

# Energy Efficiency

How much will policy / technology cut demand?

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WHAT WE DO



## INFORM

Translating legislative/policy commitments and organisations aspirations into practical operational strategies

## INCUBATE

Developing affordable energy efficiency and energy conservation technologies



## INVEST

Qualifying projects to connect investment with financial value creation balanced with high environmental and social performance

## ACCELERATE

Deploying new business models that address the business opportunity created by the need for energy efficiency

## The perfect storm

6 factors coming together:

- Policy
- Economics
- Finance
- Technology
- Business model
- Market infrastructure

will significantly accelerate uptake of efficiency and seriously dent demand

## **“Clean Energy for all Europeans” Winter Package proposed:**

### Revised Energy Efficiency Directive

- 30% binding energy efficiency target for 2030

### Revised Directive on Energy Performance of Buildings

#### **In place:**

- All new buildings to be Near Zero Energy by 2020
- Minimum Energy Efficiency Standards (MEES)
- Mandated energy audits every 4 years for large users
- 45 million smart gas meters by 2020
- Annual reduction of 1.5% in sales of utilities
- Project Development Assistance

## **Energy Efficiency is the cheapest source of energy services**

Data from > 7,500 projects across EU show:

Cost of EE in buildings - 2.5 € cent/kWh

Cost of EE in industry - 1.2 € cent /kWh

Plus multiple benefits e.g. asset value, productivity, health

Source: EEFIG Derisking Energy Efficiency Platform

The background of the slide is a close-up, slightly blurred image of several US 50 dollar bills. The bills are arranged in a grid-like pattern, with the portrait of Abraham Lincoln and the number '50' clearly visible. The lighting is soft, and the colors are muted, giving it a professional and financial feel.

## Finance is lining up to invest in energy efficiency

Growing interest and commitment from investor groups such as Institutional Investors Group on Climate Change (130 members, €18 trillion AUM)

>140 banks signed commitments to increasing capital deployment into energy efficiency

Scale of opportunity has been recognised

Now working to reduce the barriers

## Technology

It is not just LEDs that are getting cheaper

Smart controls

Prefabrication technologies being applied to building retrofit

Energiesprong:

- Net Zero energy
- Never pay an energy bill again
- Complete retrofit in a week or less



## New business models are needed and are emerging

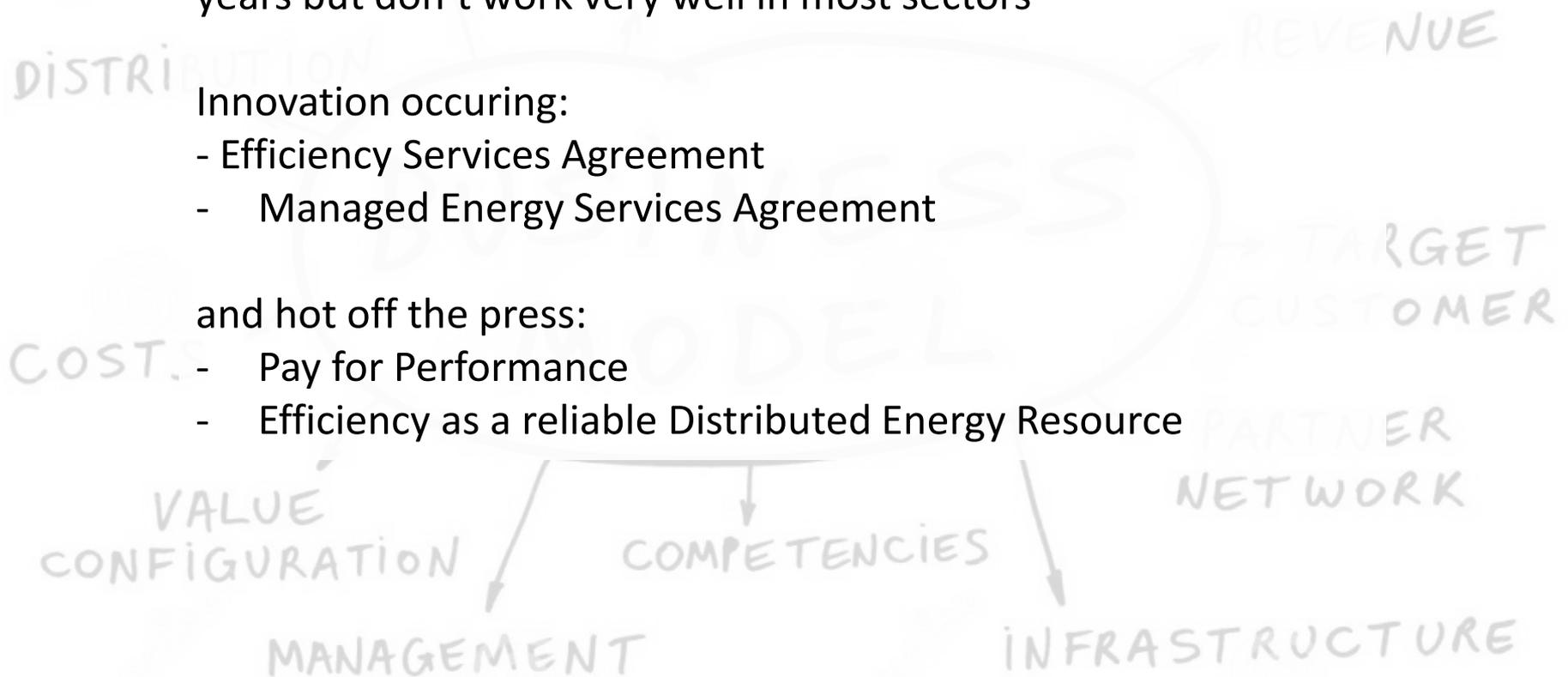
Energy Performance Contracts have been the standard for many years but don't work very well in most sectors

Innovation occurring:

- Efficiency Services Agreement
- Managed Energy Services Agreement

and hot off the press:

- Pay for Performance
- Efficiency as a reliable Distributed Energy Resource





## Standardisation

Energy efficiency projects are not standardised which creates:

- Uncertainty over outcome
- Increased performance risk
- Reduce demand
- Difficult to build systems to scale
- Difficult to aggregate

Now being addressed through the Investor Confidence Project **Investor Ready Energy Efficiency<sup>SM</sup>** system which is being adopted throughout the US and across Europe

# Decoupling

How far can it go?

Economic output  
Resource use

## No decoupling

Resource use grows at least as rapidly as economic output

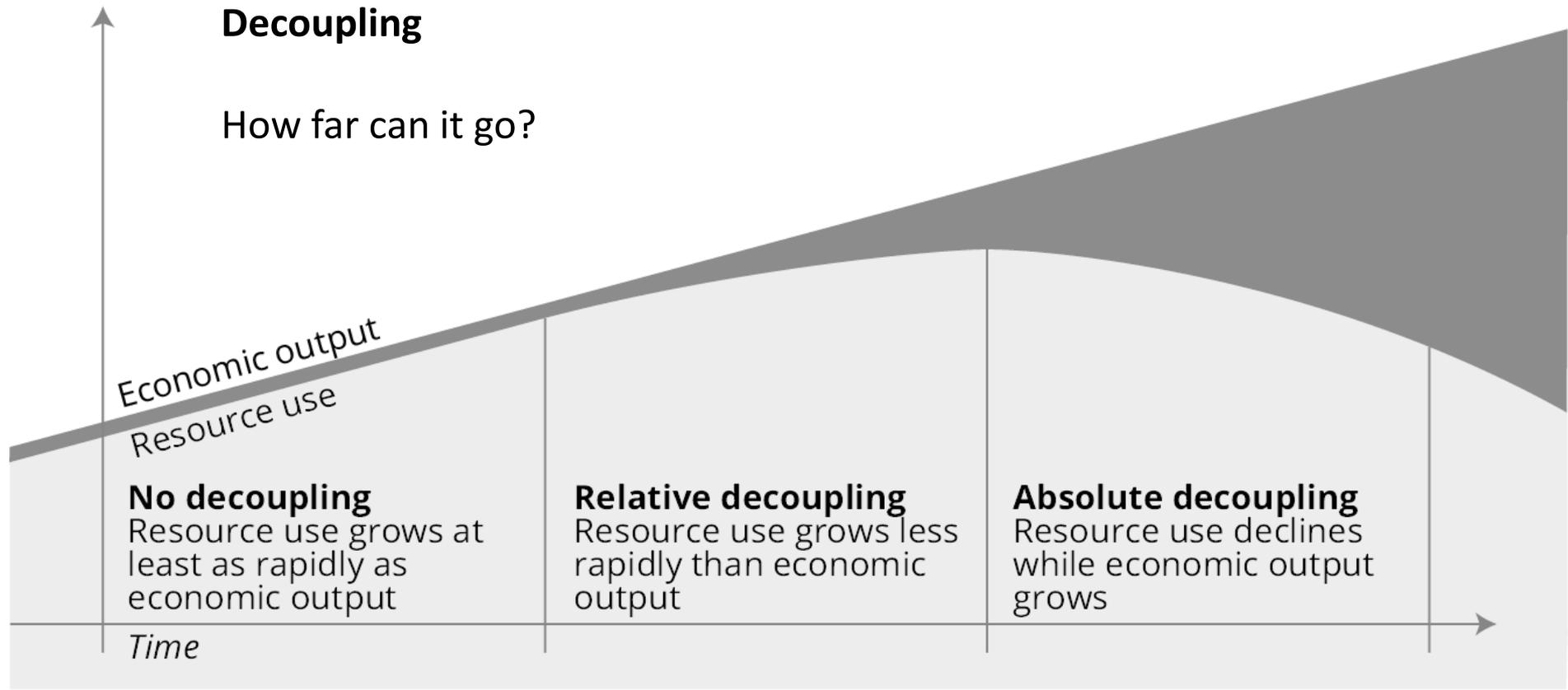
## Relative decoupling

Resource use grows less rapidly than economic output

## Absolute decoupling

Resource use declines while economic output grows

Time



# A LOW ENERGY STRATEGY FOR THE UNITED KINGDOM

## A lesson from history

1976: "Energy strategy: the road not taken" by Amory Lovins

1979: "A Low Energy Strategy for the UK" by Gerald Leach

CHRISTOPHER LEWIS    FREDERIC ROMIG

ARIANE VAN BUREN    GERALD FOLEY

Both considered wildly optimistic or pure fantasy

Both widely panned by the energy industry and government

History shows both turned out to be far more accurate than any official government or energy industry forecast

**We are living in a low energy future**

**We achieved it without really trying**

THE INTERNATIONAL INSTITUTE  
FOR THE ENVIRONMENT AND DEVELOPMENT

SCIENCE REVIEWS

**How much will technology / policy / economics / finance and  
business models reduce demand?**

**More than you think.**

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