

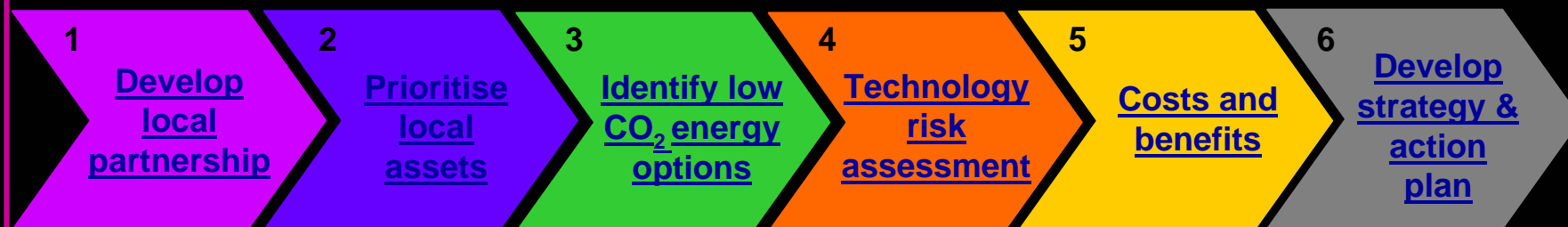


6th Framework Programme



LETIT - Local New
Energy Technology
Implementation

Community involvement in strategy development



Why ?

Merton Council has set a
target of cutting CO₂
emissions by 15% by 2015

How will we do this...??

1. Combat climate change
2. Fuel poverty
3. Lower local business costs
4. Save money for Merton Council
5. Raise awareness

Step 1 Identify stakeholders & local needs ₁

Merton Environment & Safety Forum

- Residents associations
- Community groups and Charities
- “Green” groups - *Friends of the Earth*
- Professionals - *engineers, architects, consultants*
- Agencies & energy companies - *Environment Agency*
- Merton Council officers
- Local politicians - *all Parties*
- London and Academic partners



Step 1 Identify stakeholders & local needs ₂



Dissemination and Replication

LONDON

London Regional Government (GLA)

“London Energy Partnership” & “London Climate Change Agency”

Merton is the pilot London “Energy Action Area”

Academic partners

- Oxford University
- Worcester Polytechnic Institute – Mass
- Massachusetts Institute of Technology
- Venice University
- University College London

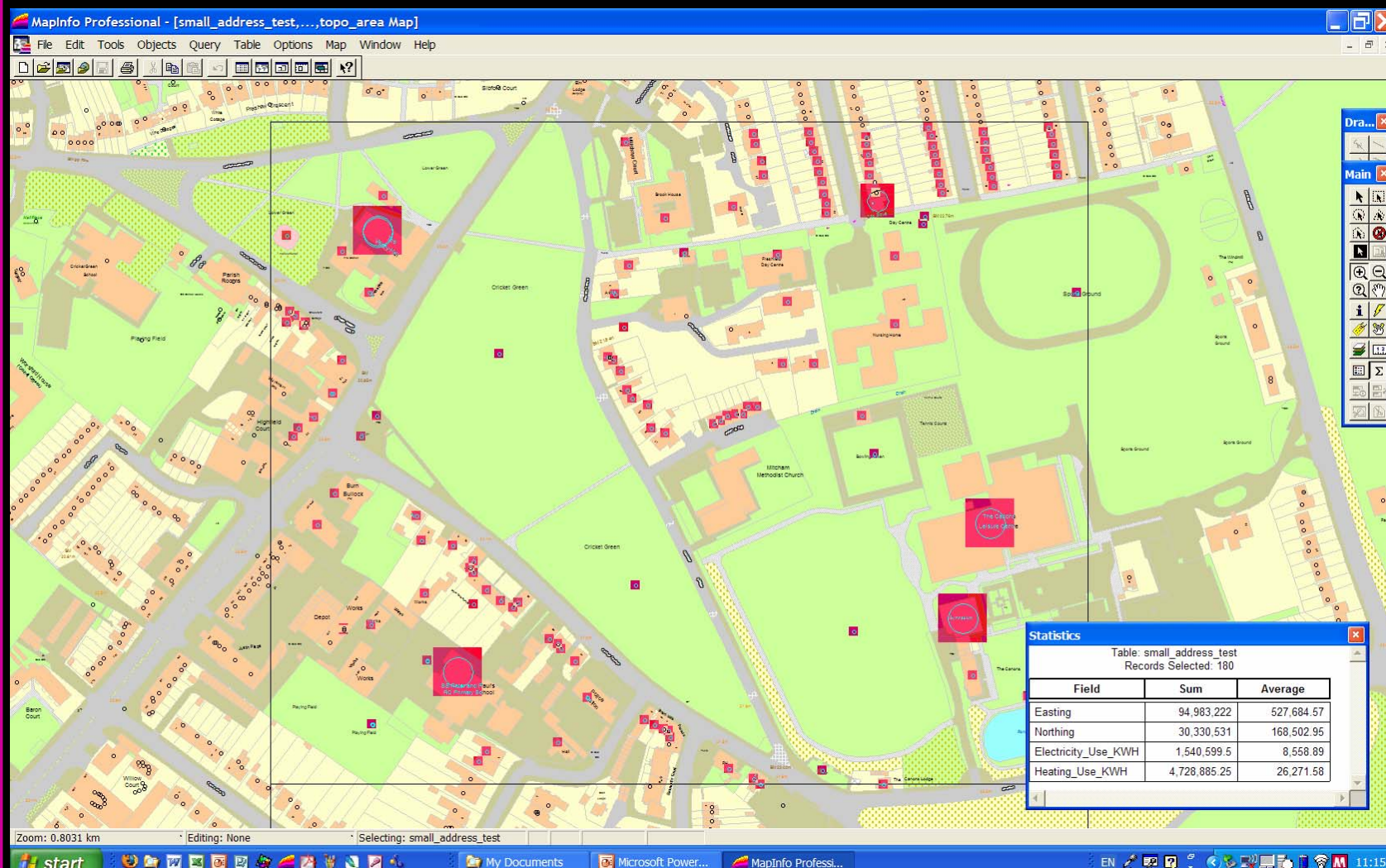


Step 2 Identify and prioritize assets ₁

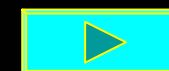
Activity assets	
CO ₂ emissions	Influence
Industry and Manufacturing	Low
Food / Lifestyles	Low
Transport	Medium
Waste Management	Medium
Buildings and Energy	High



Step 2 Identify and prioritize assets ₂



Merton Town Centre



Step 2 Identify and prioritize assets ₃

Energy assets	Value
Geothermal	Zero
Hydro	Zero
Large scale wind	Low
Solar Photovoltaic (PV)	Medium
Solar water heating	Medium
Small scale wind	Medium
Fuel assets	Value
Agricultural crops	Zero
Landfill gas	Low
Sewerage gas	Low
Wood	Medium
Domestic and municipal biomass	High



Step 3 Identify low CO₂ energy options ₁

Combined Heat and Power - renewable energy – Hydrogen fuel cell



Step 3 Identify low CO₂ energy options ₂



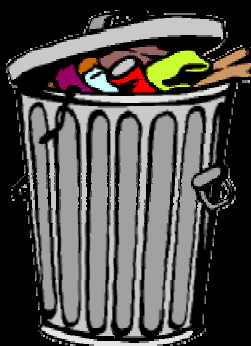
Anaerobic digestion



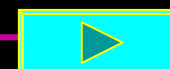
Bio-gas energy



Pyrolysis



Bio-gas energy

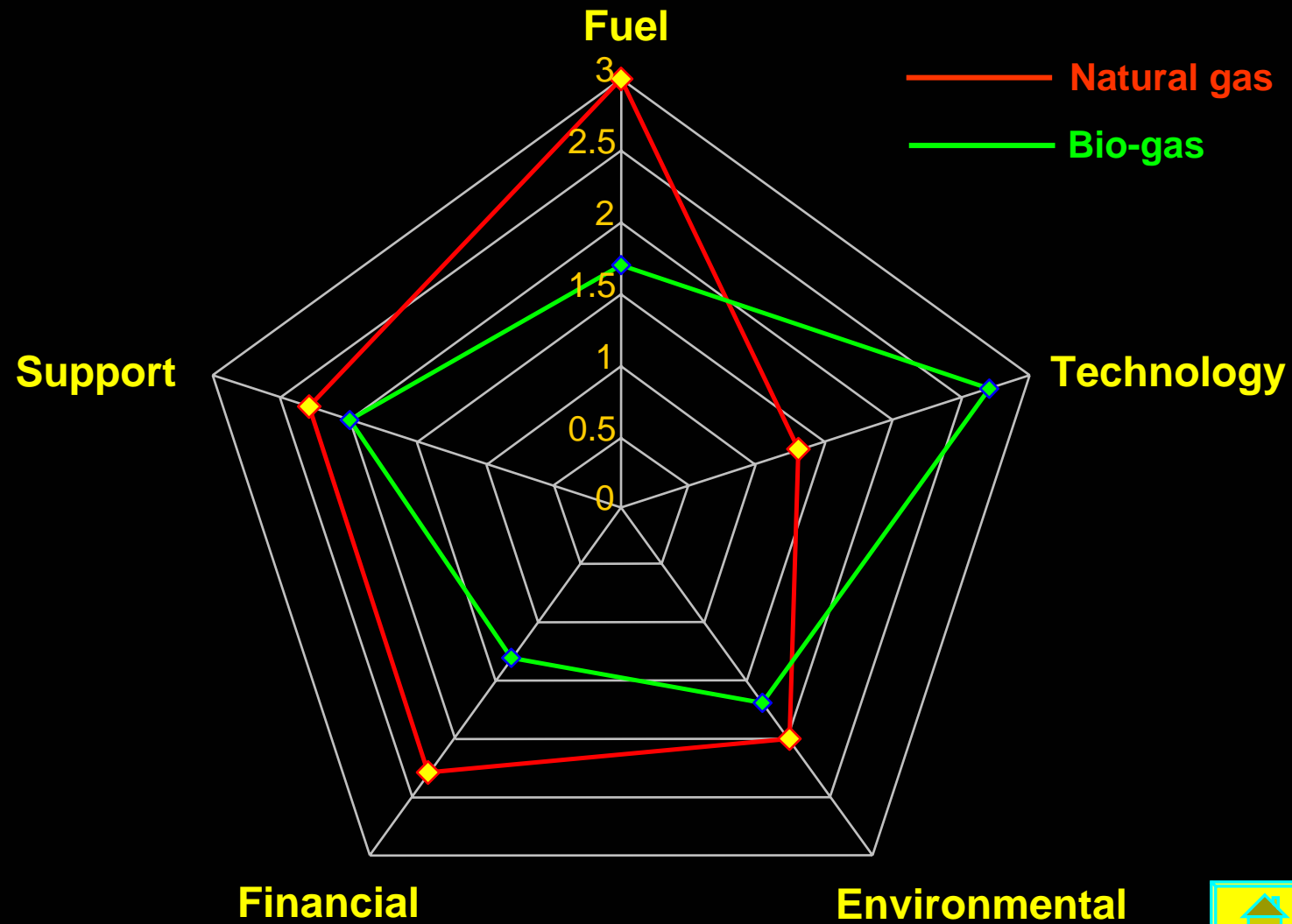


Step 4 Technology risk assessment ¹

Risk perceived by local municipality										
1= Negligible. 2 = Low. 3: Needs attention. 4 = Problem but resolvable. 5 = Irresolvable.										
COMBINED HEAT & POWER	Fuel	mark	Technical	mark	Environmental	mark	Finance	mark	Support	mark
Natural gas	Availability	4	Machinery	1	CO ₂ emissions	3	Investment	2	Corporate	2
	Supply	4	Operation	2	Biodiversity	1	Fuel costs	4	Political	2
	Storage	1	Reliability	1	Safety	2	Operating	1	Public	3
		3.0		1.3		2.0		2.3		2.3
Pyrolysis & Anaerobic Digestion Bio-gas	Availability	1	Machinery	3	CO ₂ emissions	1	Investment	2	Corporate	1
	Supply	1	Operation	2	Biodiversity	1	Fuel costs	1	Political	1
	Storage	3	Reliability	3	Safety	3	Operating	1	Public	4
		1.7		2.7		1.7		1.3		2.0



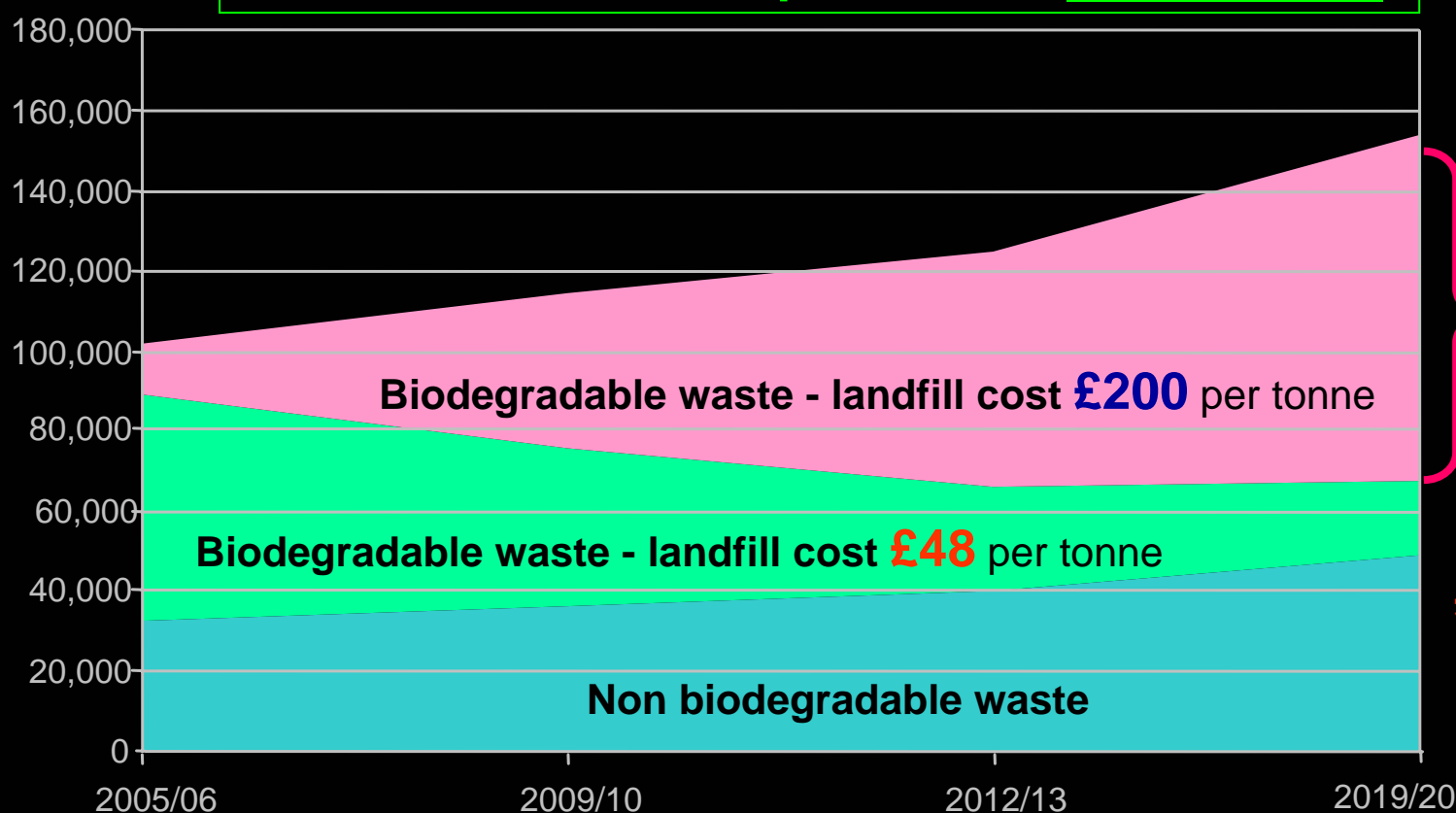
Step 4 Technology risk assessment ₂



Step 5 Examine costs and benefits

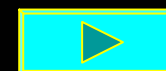


Domestic and municipal waste – landfill costs



85,000
tonnes
@
£200 pt

=
£17,000,000



Step 5 Examine costs and benefits ₂

Microsoft Access - [CHP Comparison]

File Edit View Insert Format Records Tools Window Help

Details of CHP Area:

Electricity Demand: kWh / yr

Heat Demand: kWh / yr

Options:

☒ Use multiple CHP tabs to compare CHP units

☐ Use multiple CHP tabs to calculate costs of using multiple CHP units for this area

Variables 1 CHP 2 CHPs 3 CHPs 4 CHPs 5 CHPs 6 CHPs

Company:
 Type:
 Fuel:

Available Options:

Clarke-Ener	JMS312GS-NL	Gas Engine
Clarke-Ener	JMS312GS-NL	Gas Engine
Cogenco	CGC-380-L-NGUK-54	Gas Engine
ENER-G	E375	Gas Engine
AirCogen	Nimbus 309L	Gas Engine
Clarke-Ener	JMS208GS-NL	Gas Engine
Clarke-Ener	CGC-380-L-NGUK-54	Gas Engine

☐ Display CHPs which are not within range of Electricity/Heat demand as well

General Data Detail Data Costs Cost Analysis Energy Analysis

1 Year 3 Year 5 Year 10 Year 15 Year 20 Year

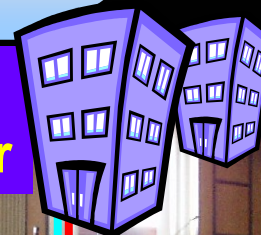
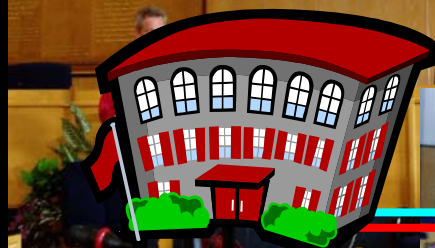
* Includes Inflation and Fuel Increases.

Fuel Cost (per kWh)	Total Annual Fuel Cost	Total Profit
<input type="text" value="£0.03"/>	<input type="text" value="£172,003.00"/>	<input type="text" value="£111,250.00"/>
Annual Efficiency Loss (in kWh)	Annual Efficiency Loss Cost	Total Energy Cost / kWh
<input type="text" value="956862"/>	<input type="text" value="£24,424.00"/>	<input type="text" value="£0.04"/>
Annual Electrical Load Loss (in kWh)	Annual Electrical Load Loss Cost	Annual Profit
<input type="text" value="487433"/>	<input type="text" value="£12,442.00"/>	<input type="text" value="£70,483.00"/>
Annual Heat Load Loss (in kWh)	Annual Heat Load Loss Cost	
<input type="text" value="0"/>	<input type="text" value="£0.00"/>	

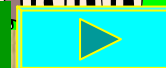
Step 6

Develop a strategy

Bio-gas District Heat and Power



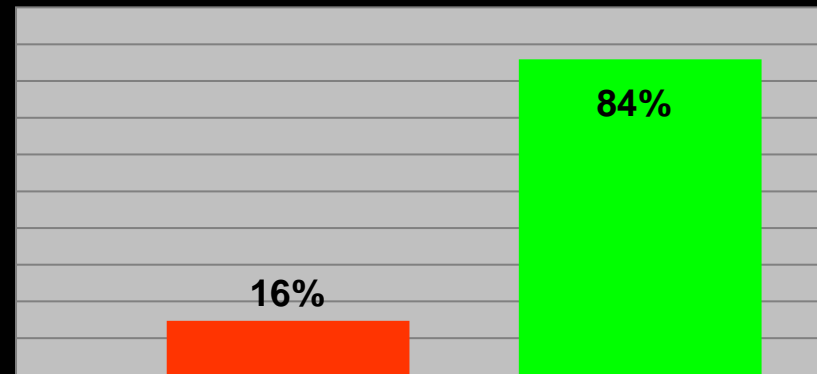
➤ Public consultation and support



Public support

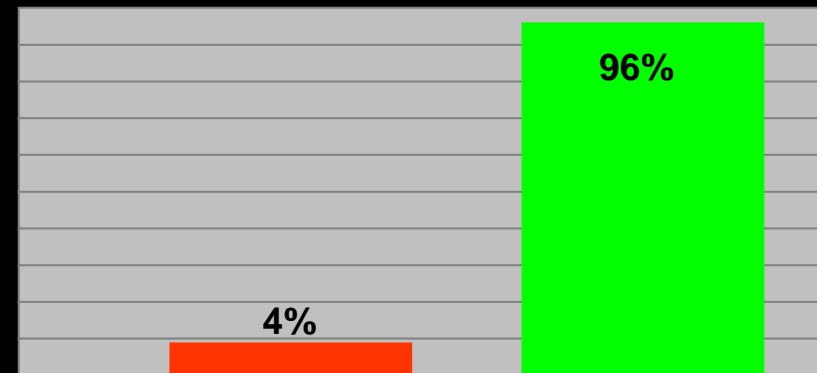
Question 6

“Would you support the use of renewable energy to generate hot water and electricity?”

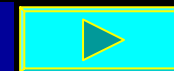


Question 7

“Would you support the use of sustainable energy generation and distribution systems?”



➤ Local and regional newspapers

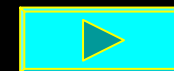


Step 1 Identify stakeholders & local needs 4



The next battle in London's war against climate change is set to be fought on Merton soil by harnessing the powers of renewable energy.

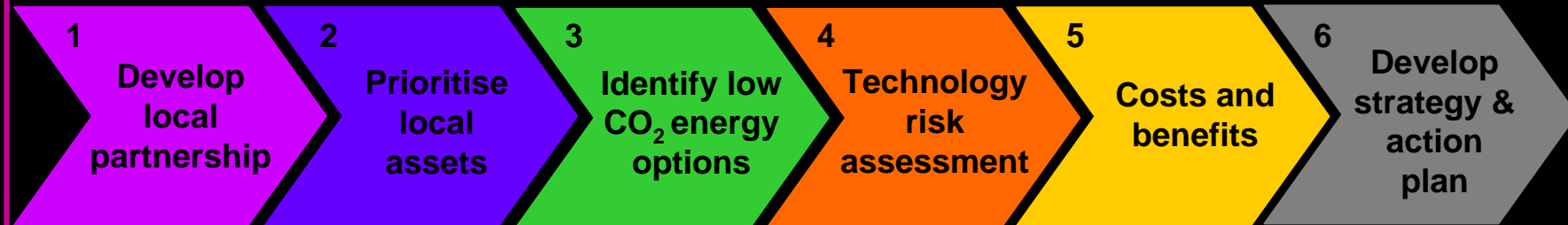
The borough wants to help save the environment by generating its own electricity and hot water, using a network of miniature power stations dotted around the borough.



Final LETIT strategy workshop – 1st April 06



Agreeing the Strategy and Action Plan



The political Leader of Merton Council talking to the Merton Environment Forum about LETIT and the DHP scheme

