Potential opportunities for actuaries

1. Parametric insurance
2. Climate change adaptation
3. Traditional non-life insurance
4. Green finance
The challenge

The world needs to make a dramatic change to a low-carbon economy

Global investment required to achieve transitions to
- low-carbon transport
- low-carbon energy
- low-carbon buildings

= $1 trillion a year above BAU (IEA)

That means institutional investors and the wholesale markets

The funds are there

Global bond traders managing over $105 trillion in 2010

72% held by pension funds, mutual funds, insurance funds and sovereign wealth funds

Over $6 trillion new bonds issuance in 2010

The issue is not creating new capital but shifting a relatively small % of global wealth
Bonds are ideal for renewables

High capital cost, stable returns, minimal running cost over 20-30 years

Scary end-of-life exposure

Running cost risks

Issuance to date

$12 billion + PACE

Build America Bonds ($13bn?)

Only 5% retail, mostly Japan
1. Assure investors (and governments) that investments are for climate change solutions
2. Make it easy for Investors and Governments to preference climate-related debt
3. A large pool = liquidity by mixing energy, transport, water, etc

An *environmental*, not a financial standard. Investors still have to do financial due-diligence.

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Getting to investment grade

Regulatory: e.g. de-risking EE investment in UK and Australia
Insurance: e.g. MIGA / political risk in Europe
Partial guarantees: e.g. Euro 2020 Project Bonds
Purchasing agreements: e.g. feed-in tariffs, capacity contracts (Brazil 40% saving)
Innovative revenue capture: e.g. Rio Olympics & ecosystem services
**Example: residential energy efficiency**

- UK government GHG emissions targets – (34% by 2020 and 80% by 2050)
- Housing stock responsible 25% of carbon emissions (buildings 40% in total)
- Abatement cost curve – easiest wins
- Energy security – reduce need to import fossil fuels
- Pays for itself & improves economic efficiency
- Relatively good risk – established technology
- Creates large scale employment opportunities
- Government support – Green Deal legislation

**Local Authority Operating model**

[Diagram showing the flow of finance, payments, and other related entities involved in the Local Authority Operating model.]
How LEEP package fits market requirements

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<td>Complement investment portfolio</td>
<td>Appropriately structured re-finance package</td>
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Rationale vs appetite

Rationale
- Long dated
- Good for LDI
- Inflation linked
- Attractive yields
- Government policy backed

Appetite
- Unknown product
- Government policy uncertainty
- Alternatives exist
- Holdings of long dated and inflation linked bonds are low