

# Policy and Finance: Update on Green Deal, Feed-in Tariff and the Renewable Heat Incentive

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# Financing sustainable retrofit: Green Deal, FIT, RHI

- Feed-in Tariff
- Renewable Heat Incentive
- Green Deal and Energy Company Obligation

# Feed-in Tariff

- Payment for electricity generation from renewable energy technologies
- Payment for all electricity generated whether you use it or not
- Additional payment for any electricity that you export (~3p/kWh)
- Tariff paid for between 10 and 25 years and is index linked

# Technologies that earn the Feed-in Tariff

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# Feed-in Tariffs

Technology	Current tariff	New tariff
Solar photovoltaic panels	8.5p-43.3p/kWh	21p/kWh
Anaerobic digestion	9.4-14p/kWh	-
Hydro	4.7-20.9p/kWh	-
Wind	4.7-36.2p/kWh	-

- FIT Solar Review still being challenged
- Since the FIT review PV prices have dropped ~20%
- New solar PV tariffs: ~10 year payback

# Renewable Heat Incentive

- Proposed payment for heat generated by renewable energy technologies
- Started in November for non-domestic
  - Applies to all installations from July 2009
- Will open for domestic in 2012 (probably October)

# Technologies that can earn the Renewable Heat Incentive

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# Renewable Heat Incentive

Technology	Non-domestic tariff
Biomass heating	1-8p/kWh
Heat pumps and geothermal	3.2-4.5p/kWh
Solar thermal	8.5p/kWh

- Tiers operate for biomass
- Tariffs paid for 20 years and are index linked
- Tariffs unknown for domestic installations
- Expected to be open for new applications until 2020

# The Green Deal – Key principles

- Accredited advice and installation
- Retrofit – no upfront cost
- Retrofit paid with a loan taken out against your property
- Loan repaid from energy bill savings
- The loan remains with the property

# The Green Deal Customer Journey

Marketing



Assessment



Finance



Installation



Follow-up

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# The Golden Rule



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# Energy Company Obligation

- Some measures have long payback periods:
  - Energy Company Obligation (ECO) will be used as a top-up
  - Consumers will be offered a seamless package of Green Deal, ECO, FIT & RHI
- ECO also for the fuel poor



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# A Green Deal Pilot: Pay As You Save in Sutton



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# Pay As You Save

- Pilot for the Green Deal Principle
- 2009: Launched by Department for Energy and Climate Change
- Sutton 1 of 5 pilots



**Helping to inform the Green Deal:**  
green shoots from Pay As You Save

*Sutton pilot results and evaluation report*

August 2011

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# Sutton PAYS Pilot

## Partners:

- B&Q
- LB Sutton
- BioRegional

## Criteria

- 40% grant + 60% interest free loan
- Owner occupiers
- Residents of LB Sutton
- At least one measure
- Land charge on the property



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Household demand through website or shop



Screening on  
1. House criteria  
2. Credit check



Energy audit and report



Proposal to householder with costs and savings



PAYS work implemented



Householder signs agreement



Monitor and feedback



PAYS work signed-off  
Warranty pack  
Energy tips

# Sutton PAYS Pilot

- 126 householders responded to publicity & received a home energy audit
- 67 homes were eventually retrofitted
  - 43 end terrace or semi
  - 14 detached
  - 10 mid terrace



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# Sutton PAYS pilot

11 energy efficiency measures + solar PV

Most appropriate measures recommended

But decision was up to customer

Most popular measures:

- Boiler upgrade (75%),
- Loft insulation (73%),
- Solid wall insulation (73%),
- Draught proofing (72%),
- Heating controls & double-glazing (50+%)

Of interest:

- Cavity wall only 4%
- Asbestos in 5 houses, a third needed survey



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# Golden Rule

- Average spend £13, 000 but wide-range (£2.4k to £33k)
- Loan duration & Golden Rule:
  - 28% chose 10-year repayment
    - ~1/4 met the Golden Rule & 3/4 had repayments on average £256 higher than fuel savings
  - 72% chose 25-year repayment
    - ~3/4 met the Golden Rule
- Predicted average CO<sub>2</sub> savings of 26%, ranging from 6% to 52%

# Sutton PAYS pilot: Home owner survey

## Why some didn't proceed

- Financial savings not enough
- Double glazing not available
- Internal insulation too disruptive
- Planning to move soon



## For those that went ahead – hopes & fears

- Trusted scheme because of involvement of LB Sutton
- Third party carrying out the work (didn't want to DIY)
- Estimates of future energy savings must be accurate
- Comfort in the home
- Repayment spread over time

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# Sutton PAYS Pilot – Lessons for the Green Deal

- Precise specification
- Wide product range needed
- Attention needed to design and detailing
- Ensure good communication between partners and with homeowners
- Delays likely
- Significant administration costs



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# Looking forward to the Green Deal

- Partnerships
  - Local authorities
  - Community groups
  - Charities
- Interest rates need to be right
- Flexible finance needed
- It's not just about financial savings
- Behaviour change



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# One Planet House: A Sustainable Retrofit



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# Retrofit for the Future in Sutton

- Technology Strategy Board funded project
- Objectives:
  - Trial a One Planet Retrofit
  - Understand effect of behaviour change vs. retrofit
- 3 homes on the same estate:
  1. One Planet approach
  2. Decent Homes
  3. No work undertaken
- Tenants in all homes engaged in One Planet Living behaviour change programme



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# One planet measures

- **Zero carbon:** 80% reduction in energy demand
- **Zero waste:** 80% diversion from landfill, recycling bins provided
- **Sustainable transport:** Cycle storage, local workforce, UK materials
- **Sustainable Materials:** Low embodied energy materials (50% embodied energy of standard retrofit)
- **Local and Sustainable Food:** Providing space and advice on food growing

# One planet measures

- **Sustainable water:** Sanitary ware to reduce water consumption, water butt and water meter
- **Land use and wildlife:** Wildlife garden planting, bird box and bird table
- **Culture and heritage:** Workshops talk about local area
- **Equity and local economy:** Local contractors and suppliers, training programme for contractors
- **Health and happiness:** Low VOC paints, getting to know their neighbours

# Key lessons

- Retrofit:
  - Commissioning and handover is critical
  - Extremely clear specification essential
  - Internal wall insulation – costly, messy
  - Need to include residents at all stages
- Behaviour change programme:
  - Make it fun
  - Residents unaware of how they waste energy
  - Need continual reminders to ingrain habits
  - Linking to other OPL principles makes it easier



# Re-skilling to Retrofit

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# Business Opportunity

- To meet 2050 carbon targets need to retrofit 11,000 homes per week for the next 40 years
- Potential for 250,000 jobs
- Industry worth £15 billion by the end of this decade

# New ways of working for construction industry

- Greater attention to detail
  - Air tightness
  - Thermal bridging
- Better project management:
  - Consider order of work
  - Greater quality assurance
  - Improved evaluation
  - Customer interaction

# Training for the whole industry

- Training needed for everyone not just Green Deal Qualified installers
- Builders need to identify opportunities for Green Deal
- Trades people need to work in a Green Deal environment
- Remove barriers for interdisciplinary working

# Green Deal Code of Practice

- Green Deal Code of Practice
  - Minimum standards for all Green Deal participants
  - Applies to Representative bodies (accreditation, registration)
  - Developed with British Standards and UKAS
  - Also applies to Energy Company Obligation practitioners

# Green Deal Certification

- Green Deal Assessors
  - National Occupational Standards in Development
  - Qualified – training programme
  - Registered member of and certified by certification body
  - Builds on the Energy Assessor training
- Assessors should also provide behaviour change advice

# Green Deal Installers

- Green Deal Installers
  - Green Deal Quality Mark
  - Strict accreditation and quality standards
  - New national occupational standards
  - New installer standard
- Training hubs
- 1,000 Green Deal apprenticeships

# Microgeneration Certification Scheme

- Certification for all small renewable energy technologies
- Feed-in Tariff and Renewable Heat Incentive requires MCS accredited installers and products
- Similar to the gas safe register
- For products and installers

# Ways to deliver community scale retrofit

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# Private Sector Green Deal delivery models

- All in one Green Deal Provider:
  - Assessments, installation & finance in-house
- Big company with smaller assessors and installers
  - Big company, e.g. Marks and Spencer markets scheme
  - Contracts out work to smaller companies
- SME markets Green Deal through existing business, finance provided by “warehouse”
  - Finance provider is Green Deal provider for SMEs
  - SMEs do assessment and installation

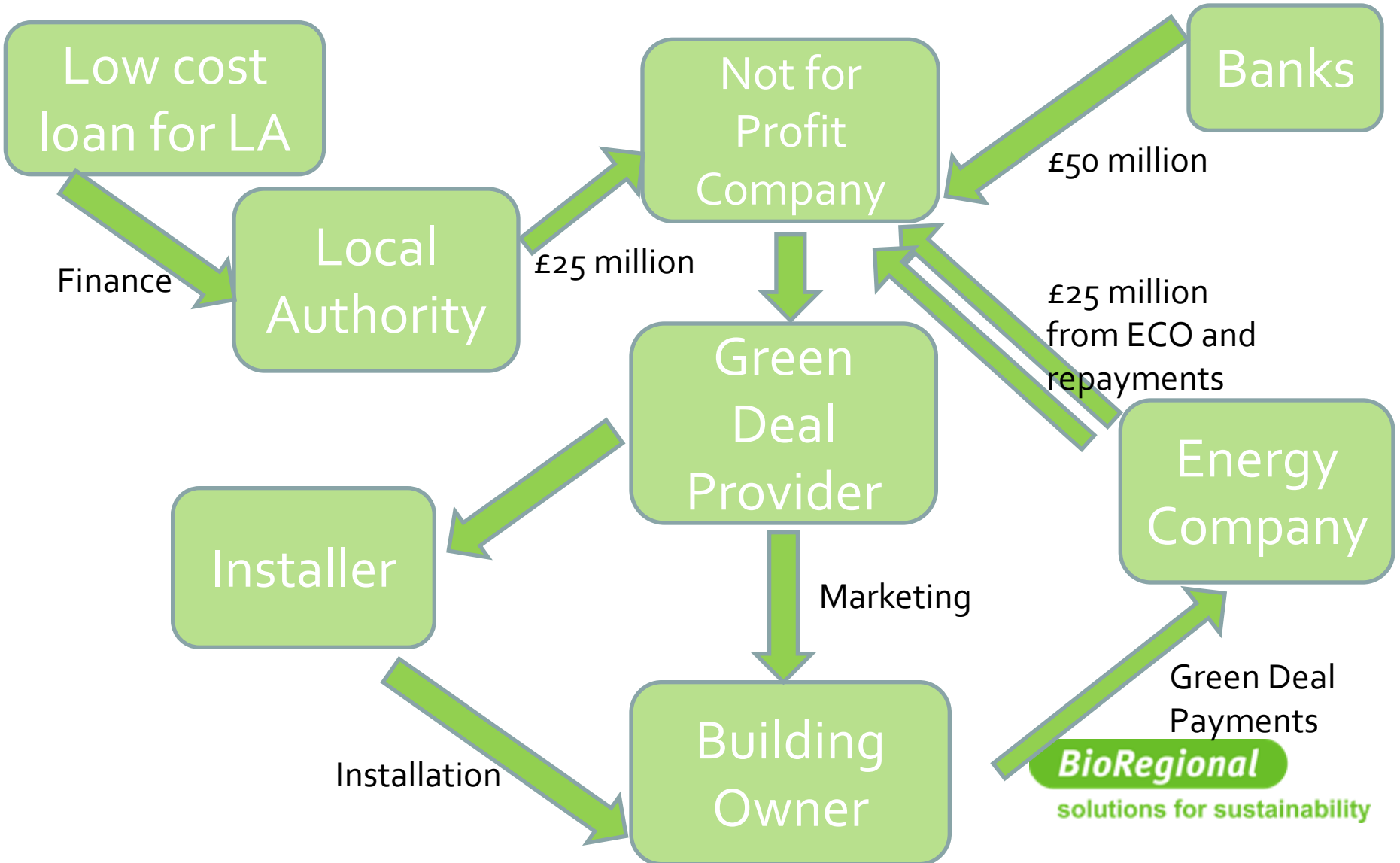
# Delivering community scale retrofit

- **Benefits:**
  - Higher take-up
  - Lower costs
- **Kirklees Warm Zone**
  - ~130,000 energy audits
  - ~50,000 loft installations
  - ~20,000 cavity wall installations
- **Reasons for success**
  - Partnership approach
  - Ward by ward approach
  - Cross party political support

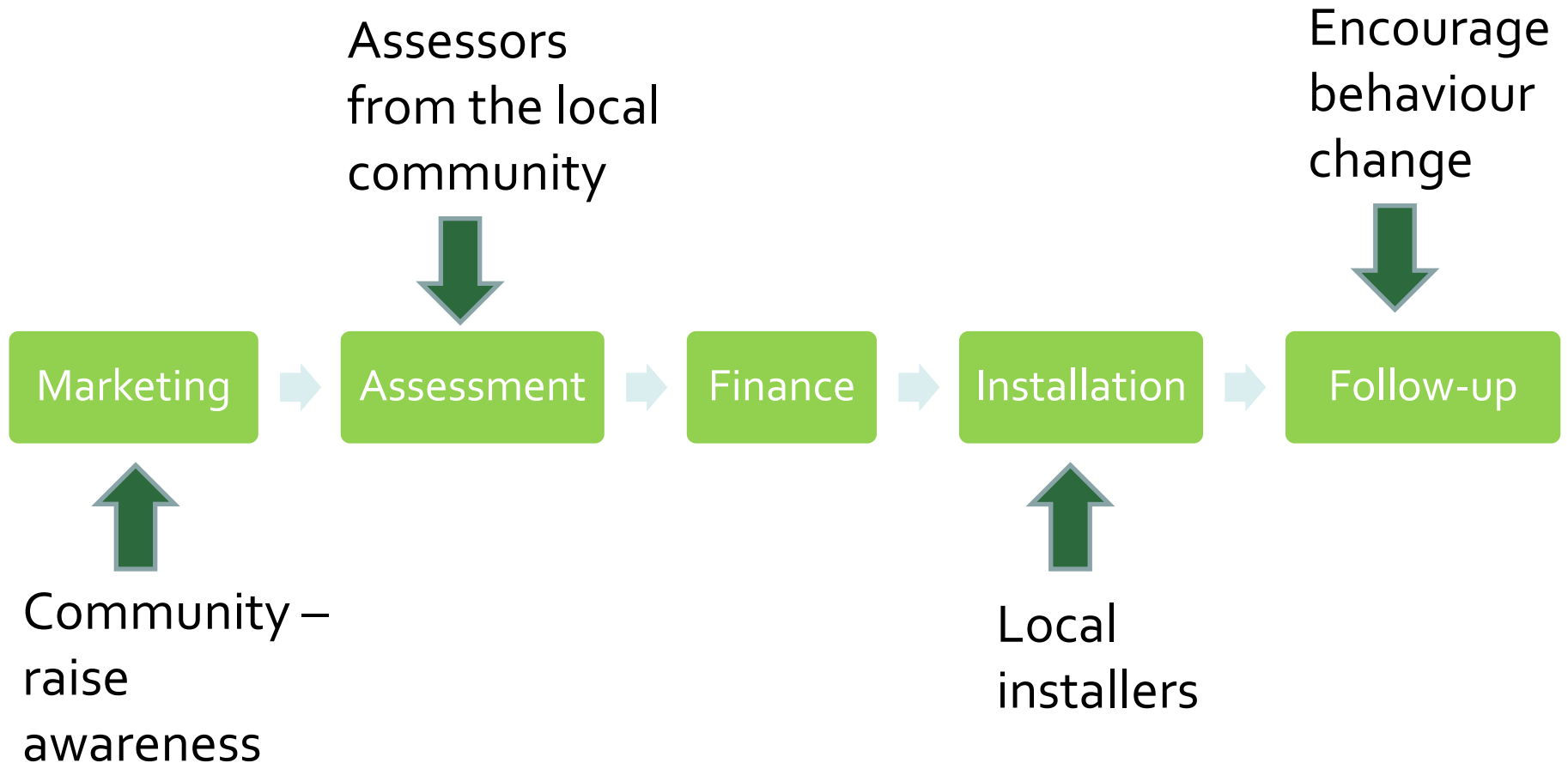
# Birmingham Energy Savers

- Trialling a mass roll out of Green Deal
- 10,000 properties
- Green Deal Provider contracted to:
  - Market Green Deal
  - Arrange installation
  - Ensure quality, local jobs and wider sustainability objectives met

# A model for area based Green Deal roll out



# Role for community groups in the Green Deal



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# LEAF - Redhill

- Community Leadership
- Removing barriers
- Easier to roll-out street by street
- More money for actual measures