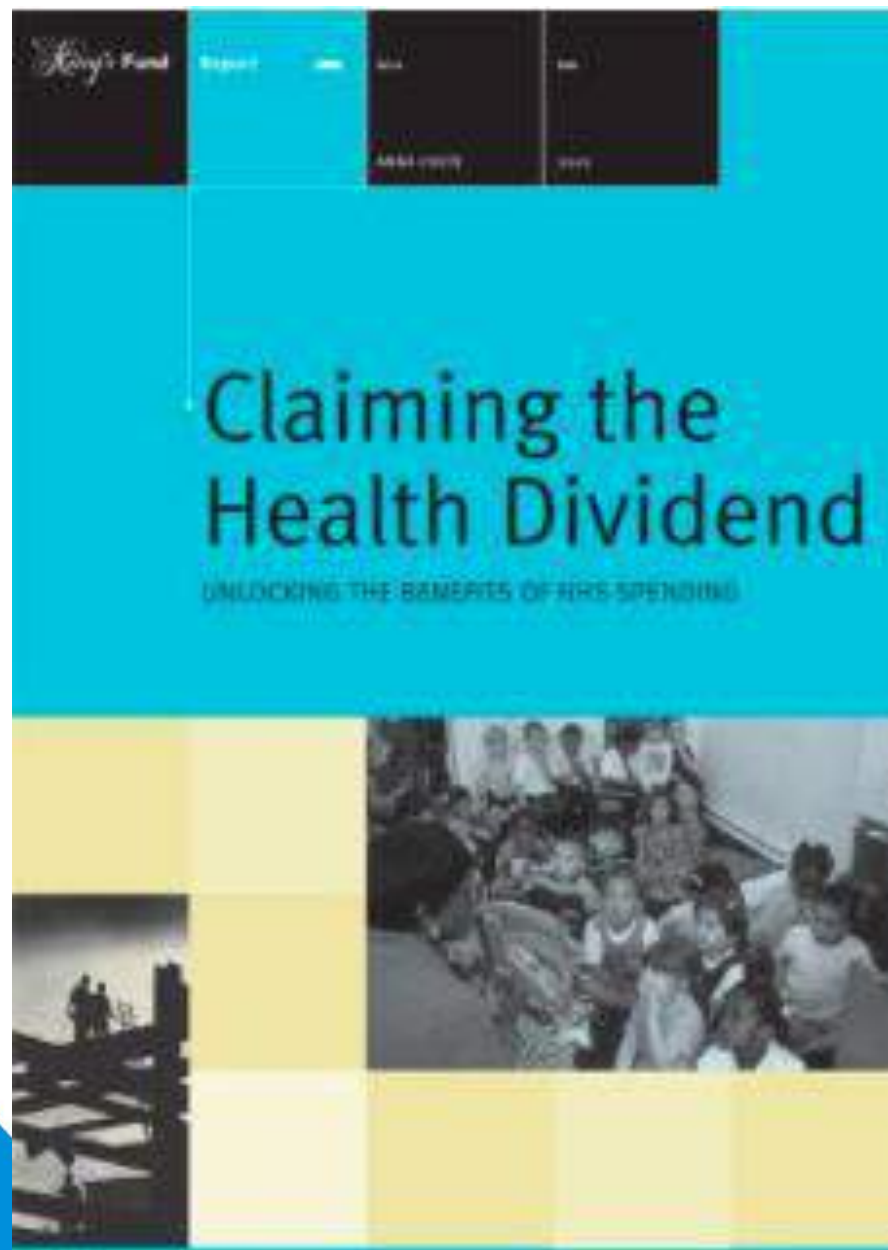
http://www.campaigncc.org/sites/data/files/Docs/one_million_climate_jobs_2014.pdf



The Health dividend:

The NHS as corporate citizen

‘Anchor employer’



The NHS is the largest single organisation in the United Kingdom. Its potential impact on our lives is huge, as an employer, purchaser, cause of travel, producer of waste, consumer of energy, and commissioner of building works. This publication shows how the NHS could use its resources more wisely to sustain health in the long term. It argues that the NHS can, and must, make better use of its resources to reduce inequalities, build stronger local economies and safeguard the environment for the benefit of whole communities. To do this, it will need to tackle the challenge of raising service standards and changing attitudes and patterns of behaviour in all of its corporate activities.



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John Middleton: The “Hospital of the Future” comes to the West Midlands

October 1, 2014



On 14 July this year, [the chancellor of the exchequer announced](#) the go ahead for the new Midland Metropolitan Hospital (MMH) in Smethwick, serving the people of West Birmingham and Sandwell in the West Midlands of England. As the chancellor returns to Birmingham for his party conference, the Royal College of Physicians has launched its manifesto, [promoting its Future Hospital programme](#), around the party conference circuit. If any hospital could claim to hold the essence of the RCP aspirations for the “Future Hospital,” it is surely MMH.

Middleton J. The hospital of the future comes to the West Midlands. BMJ blogs October 1st 2014.
<http://blogs.bmj.com/bmj/2014/10/01/john-middleton-the-hospital-of-the-future-comes-to-the-west-midlands/>

Carillion' Midland Metropolitan hospital to be years late and £250m over budget

David Brown,
Chief News Correspondent

January 9 2019, 12:01am,
The Times

Economics

Health

Real Estate

Europe



The hospital as it should have been. It has instead been left open to the rain

The biggest emergencies-only hospital in Europe will take three years longer than expected to build and cost nearly twice its original budget.



**Health Futures
University
Technical College**

**West
Bromwich, UK**

www.healthfutures.co.uk



www.fph.org.uk

'Saving lives with Solar' Royal North Midlands Hospitals, Stoke.





Thinking globally, acting locally: Coventry and Warwickshire University Hospitals Jubilee Nature Reserve – managing water run off from hospital car parks - promoting biodiversity, saving money



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Fig 23. Information packs developed as part of the Barts Health Cleaner Air Programme. Maps provided by King's College London; photographs reproduced with permission from Global Action Plan, for the Waltham Forest Pharmacy Intervention.





In conclusion



EDITORIALS

ELECTION 2017

Time to put health at the heart of all policy making

National government must become a public health government

John Middleton *president*

Faculty of Public Health, London, UK

Improving the health of people in the UK will improve the productivity of our nation, and enhancing our health and care industries will provide a platform for creating health related jobs: the "health dividend."¹ The next UK government therefore needs to make health central to all its policies.² And it must not surrender our rights to health in the post-Brexit era.³

Local authorities have recognised the opportunity of getting health into all policies, including education, environment, economy, licensing, leisure, and town planning, as they seek to become "public health councils."⁴ National government must now become a public health government. The new government must think beyond its term of office and implement policies through which the UK grows the wellbeing of future generations.

Unequal and divided

We live in a divided UK, where gross inequalities in health and life chances persist or have increased.^{5,6} Decades of science on inequalities in health require policies to reduce inequalities in income, improve early childhood development, and reduce other social, educational, and environmental disadvantages.^{5,7} Inequalities in health cost £65bn (€74bn; \$83bn) in lost productivity and taxes and increased benefits payments plus £5.5bn for direct NHS treatment in 2010.⁸ The next government must deliver real improvements in income, opportunity, and health for the poorest sections of our society.

Economic and industrial policy

We need health, environment, education, and social usefulness to be the main drivers of a new industrial strategy.¹⁻⁹ Higher education is a major economic generator, and international students must be regarded as a resource for knowledge and international cooperation, not as a negative figure in net migration.⁸ The NHS provides a platform for innovation, and the UK needs to retain and develop its global pre-eminence in biomedical science, health, and care technology. It is vital for jobs and trade,⁸ but it also benefits international health, as we see with the drive on antimicrobial resistance.¹⁰

The next government must be a world leader for green technology, green energy systems, energy conservation, and a green economy.¹¹ Even if climate chaos wasn't happening, a fossil-free fuel policy would make sense now because of air pollution, escalating costs of fossil fuels, and fuel insecurity.¹²

New approach to housing

The next government also needs to ensure that the supply of affordable living spaces meets the level of need, and that the existing housing stock is restored, developed, and retrofitted to improve health. There are around 25 million housing units in the UK, and 27.1 million households (including 18.9 million family units). The price of housing greatly outstrips any rise in incomes. More needs to be done to reduce the ill health caused by cold homes and to improve home safety.¹³ A carrot and stick approach is needed to make land and properties available for people at affordable prices, including encouraging holders of underused living space to relocate to more manageable homes.

New food act

In 2015, UK consumers spent £201bn on food, and the agri-food chain contributed £108bn gross to the national economy. Of this, only 9% went to farmers, while manufacturing took 25%, catering 27%, and retailing 30%. Even wholesalers made more (11%) than the people who grow the food.^{13,14} UK horticulture is parlous and dependent on migrant labour. The UK balance of food payments is £28bn in deficit. Payments under the EU common agricultural policy support sugar beet growing in East Anglia, and now we have the sugar tax to control sugar consumption. Multinational sugar companies benefit most from the EU policy.¹⁴ We waste 20% of our overpriced food and grow food banks for the hungry. We could pay our farmers more, build more jobs in food production and processing, and have slimmer children and a less poisoned environment. In the EU, or outside it, we need a new food act to secure these objectives.¹⁵

<http://www.bmj.com/content/357/bmj.j2676>

Inequalities in health cost
£65bn (€74bn; \$83bn) in lost
productivity and taxes and
increased benefits payments
plus
£5.5bn for direct NHS
treatment in 2010.5



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Why we must put health at the heart of all policy making by @doctorblooz, president of @FPH bmj.com/content/357/bmj...

MALCOLM WILLET



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Thank you

Professor John Middleton

President@fph.org.uk



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Lucas shop stewards alternative plan video resources

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Diversification in coventry's military industry: Implications for a decentralised conversion strategy

Author: P.M. Quigley^{ab}
Affiliations: ^a Honorary Research Associate, Coventry Polytechnic,
^b Research Associate for Coventry Alternative Employment Research,

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- Appendix 2 The peace dividend
- Top 15 countries military expenditures

Military expenditure

Table 2. The 10 largest importers of major weapons and their main suppliers, 2011–15

Note: Percentage of total is rounded to 1 decimal (except for percentages over 10 which are rounded to whole numbers).

Importer	Share of international arms imports (%)		Main suppliers (share of importer's total imports %), 2011–15		
	2011–15	2006–10	1st	2nd	3rd
India	14	8.5	Russia (70)	USA (14)	Israel (4.5)
Saudi Arabia	7.0	2.1	USA (46)	UK (30)	Spain (5.9)
China	4.7	7.1	Russia (59)	France (15)	Ukraine (14)
UAE	4.6	3.9	USA (65)	France (8.4)	Italy (5.9)
Australia	3.6	3.3	USA (57)	Spain (28)	France (7.2)
Turkey	3.4	2.5	USA (63)	South Korea (9.5)	Spain (8.9)
Pakistan	3.3	4.3	China (63)	USA (19)	Italy (4.6)
Viet Nam	2.9	0.4	Russia (93)	Ukraine (2.6)	Spain (0.9)
USA	2.9	3.6	Germany (21)	Canada (11)	Norway (8.1)
South Korea	2.6	5.7	USA (80)	Germany (13)	Sweden (2.2)

Military expenditure

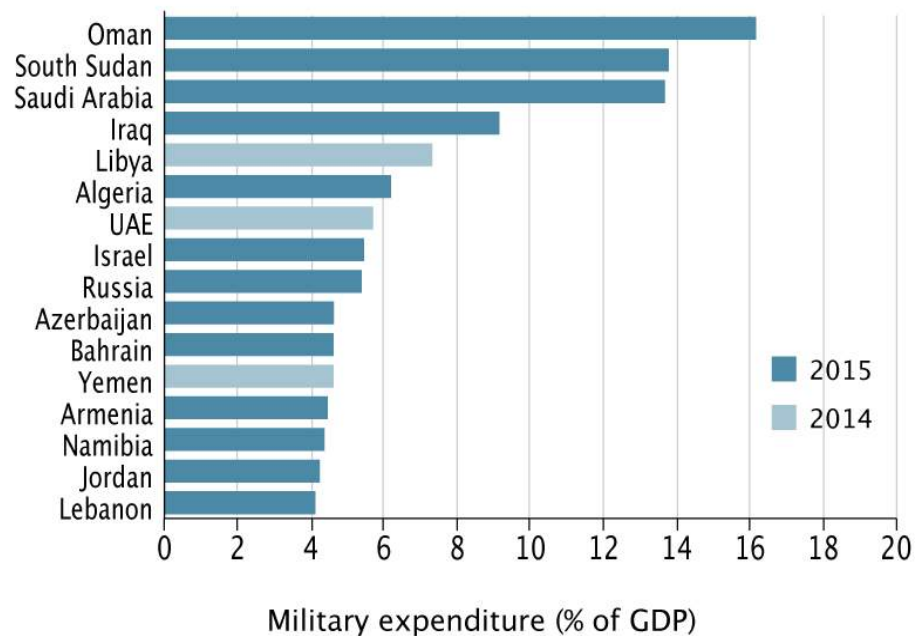
Table 1. The 10 largest exporters of major weapons and their main clients, 2011–15

Note: Percentage of total is rounded to 1 decimal (except for percentages over 10 which are rounded to whole numbers).

Exporter	Share of international arms exports (%)		Main clients (share of exporter's total exports %), 2011–15		
	2011–15	2006–10	1st	2nd	3rd
USA	33	29	Saudi Arabia (9.7)	UAE (9.1)	Turkey (6.6)
Russia	25	22	India (39)	China (11)	Viet Nam (11)
China	5.9	3.6	Pakistan (35)	Bangladesh (20)	Myanmar (16)
France	5.6	7.1	Morocco (16)	China (13)	Egypt (9.5)
Germany	4.7	11	USA (13)	Israel (11)	Greece (10)
UK	4.5	4.1	Saudi Arabia (46)	India (11)	Indonesia (8.7)
Spain	3.5	2.6	Australia (29)	Saudi Arabia (12)	Turkey (8.7)
Italy	2.7	2.1	UAE (10)	India (8.8)	Turkey (8.2)
Ukraine	2.6	1.9	China (26)	Russia (12)	Ethiopia (9.2)
Netherlands	2.0	3.0	Morocco (17)	Jordan (12)	USA (7.7)

Military expenditure

Countries with a 'military burden' of 4% or greater





- Appendix 3 Sandwell AHEAD, West Midlands Medilnk and NHS Innovation Centre designs and health care products

MouleTec Wheelchair Cushion - AHeAD

The issues

- Standard foam wheelchair cushions are routinely issued by social care as part of standard postural and seating care
- Higher grade pneumatic cushions offer the highest level of comfort and minimise pressure sore injury. However these seating systems cost upwards of £400.

Solution

- The MouleTec cushion takes technology from aerospace and military seating design used to occupant improve comfort
- AHeAD and MedilinkWM supported the company to commercialise a medical grade wheelchair cushion based on the IP developed by the company
- This involved a clinical study with wheelchair users from Sandwell Independent Living Centre. The study found that the prototype cushions were at least equal in comfort to higher cost versions. The data also showed promising results in pressure distribution suggesting the technology was also minimising the risk of pressure sore injury.
- The MouleTec wheelchair cushion has been on the market since 2006 – now sold by Vital Seating Systems <http://vitalseatingsystems.com/mouletec-chair>



Chair4Life – National Innovation Centre

The issues

- Paediatric wheelchairs are essentially smaller versions of adult models
- They often fail to meet the changing physical and developmental needs of a growing child and promote full independence
- There is significant waste and inefficiency in the provision of paediatric wheelchairs. It can take up to 6 months to provide a suitable chair. A CQUIN was put in place in 2012/13 to address this called Child in a Chair in a Day.



Solution

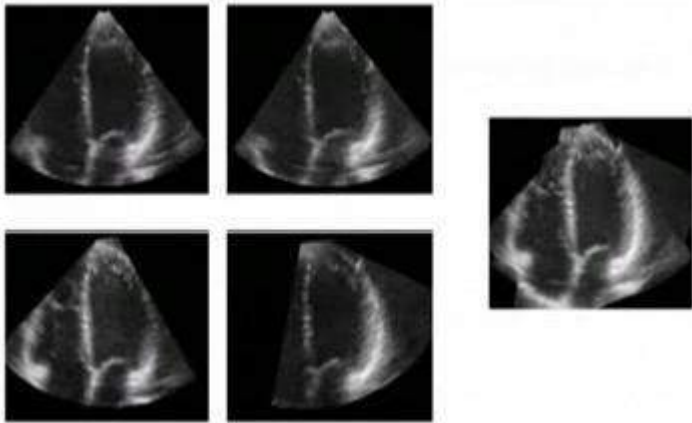
- A wheelchair system which grows with the child was developed with designers and users. Key features:-
 - Quick to reconfigure using unique seat mounting system (making the chair easier to maintain and faster to alter / commission)
 - Peer height seating (A key feature demanded by younger users)
 - Configurable to different environments with indoor and outdoor modes
 - Customisable with a range of options to suit the physical and emotional needs of the user
- A fully working prototype was developed.



Intelligent Ultrasound - National Innovation Centre

The issues

- Ultrasound is one of the most commonly used diagnostic tools in the NHS. In the UK over two million scans are performed each year on pregnant women. These scans are routinely done to assess foetal development, detect anomalies and screen for genetic conditions.
- In cardiology, more than a quarter of a million ultrasound scans are performed annually
- Whilst the technology is reliable image quality can be poor and diagnosis relies heavily on the skills of the Sonographer. Poor image quality can have an impact on correct diagnosis and in many patients are routinely referred to CT or MRI if the ultrasound images are inconclusive.



Solution

- Intelligent Ultrasound was set up as a spinout company to exploit the new 3DF imaging software based on IP developed by Oxford University. The company has developed a 3DF software platform which improves the diagnostic image quality of standard ultrasounds thus reducing the need to refer patients to CT and MRI.
- IU was bought by an AIM listed company in September 2017

AliveCor – NHS England

The issues

- Atrial fibrillation (AF) affects 2 million people in the UK and is responsible for a third of all strokes
- Many cases of AF go undetected (300-500k). In 2015 7,000 strokes and 2,000 premature deaths were attributed to AF.

Solution

- Mobile technologies have revolutionised the design of the electrocardiogram (ECG) allowing diagnostics to be done at a lower cost
- Mobile ECG devices such as the AliveCor Heart Monitor provide an effective way of detecting AF quickly and in the community
- AliveCor is part of an AHSN led initiative to evaluate the use of mobile ECG technologies in the community.



MyCOPD - NHS England

The issues

- Improving self-management for patients with COPD is a key priority ; COPD costs the NHS more than £1bn each year
- Treatment is complex, with different numerous types of inhalers making training difficult
- Compliance with treatment is often extremely low, leading to poor outcomes and potentially wasted prescribing
- Good symptom management is essential to stabilise disease and prevent recurrent flare-ups or exacerbations.



Solution

- Online pulmonary rehab has been shown to be as clinically effective as face to face therapy and can be delivered at a fraction of the cost
- NHS England is incentivising the uptake of online COPD support through the Innovation and Technology Tariff (ITT). This has provided access to over 25,000 patients allowing them to self-manage their severe or very severe COPD symptoms

NIC – NHS England

The issues

- The accidental injection of IV medication into arterial lines which can lead to necrosis and major amputations.
- Bacteria can also contaminate arterial lines when blood is drawn for sampling



Solution

- A needle free connector for arterial cannulation using a one way valve which allows aspiration only
- The NIC prevents the accidental injection of IV medication into arterial lines through the design of a one way valve. It also prevents blood spillage and bacteria from contaminating sampling lines therefore improving the safety and care of all patients with arterial lines.
- Over 3000 NIC devices now in use in the NHS through the Innovation and Technology Tarff (ITT)

PneuX – NHS England

The issues

- Ventilator associated Pneumonia (VAP) is a common condition found in patients ventilated for more than 24 hours
- VAP is caused by pulmonary aspiration of bacteria from the patients throat and stomach
- Standard endotracheal tubes don't seal the airway fully allowing bacteria to pass into the lungs and cause VAP.

Solution

- The PneuX endotracheal tube provides a monitored pressure seal which prevents bacteria from entering the lungs.
- 1000+ PneuX endotracheal tubes now in use in the NHS incentivised through the Innovation and Technology Tariff (ITT).





Medilink WM



2000 / 2001 Ahead project supports the formation of Medilink WM the first Medical Technologies Industry Support organisation for the region

2002 / 2003 MedilinkWM Secures RDA funding to co-ordinate the WM Medical Technology Cluster

2006- 2013 MedilinkWM CEO becomes National Chair and develops a cross concordat with other National Industry Associations and Medilink WM launches MedilinkUK and MedilinkUK Website

2011/12 MedilinkWM works with other associations and NHS on innovation health and wealth and the designation of Academic Health Science Networks.



west midlands
ACADEMIC HEALTH SCIENCE NETWORK



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WM Academic Health Science Network

2012/13

West Midlands Academic Science Network formed and the MedilinkWM Managing Director agrees to become the interim development director of the AHSN

2013

Medilink WM Managing Director agrees to become Commercial Director of the WMAHSN

2014

Medilink WM contracted as the Industry Gateway organisation for the AHSN