The UK approach to sustainable growth

Prepared for UNECE Team of Specialists on Innovation and Competitiveness Policies
1-2 November 2018
Executive Summary

Session 2: Industrial policy and innovation policies for sustainable growth

The UK approach:

- Our **Clean Growth Strategy (2017)** is a blueprint for lowering carbon emissions, protecting the environment and meeting our climate change obligations while stimulating growth and prosperity, increasing earning power and creating and supporting thousands of jobs.

- Our **Industrial Strategy (2017)** aims to boost productivity by backing businesses to create good jobs, and increase the earning power of people throughout the UK with investment in skills, industries and infrastructure.

- Our **25 Year Environment Plan (2018)** sets out what we will do to improve the environment, within a generation.
Clean growth and decarbonisation policy framework

Climate Change Act 2008

**Long-term target**

The UK Climate Change Act commits the UK to an at least 80% reduction in Greenhouse Gas (GHGs) emissions in 2050 compared to 1990 levels.

**Carbon budgets**

The Act requires that we cap GHG emissions over successive 5 year periods.

**Scrutiny**

The Act established an independent Committee on Climate Change (CCC).

Figure 3: UK carbon budgets and 2050 target

Source: UK legislation, BEIS
The Clean Growth Strategy (2017) set out policies and proposals across different parts of the UK economy.

**Business and industry efficiency**
Package of measures to improve business energy efficiency by at least 20% by 2030 – cutting costs and improving productivity.

**Improving our homes**
Households to benefit from lower bills and warmer homes with aspiration for as many homes as possible to be EPC Band C by 2035.

**Low carbon transport**
End the sale of new conventional petrol and diesel cars and vans by 2040.

- £1 billion to support the take-up of ultra low emission vehicles.

**Clean, smart, flexible power**
Investing in renewables such as offshore wind, with up to half a billion pounds for further auctions.

- Phasing out use of unabated coal to produce electricity by 2025.

**Enhancing our natural resources**
Future system of agricultural support to focus on delivering better environmental outcomes, including addressing climate change more directly.

**Leading in the public sector**
Introduce a voluntary public sector target of 30% reduction in carbon emissions by 2021.
• A long term plan to **boost productivity** and **earning power** of people throughout the UK

• We are building a Britain **fit for the future** – helping businesses create better, higher-paying jobs in every part of the UK with investment in the skills, industries and infrastructure of the future

• By planning for a rapidly changing future, we can shape new markets and build the UK's **competitive advantage** as well as improve the quality of our everyday lives.
Industrial Strategy Purpose

To boost productivity by backing businesses to create good jobs and increase the earning power of people throughout the UK with investment in skills, industries and infrastructure.

By:

• **Strengthening the foundations** by encouraging innovation, developing high quality jobs and supporting businesses throughout the UK to thrive and grow.

• **Taking on Grand Challenges** – the society-changing opportunities and industries of the future where we can build on strengths and lead the world.

• **Building long-term strategic partnerships** with businesses through Sector Deals between government and industry.
Foundations

We will focus on five foundations of productivity:

1. **Ideas**
   - the world’s most innovative economy
   - Raise total R&D investment to 2.4 per cent of GDP by 2027
   - Increase the rate of R&D tax credit to 12 per cent
   - £725m in new Industrial Strategy Challenge fund programmes

2. **People**
   - good jobs and greater earning power for all
   - Technical education system rivalling the world’s best
   - £406m in maths, digital and technical education
   - New National Retraining scheme

3. **Infrastructure**
   - a major upgrade to the UK’s infrastructure
   - Increase National Productivity Investment Fund to £31bn
   - £500m further investment in electric vehicles
   - Over £1bn+ investment in digital infrastructure

4. **Business environment**
   - the best place to start and grow a business
   - Launch and roll out Sector Deals
   - Drive over £20bn investment in innovative and high potential businesses, including a new £2.5bn Investment Fund
   - Review how to improve the productivity of small businesses

5. **Places**
   - prosperous communities across the UK
   - Agree Local Industrial Strategies building on local strengths
   - New £1.7bn Transforming Cities fund for intra-city transport
   - Provide £42m to pilot a Teacher Development premium
### The Ideas Foundation in Detail

#### Some key policies

**Addressing underinvestment in R&D**
- Increasing investment to 2.4% of UK GDP by 2027, and 3% in longer term
- New Strategic Priorities Fund to support inter- and multi-disciplinary research
- Investing over £300m in world-class talent
- Increasing rate of R&D tax credit to 12%

**Improving our ability to turn our ideas into commercial products and services; and capturing their value**
- Over £1.7bn investment in strategic innovation challenges
- ‘Knowledge Exchange Framework’ to benchmark universities’ knowledge sharing and commercialisation
- Reforming Research Excellence Framework to increase impact weighting.
- Increasing funding that supports universities and businesses in innovating to £250m per year
- Continued support for Catapult network

**Building research and innovation excellence across the country**
- New Strength in Places Fund to help local areas build on innovation strengths
- Expectation that publicly-funded laboratories support local economic growth
- Mapping UK innovation infrastructure assets
- Strong link to Local Industrial Strategies, building on findings of Science Innovation Audits.

**Ensuring the UK remains a world leader in global science and international collaboration**
- Publishing a new International Science and Innovation Strategy
- Launching a Fund for International Collaboration.
- Rutherford Fund supporting fellowships for researchers
- Doubled number of available visas for top researcher talent.
- Pioneering new collaborations with countries e.g. USA, China, Israel
- Commitment to research collaboration with developing countries and leadership of wider global initiatives.

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**Strengths**
- Global leader in science and research
- Home to 3 of top 10 universities
- Rated an ‘innovation leader’ in European Innovation Scoreboard
- Produce and attract some of the top talent and high levels of internationally mobile R&D

**Challenges**
- Addressing underinvestment in R&D
- Improving our ability to turn our ideas into commercial products and services; and capturing their value

**Global leader in science and research**
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We must also adopt Grand Challenges to plan for a rapidly changing future.

**Key criteria**
- Is it a complex coordination challenge?
- Is it a global market megatrend?
- Is it relevant to society?
- Does it build on existing UK strengths?
- Is it relevant to UK businesses and productivity?

**The four Grand Challenges**

**Growing the AI & Data-driven Economy**
We will put the UK at the forefront of the artificial intelligence (AI) and data revolution

**Clean growth**
We will maximise the advantages for UK industry from the global shift to clean growth

**Ageing society**
We will harness the power of innovation to help meet the needs of an ageing society

**The Future of Mobility**
We will become a world leader in the way people, goods and services move

**The first missions**

**Mission**
Use data, Artificial Intelligence and innovation to transform the prevention, early diagnosis and treatment of chronic diseases by 2030

**Mission**
At least halve the energy use of new buildings by 2030

**Mission**
Ensure that people can enjoy at least 5 extra healthy, independent years of life by 2035, while narrowing the gap between the experience of the richest and poorest

**Mission**
Put the UK at the forefront of the design and manufacturing of zero emission vehicles, with all new cars and vans effectively zero emission by 2040
Life Sciences
- Ensures new pioneering treatments and medical technologies are produced in the UK,
- £1.1bn investment from private and charitable sectors

Automotive
- Ensures that the UK continues to benefit from the transition to ultra-low and zero-emission vehicles by building an agile, innovative and cost competitive supply chain

Creative
- £150m across the lifecycle of creative businesses
- Invests in creative clusters, technologies, and skills to unlock growth for creative businesses

Artificial Intelligence
- Establishing the UK’s position as a leader in developing AI technologies
- Actions to increase data availability and developing high-level skills

Future Sector Deals: We are currently prioritising all proposals based on a rigorous, objective, analytical assessment. We will announce a number of Sectors that we are proceeding into negotiations with in the coming weeks, with a view to finalising further deals over the course of 2018.

Nuclear
- £200m to drive down cost of nuclear energy
- 30% reduction in the cost of new builds by 2030
- Establishing a framework for the development of small modular reactors

Construction
- 420 million of investment to transform construction with new digital and offsite manufacturing technologies
- Cheaper energy bills for families and businesses
The aim of the Clean Growth Grand Challenge is to maximise the advantages for UK industry of the global shift to clean growth, through leading the world in the development, manufacture and use of low carbon technologies, systems and services that cost less than high carbon alternatives.

High confidence in shift to clean energy & global markets

Acute decarbonisation challenges

Over 86% of the world's investment in power generation over the next 30 years will be in low carbon sources.

Electric vehicles could make up over 50% of global car sales by 2040; up from 1% today.
The first Clean Growth Grand Challenge mission was announced by the Prime Minister in May 2018. Through this mission we will:

- Make sure every new building in Britain is high quality, much more efficient and no longer uses high carbon heating
- Make it cheaper to build new, low energy buildings
- Drive lower carbon, lower cost construction through innovative techniques
- Give consumers more control over how they use energy through smart technologies
- Halve the cost of renovating existing buildings to a similar standard as new buildings