Taylor Wimpey

Joint Northern Forum
Sunderland, 6 July 2012

People, Prosperity, Place:

A Perspective on Brownfield Residential Development

Ian Heasman
Director of Sustainability

Topics

- Sustainability and Sustainable Land Use
- Emerging Themes: *Meeting the Needs of the Present…….Without Compromising Future Needs* (Socio-economics vs socio-environmental?)
- Taylor Wimpey: Sustainability Examples
- Conclusions

Sustainability

and

Sustainable Land Use

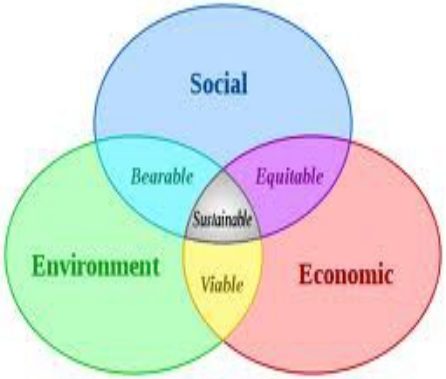
One Planet Under Pressure

- Climate Change
- Biodiversity Loss
- Deforestation
- Ecological Footprint
- Population Growth
- Growing Middle Class
- Resource Scarcity
- Land Scarcity
- Food, water and energy Security
- Fisheries collapse

Anthropocene

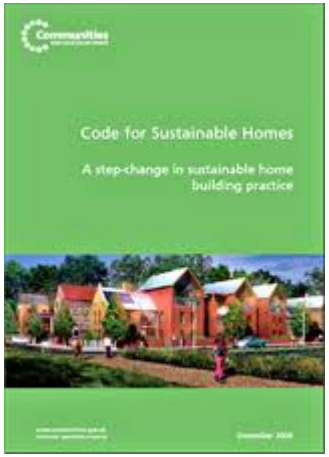
Sustainability Definitions

- Bruntland - *meeting the needs of the present without compromising the ability of future generations to meet their own needs*
- Triple bottom line
- UK Sustainable Development Strategy *Securing the Future* – 5 principles
- Sustainability vs Sustainable Development



Sustainable Land Based Activities

- Homes (Eco-Homes, Code for Sustainable Homes)
- Other Buildings (BREEAM, LEED)
- Civil Engineering (CEEQUAL)
- Remediation (UK SuRF, US SuRF, NICOLE)



National Planning Policy Framework

- *'The purpose of the planning system is to contribute to the achievement of sustainable development'.*
- Presumption for Sustainable Development
- Allocate land with the least environmental or amenity value
- Reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value

Meeting the Needs of the Present

Housing Shortage

- 2010 saw just 103,000 homes built in England, the fewest since 1923
- Official household formation projections show we should be building at least 232,000 per year
- In 2010 there were just 200,000 first time buyers, compared to 600,000 a decade ago, due to the lack of available housing and credit constraints.
- 18% of women and 29% of men aged 20-34 still live with parents (1 million women and 1.7 million men)
- 1.8 million families (5 million people) are currently on Local Authority waiting lists in England

House Building and the UK Economy

- House building inputs significantly to the UK economy and is one of the country's leading employers
- According to Government figures, even in its current reduced state, housing supply accounts for around 3% of UK GDP and provides between 1 and 1.25 million jobs in the UK
- Each home built creates 1.5 direct full-time jobs and many more in the supply chain.
- Increasing current house-building to Government household projection levels (additional 130,000 units per year) would create 195,000 direct jobs and hundreds of thousands more in the supply chain

And so…..

- We need to meet the needs of the present e.g. growth, homes
- This must be done in a way that does not compromise the needs of future generations
- Land use, including brownfield, is central to balancing our social, environmental and economic priorities

… Without Compromising Future Needs:

Emerging Themes

Emerging Themes 'Principles'

•Sustainable land use must take into account Brundtland / triple bottom line thinking

- Economic – Viability, jobs, industry etc
- Environmental – Ecological limits, resource efficiency, climate change, biodiversity etc
- Social – social capital, community cohesion, culture, participation, empowerment etc
- Intergenerational Equity

- The initial allocation of a piece of land through planning is fundamental in setting its use change / development along the most appropriate path.

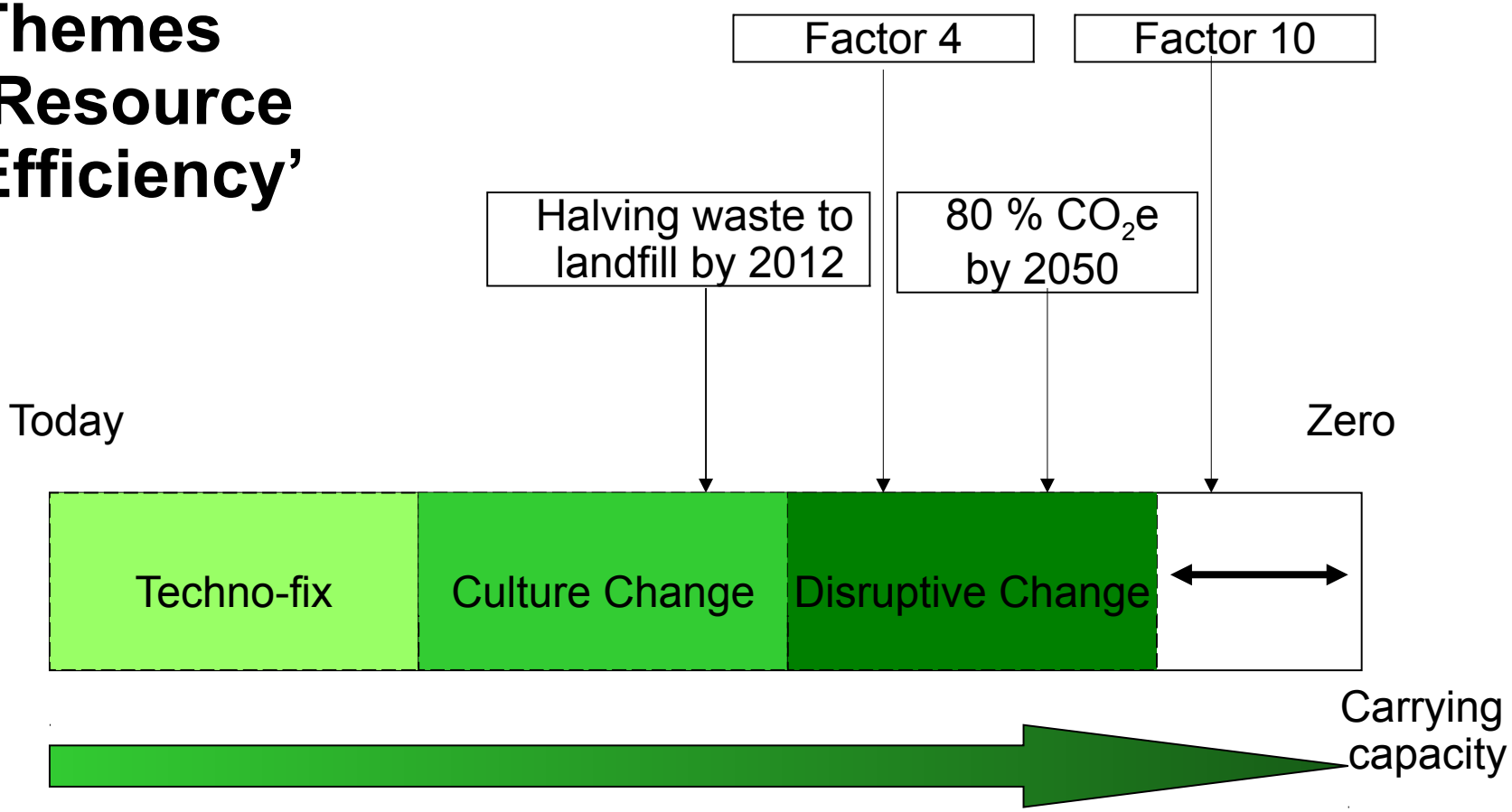
Emerging Themes ‘Measurement and Indicators’

- SEE factors need to be measured by indicators across the land use cycle including:
  - existing uses;
  - intervention (development); and
  - in use.
- The benefits of the land use change must be greater than the impacts, and impacts must be within acceptable limits
- That development generally leads to socio-economic benefits (e.g. jobs, local economies, supply chains, infrastructure provision, homes) but environmental dis-benefits (e.g. land take, soil sealing, ecosystem services, carbon, waste, water).

Emerging Themes ‘Scale and Context’

- That Sustainable Land Use must be considered at all appropriate scales - national, regional, local authority, neighbourhood and site– and within appropriate social, economic and environmental contexts.
- A greater understanding of how priorities at each scale translate into actions at each scale e.g.
  - national priorities translate to individual development decisions on individual sites is required.
  - how local priorities influence national policy

Emerging Themes 'Resource Efficiency'



Massive Resource Efficiency Gains Needed

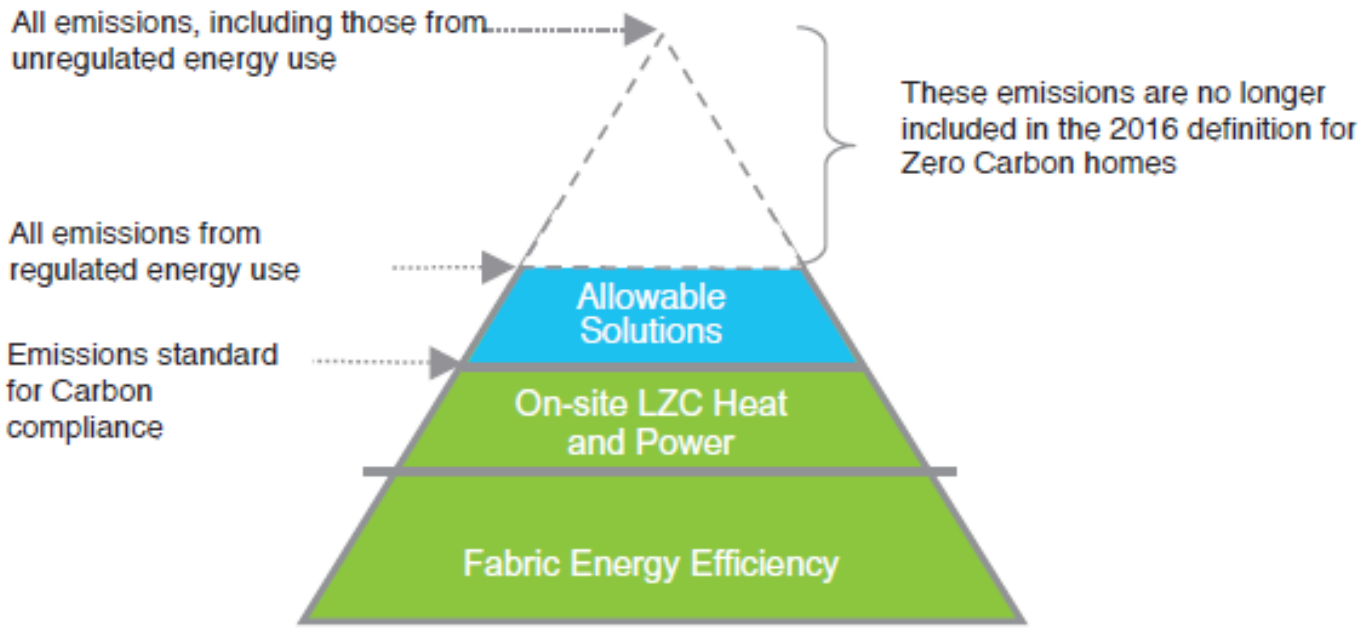
Emerging Themes ‘People’

- Stakeholder consultation is integral – but that different stakeholder groups may inherently disagree as to what is sustainable (e.g. commercial vs socio-environmental, national needs vs local interest) - and that there is not necessarily a correct answer.
- Sustainable development is not a technical equation with a predictable outcome divorced from stakeholder views
- It is not enough to measure and map the costs and benefits – it is equally important to understand upon whom the costs fall and who reaps the benefits.
- Localism is the theme of the coalition government – divestment of power to the most local level possible
- There are potential tensions between ‘localism’ (locals decide) and the NPPF presumption (development must proceed provided it is sustainable)

Some Pointers:
Environmental Sustainability

Neutrality

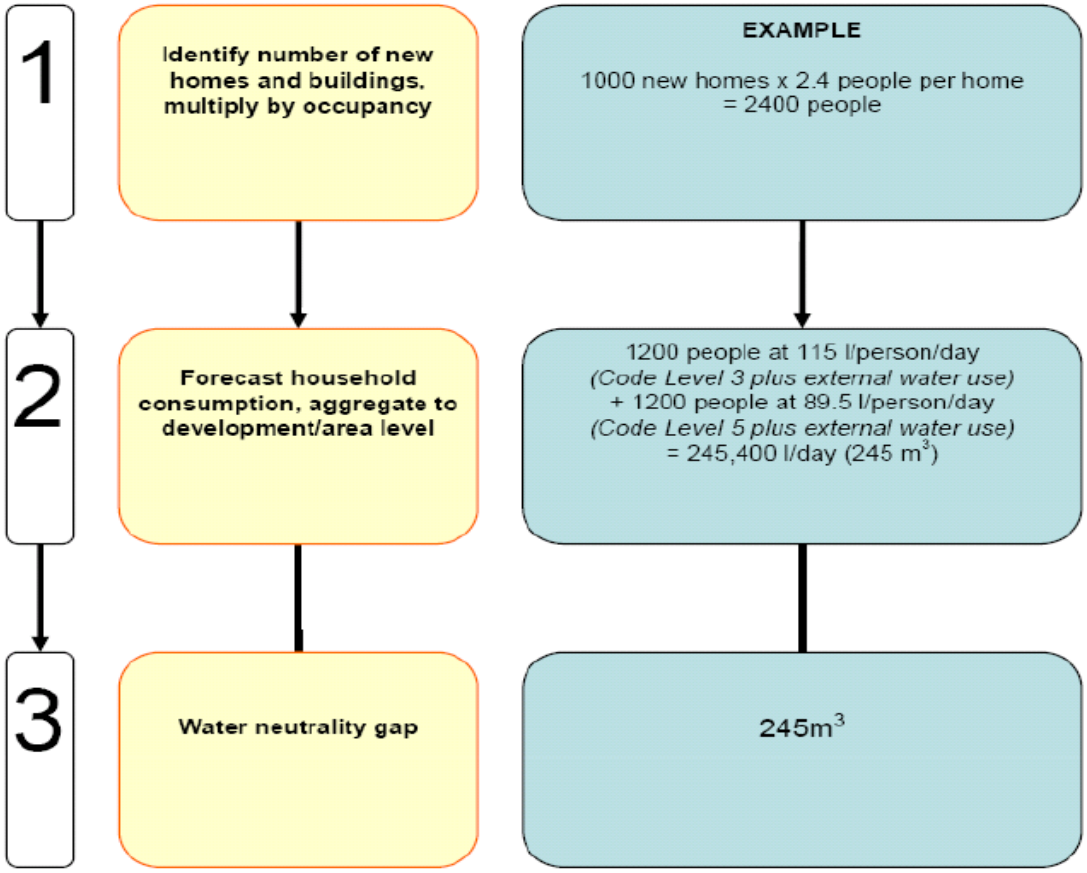
Carbon Neutrality 2016



Source: Allowable Solutions Towards Tomorrows New Homes – Zero Carbon Hub

Water Neutrality

Figure 1: Calculating the water neutrality gap



Source: Water neutrality advice note EA (Sep 2009)

Biodiversity Offsetting

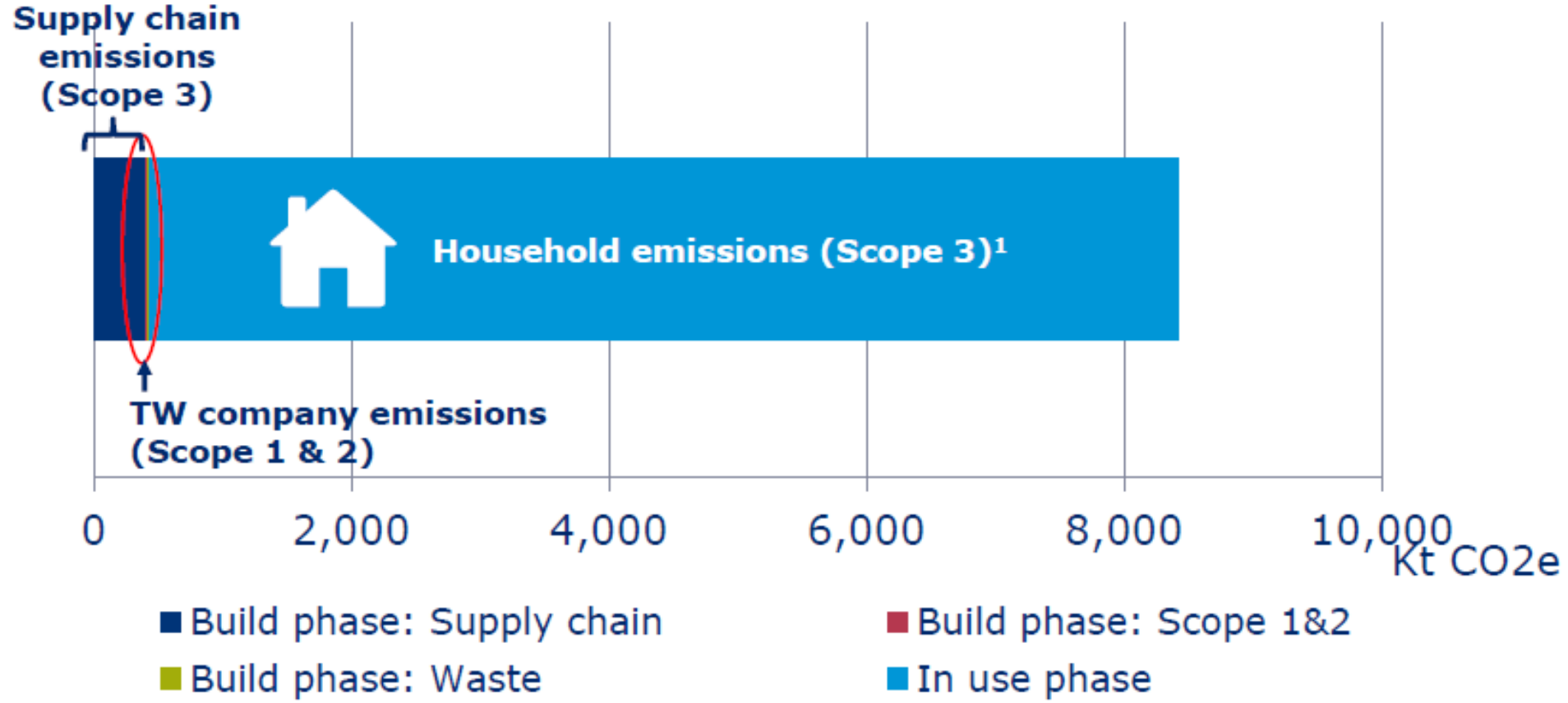
- Biodiversity offsetting is a process by which conservation activities designed to deliver biodiversity benefits in compensation for losses are delivered
- Distinguished from other forms of ecological compensation by the formal requirement for measurable outcomes
- Developers who need to provide compensation for biodiversity loss under planning policy can do so through offsetting
- A developer employs a standardised formula to calculate the number of “biodiversity units” to be lost as a result of their development, based on the habitat(s) affected, and its condition and extent.
- The developer then provides an offset (either themselves or through a third party offset provider) to deliver an equivalent number of biodiversity units on land elsewhere.

Resource Efficiency
Across the Build Cycle

From a 'lifecycle' perspective, the carbon emissions of TW homes is almost 20 times higher than that of building them

CARBON TRUST

Taylor Wimpey lifecycle emissions for build and use phase



(1) Assumes 10,000 3-bed units built, with a 100 year lifetime

Source: Carbon Trust Advisory analysis, Taylor Wimpey, Small World Consulting

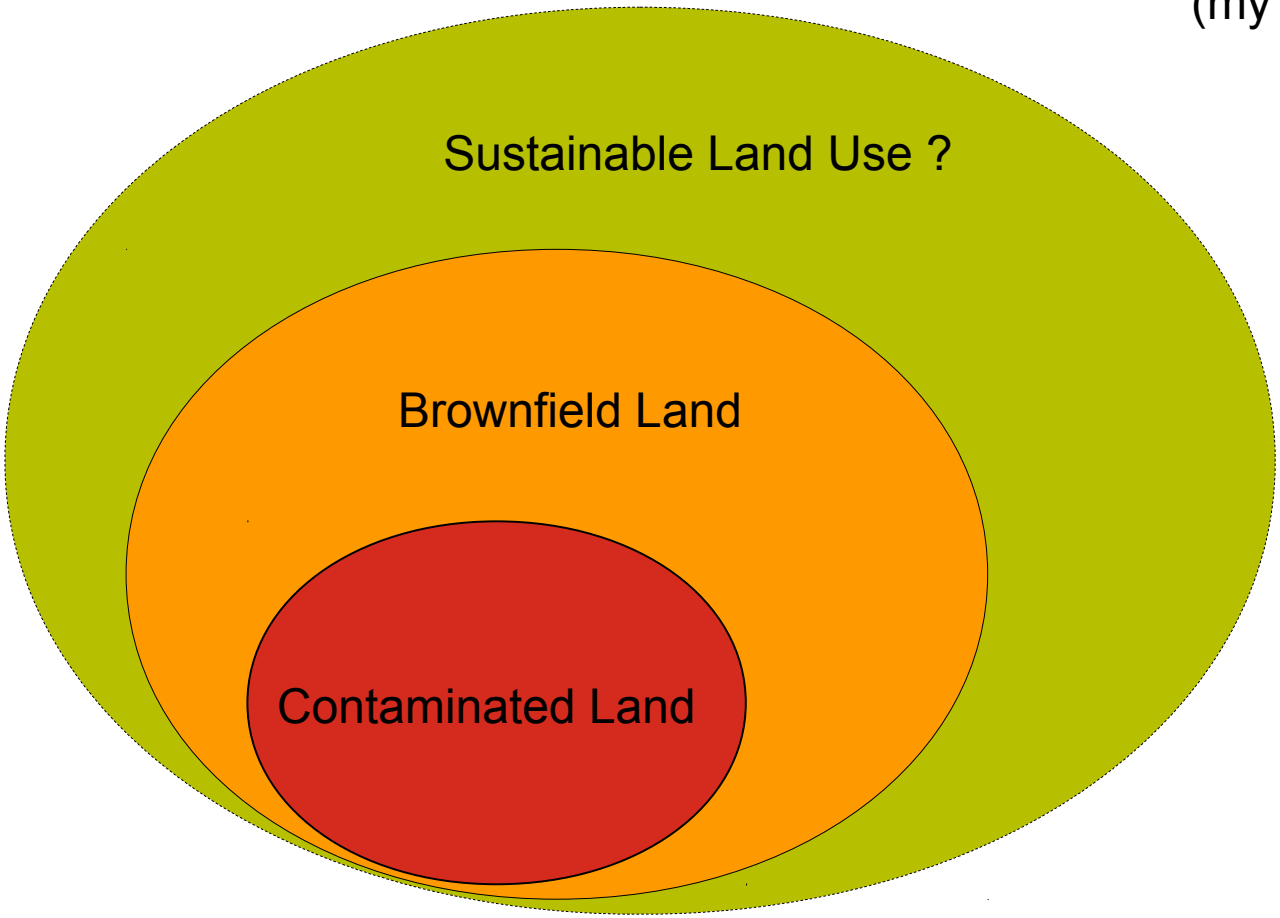
Sustainable Land Use
vs
Brownfield First

‘Sustainable Land Use vs Brownfield First’

- Sustainable land use necessitates using the best piece of land (brown or green) for the appropriate use taking all reasonable factors into account.
- This means brownfield and contamination become factors in deciding whether a piece of land is appropriate, and should not necessarily be an over-riding reason for site selection.
- Factors why brownfield might NOT be best in some circumstances:
  - Biodiversity
  - Inner city recreation
  - Cost benefit
  - The paucity of some greenfield

Evolution of Land Management

(my own thoughts)



Zero Agendas

The difficulty with ‘Zeros’

- Zero Carbon
- Zero Waste
- Zero Brownfield

Some Pointers:
Social Sustainability

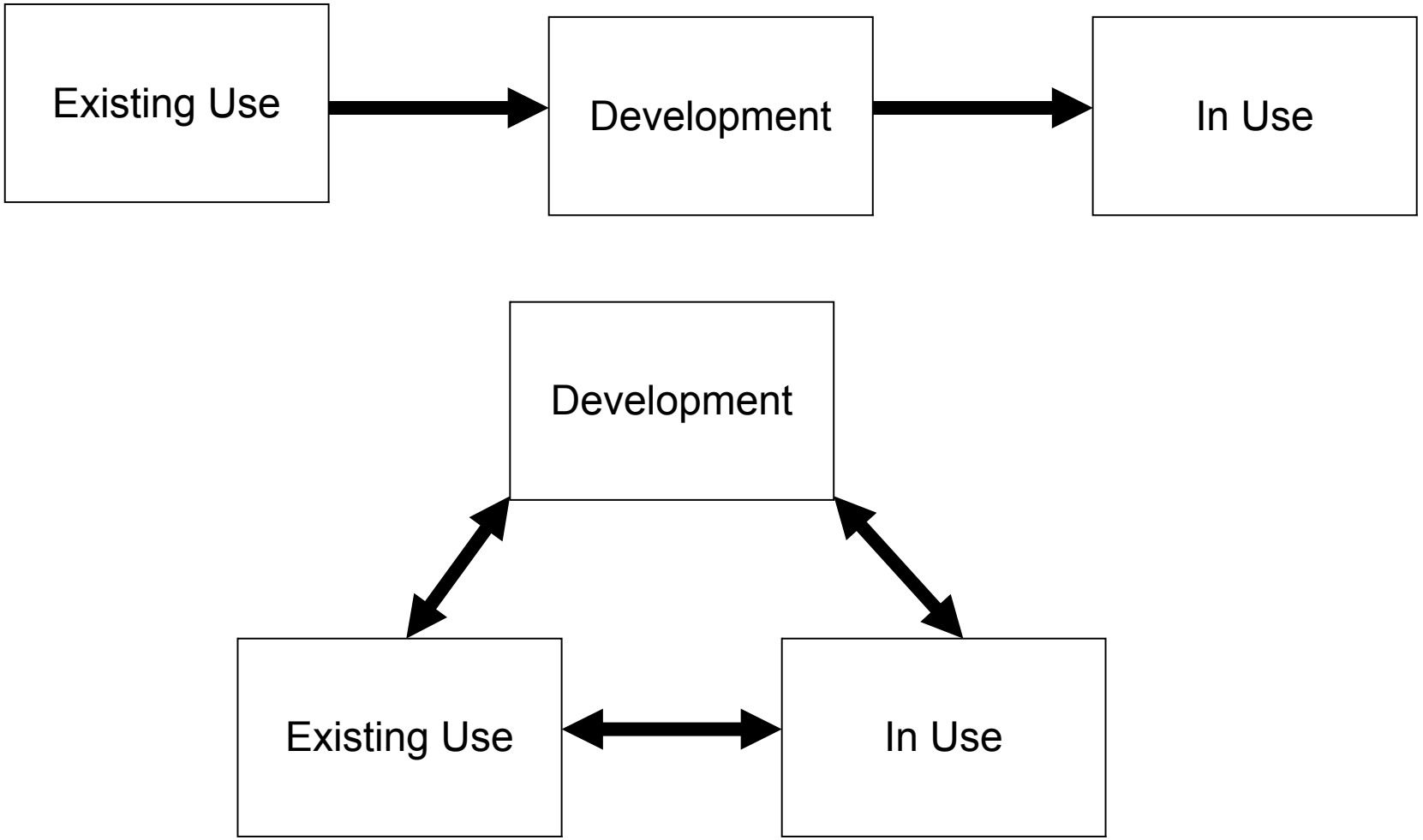
Land Trust: True Cost of Brownfield

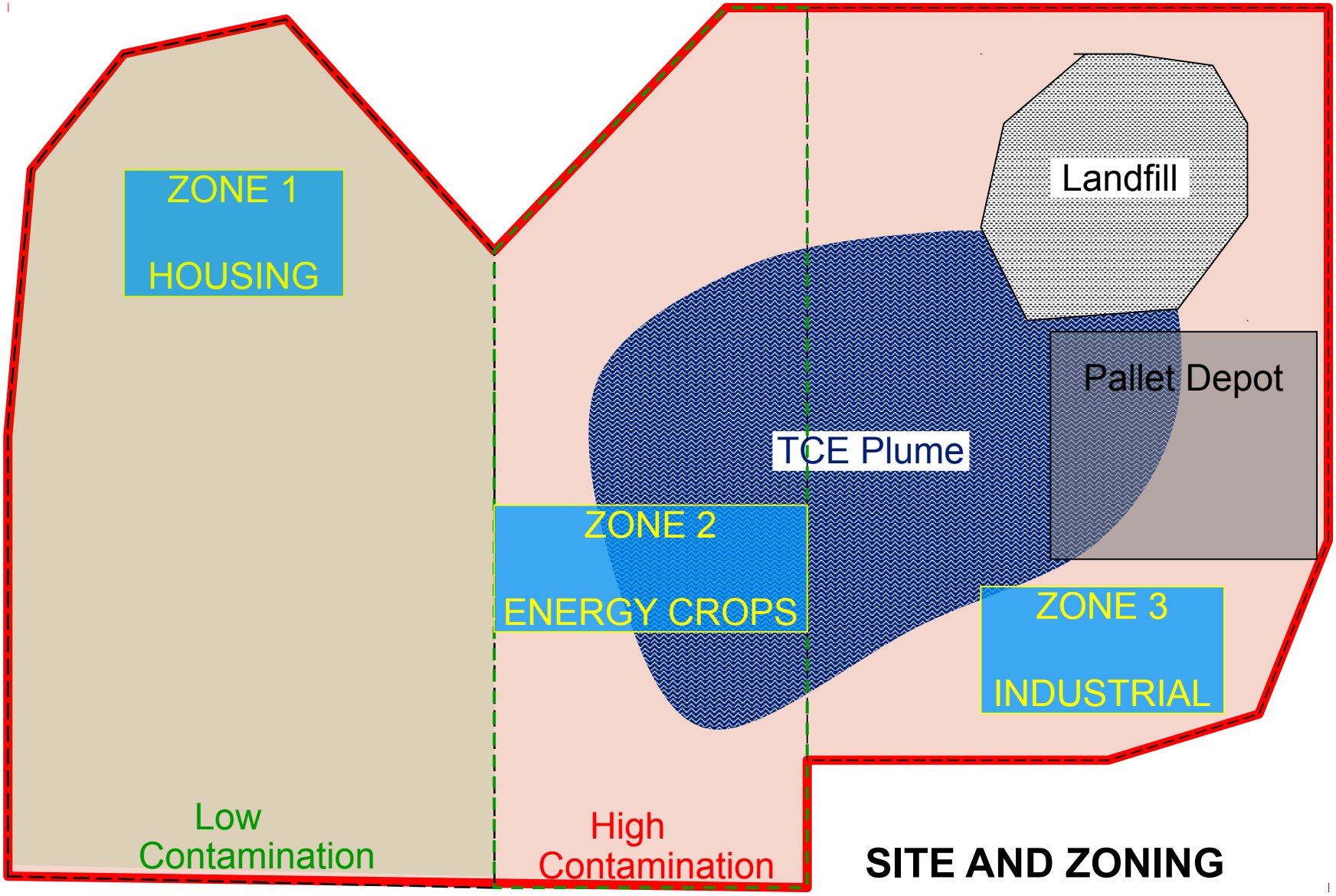
- Restoration of brownfield land has traditionally focussed on the balance between the physical costs of remediation and the direct economic returns that restoration will bring.
- There is already a strong body of evidence to show how derelict and disturbed land can create a whole range of “social ills” in terms of mental and physical health, and reduced opportunity and well being.
- However the actual costs of these impacts to society tend not to be fully understood (or at least addressed)
- The true costs of leaving derelict land un-restored should be closer to the heart of funding and remediation decisions.
- Based on this thinking, targeted funding can facilitate a whole range of social, economic and environmental gains - not only chemical remediation.

Integration:

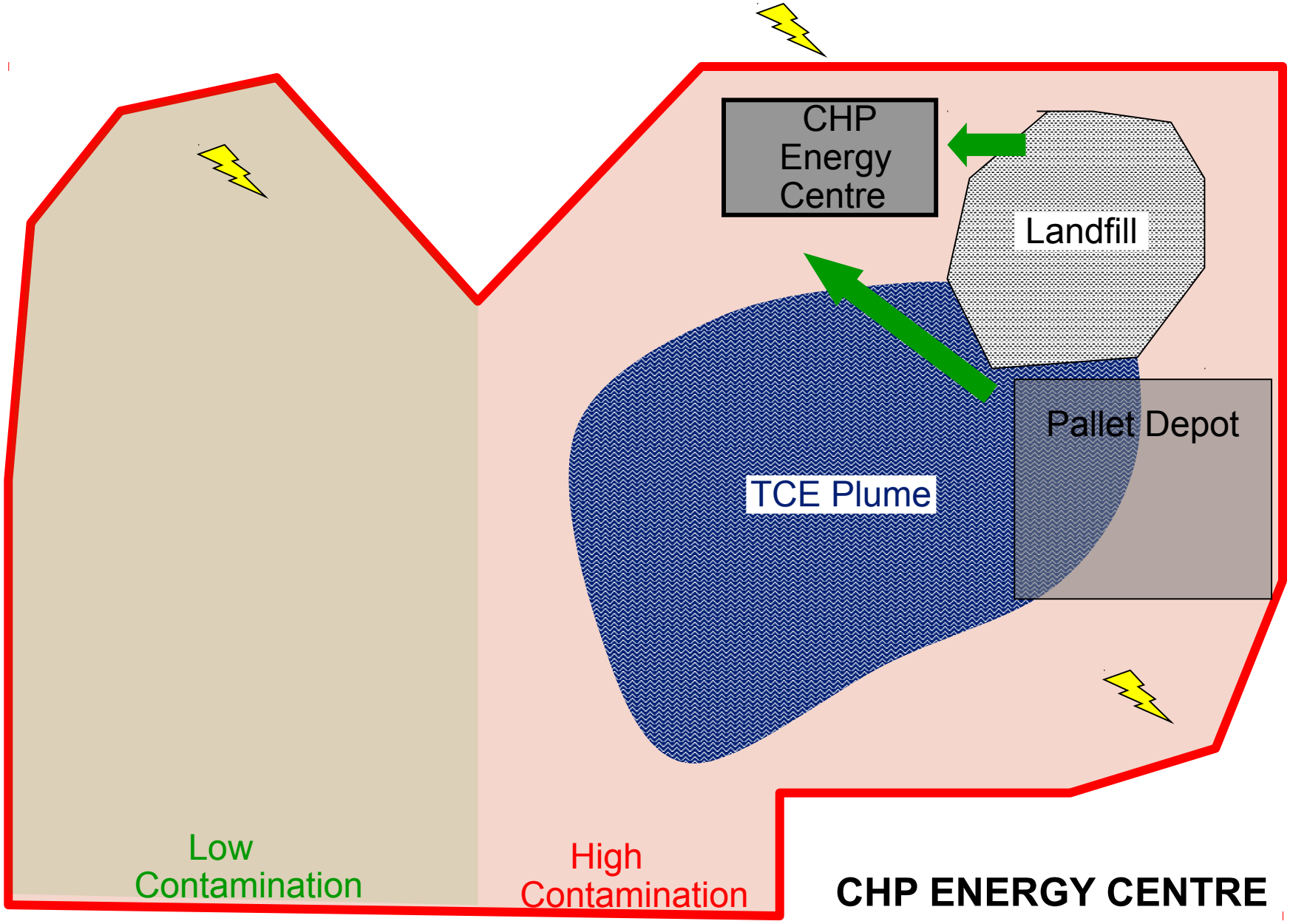
Making the most of the site, the development process and the end use (a contrived example!)

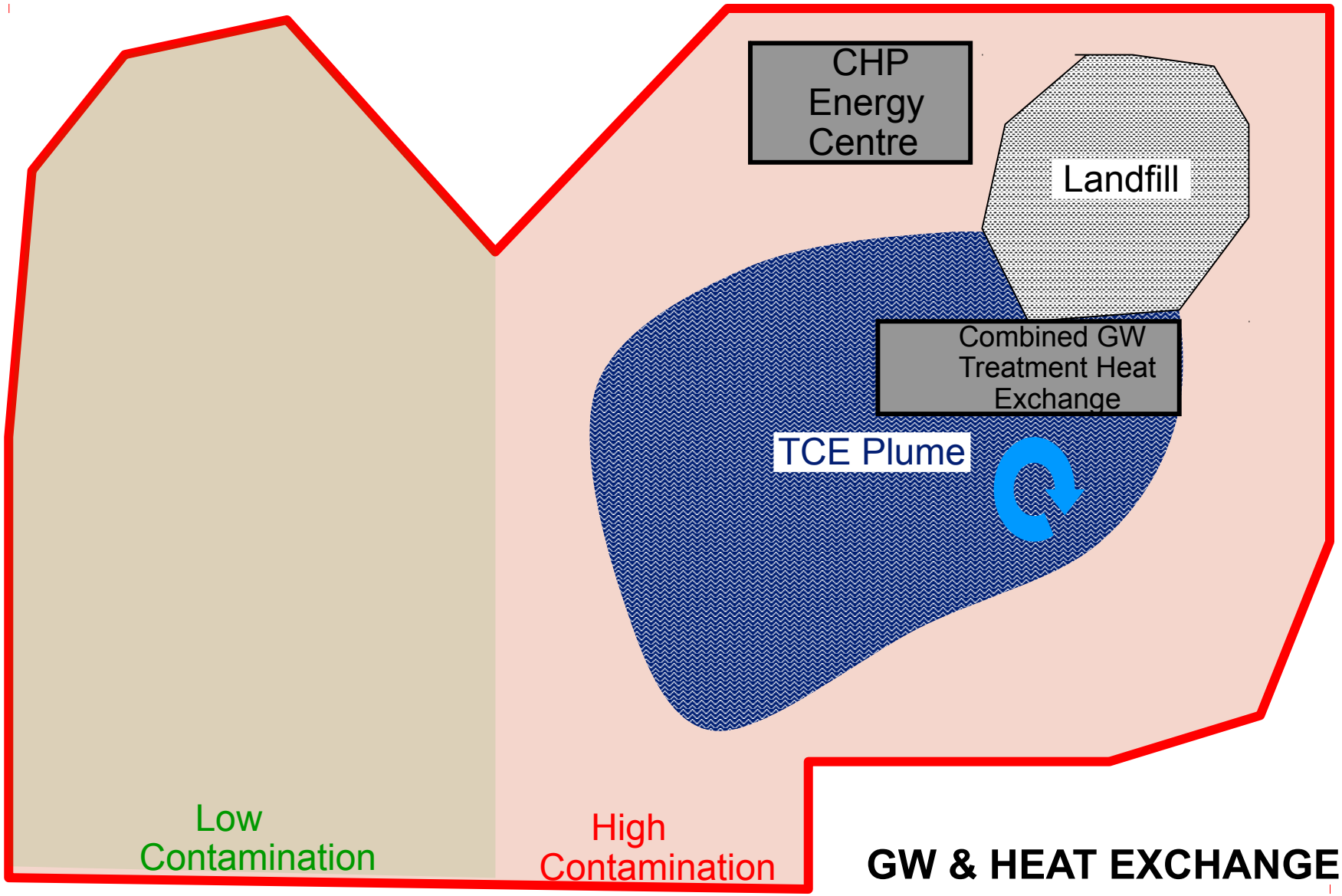
Added Value though Integrated Sustainability



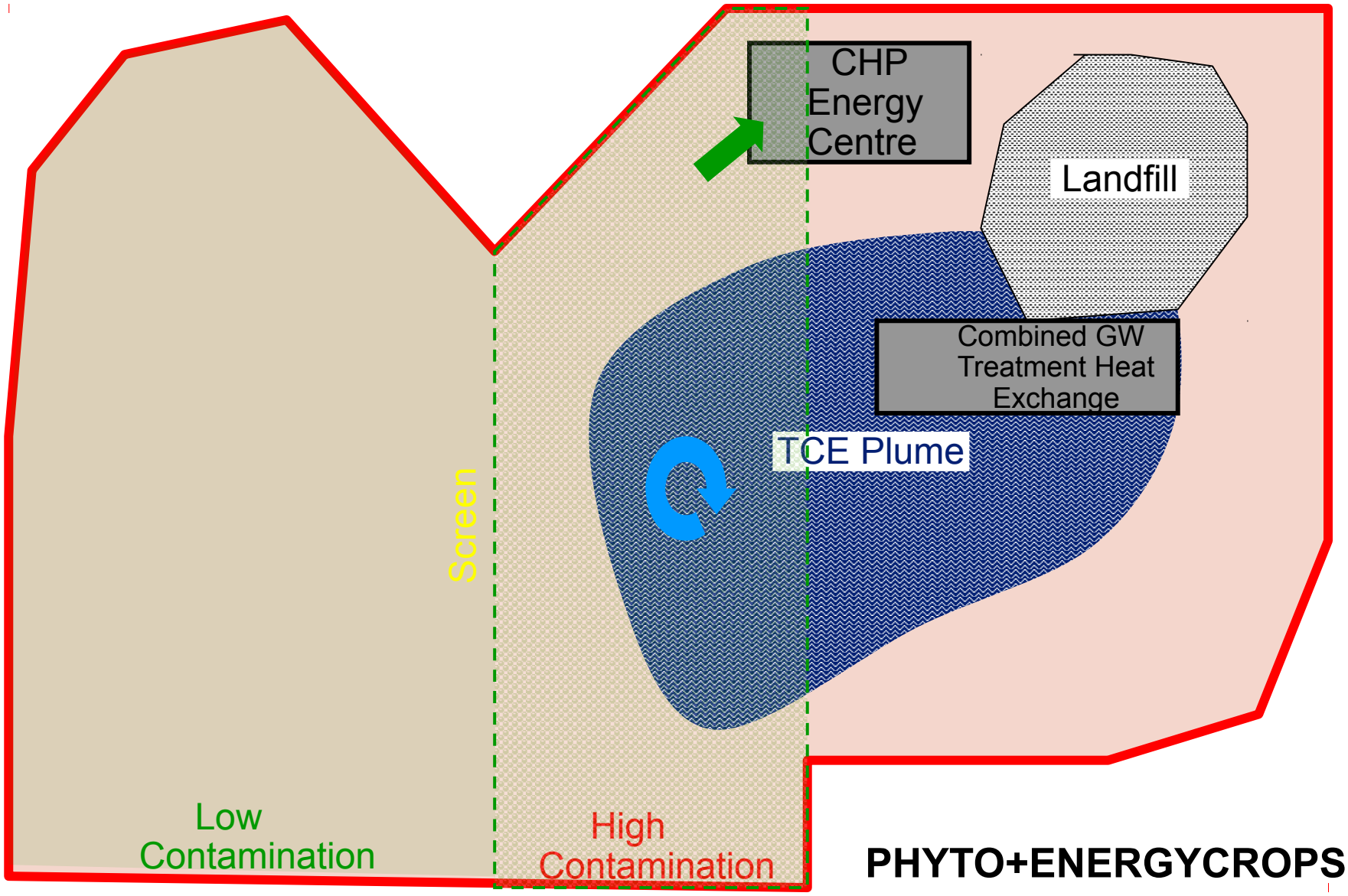


SITE AND ZONING

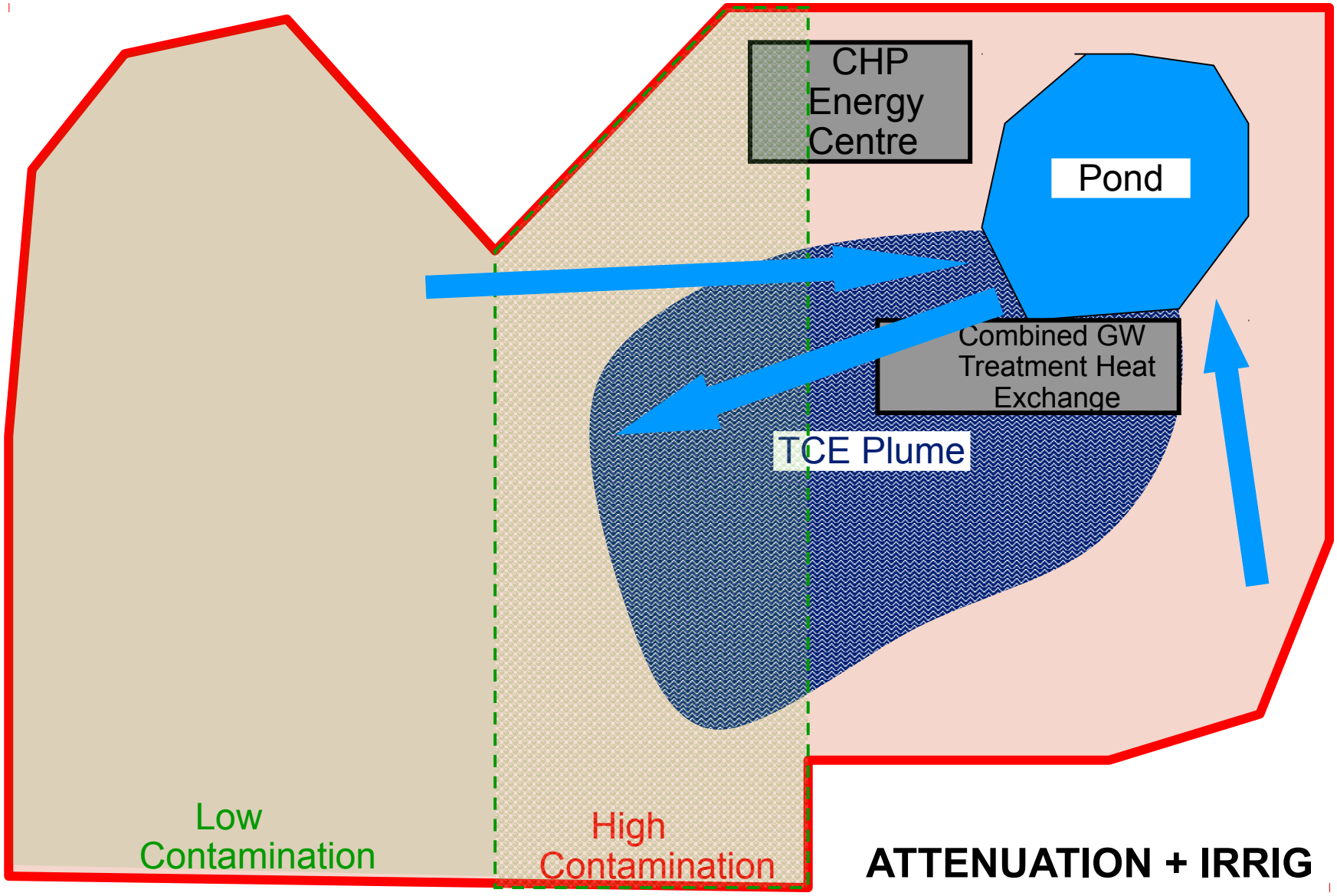

CHP
Energy
Centre
Landfill
Pallet Depot
TCE Plume
Low
Contamination
High
Contamination
CHP ENERGY CENTRE



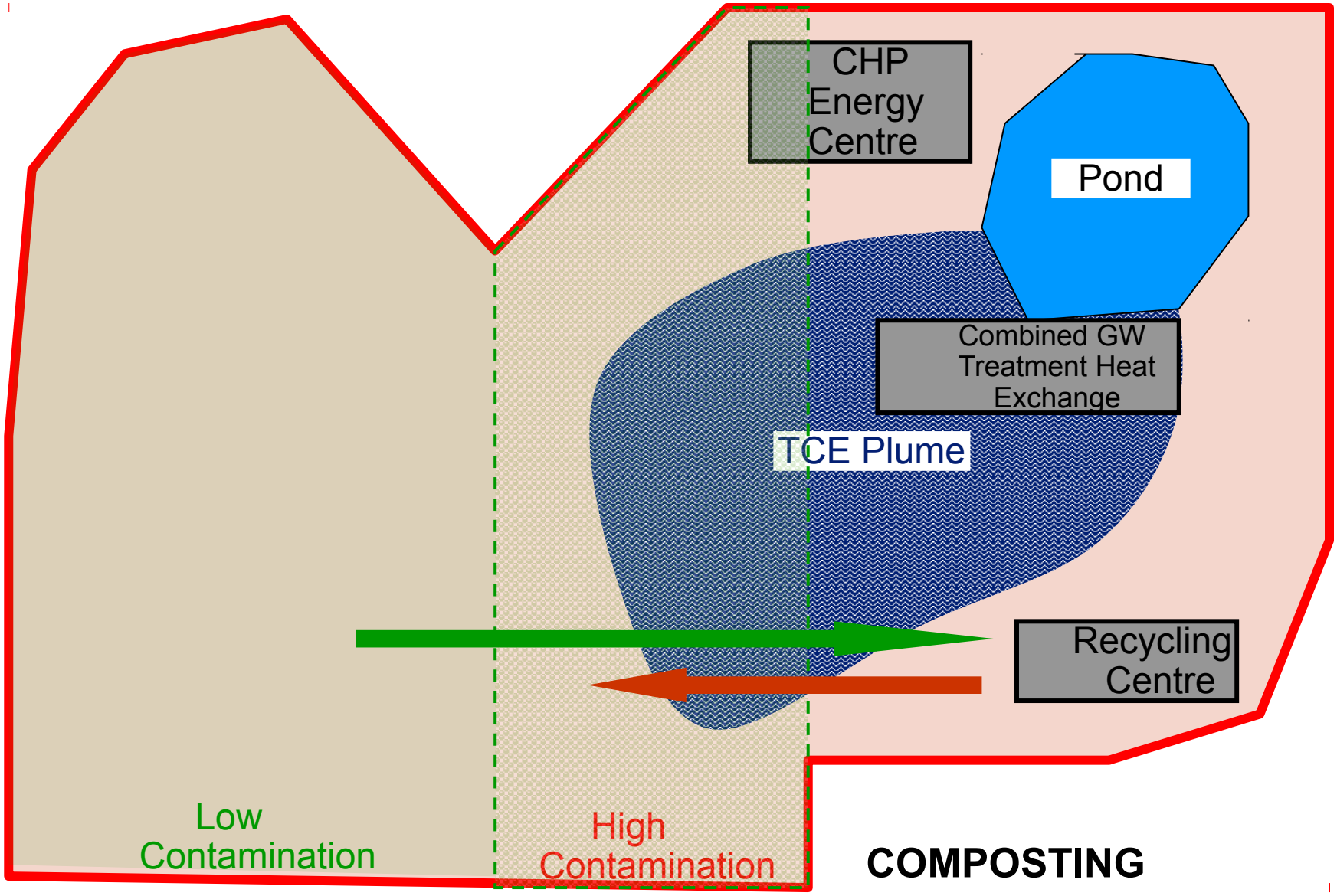
GW & HEAT EXCHANGE

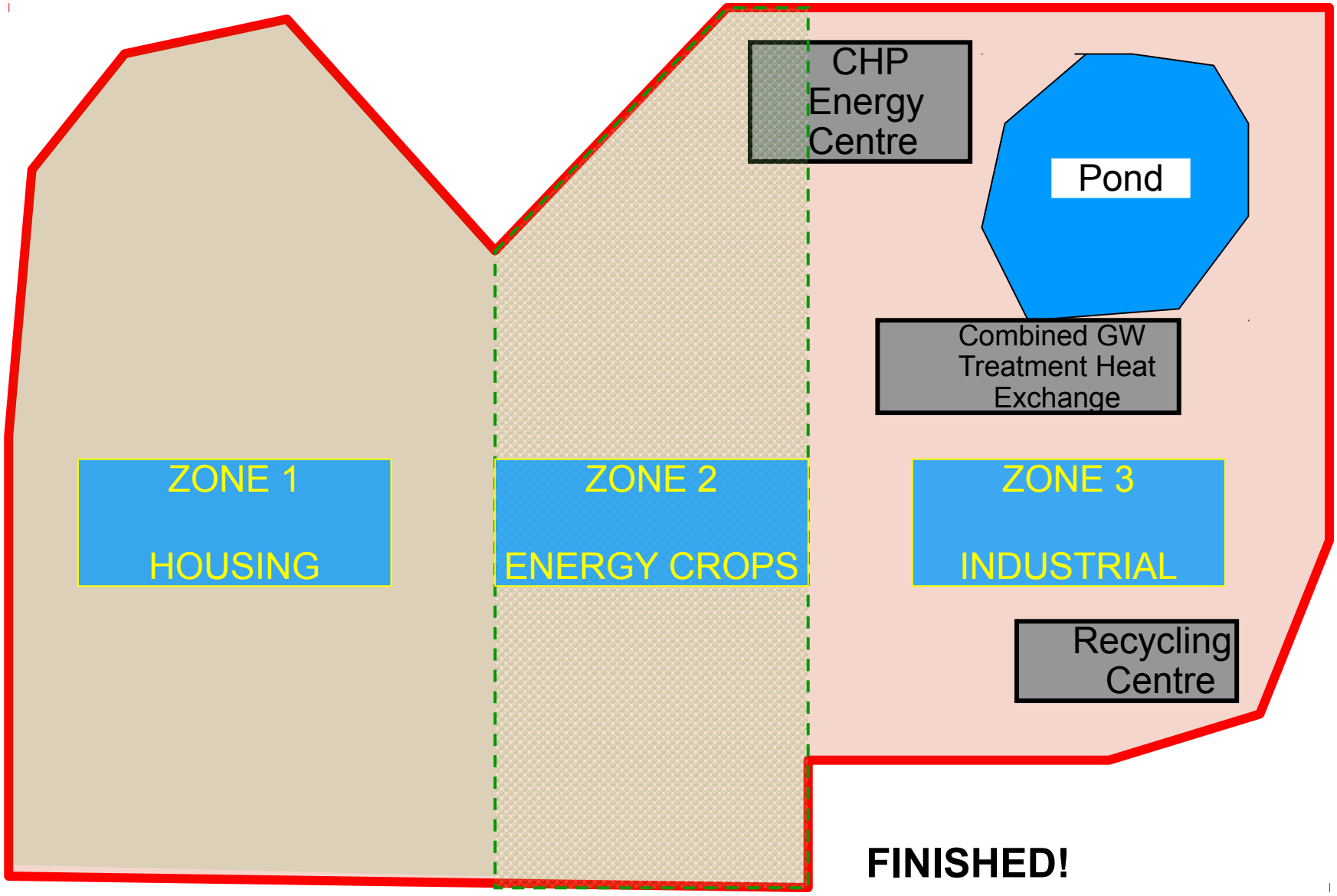


PHYTO+ENERGYCROPS



ATTENUATION + IRRIG


CHP
Energy
Centre
Pond
Combined GW
Treatment Heat
Exchange
TCE Plume
Recycling
Centre
Low
Contamination
High
Contamination
COMPOSTING


CHP
Energy
Centre
Pond
Combined GW
Treatment Heat
Exchange
ZONE 1
HOUSING
ZONE 2
ENERGY CROPS
ZONE 3
INDUSTRIAL
Recycling
Centre

FINISHED!

Some things we are doing:

Taylor Wimpey Examples

Community Led Planning

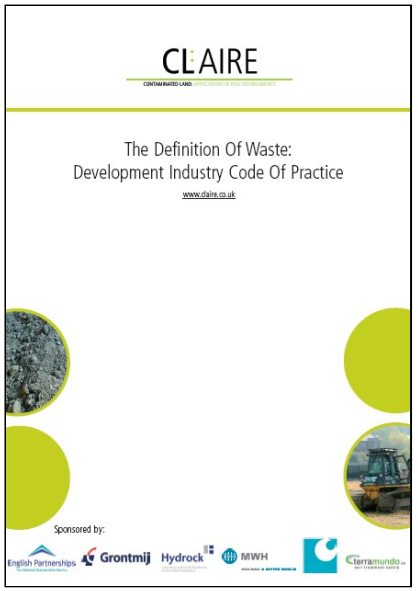
- Research and Reconnaissance
- Identification of the Community and stakeholders
- Prepare constraints plan (what can and cant change)
- Select Consultation method
- Evaluation of Responses
- Response to the Community
- Preparation of Consultation Statement (in planning application)

Energy and Carbon

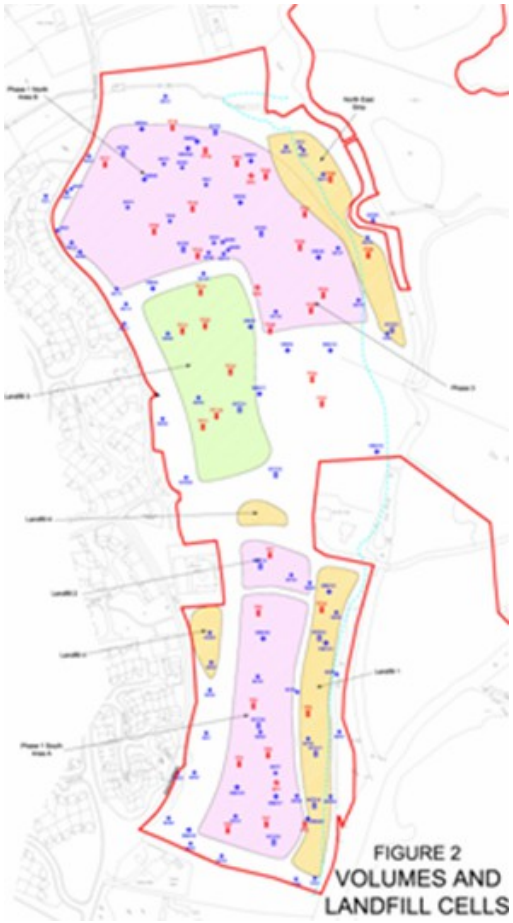
- Carbon Footprint
- CRC
- CDP
- Energy and Carbon Strategy
- Estate Review
- Supply Chain Review

CRC ENERGY EFFICIENCY SCHEME

ReUSE


CL:AIRE
The Definition Of Waste:
Development Industry Code Of Practice
www.claire.co.uk
Sponsored by:
English Partnerships
Grontmij
Hydrock
MWH
terramundo

Landfill Mining



Conclusions

Conclusions – the ‘Big Picture’ Challenge

- There is a formidable array of inter-connected environmental and sustainability challenges confronting us which need long term solutions
- We are generally failing to confront these (e.g. Rio+20)
- There are also acute short term pressures to promote economic growth and social welfare including housing
- Land, including brownfield land, are at the heart of many of these challenges

Conclusions – Emerging Themes for a Conceptual Framework

- Sustainable land use is part of sustainable development and must take into account Brundtland / triple bottom line thinking
- Planning / land use allocation is central to sustainability
- We need much better ways to measure and understand the SEE consequences of our actions, at all scales and contexts
- Massive Resource Efficiency gains are needed but be wary of zero agendas
- Stakeholder consultation is integral - Sustainable development is not a technical equation with a predictable outcome divorced from stakeholder views

Conclusions – Some ‘Development Level’ Pointers

- Neutrality i.e. no net loss of water, carbon, biodiversity will become increasingly important through planning
- Resource Efficiency is best considered on a life cycle basis
- Sustainable land use necessitates using the best piece of land (brown or green) for the appropriate use taking all reasonable factors into account
- The true socio-economic costs of leaving derelict land un-restored should be closer to the heart of funding and remediation decisions
- Join up the thinking: better integration of site opportunities, development processes and end uses

Thank you