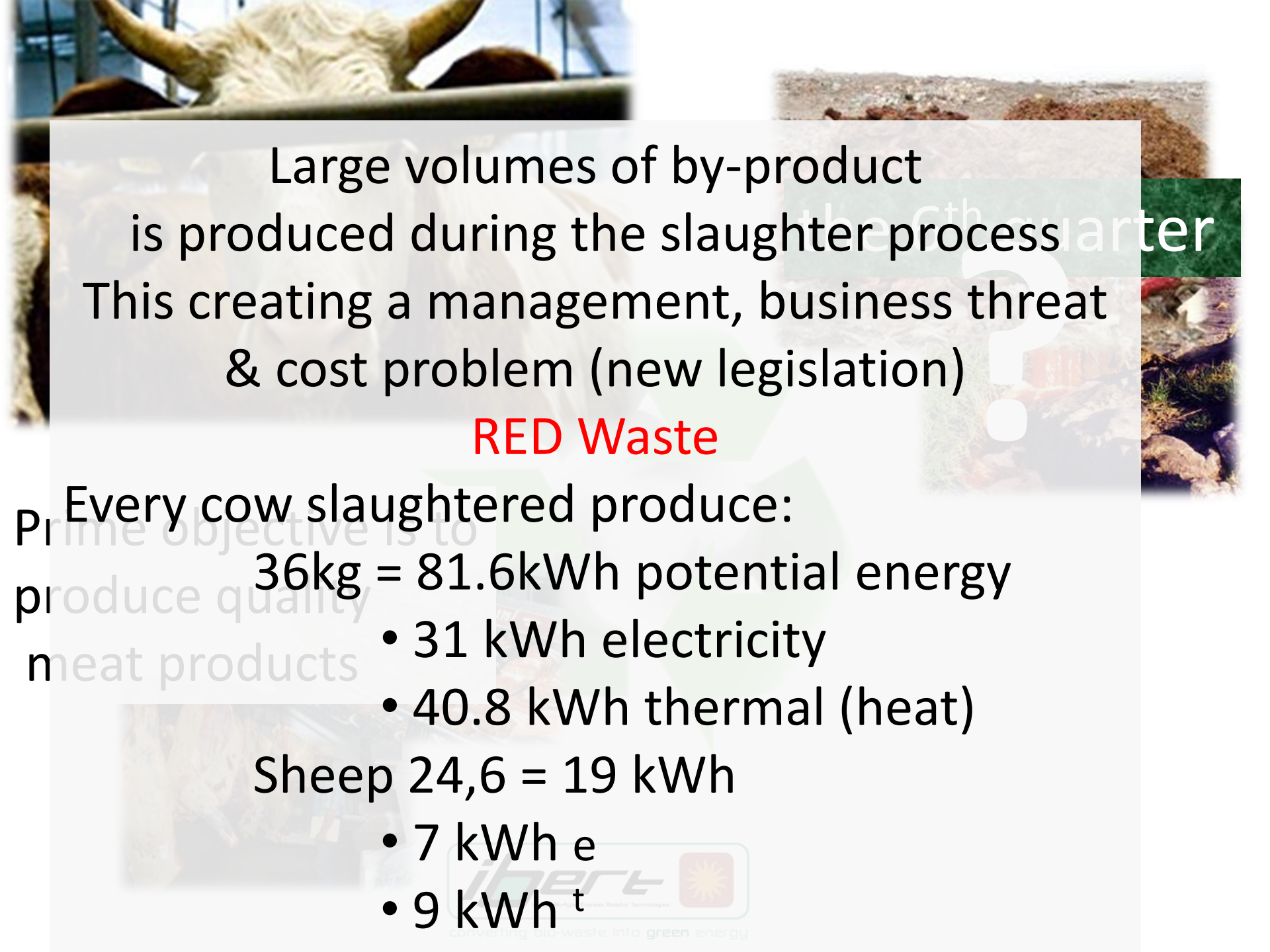


the 6th quarter

Otto Hager → iBert





Large volumes of by-product
is produced during the slaughter process
This creating a management, business threat
& cost problem (new legislation)

RED Waste

Every cow slaughtered produce:

36kg = 81.6kWh potential energy

- 31 kWh electricity
- 40.8 kWh thermal (heat)

Sheep 24,6 = 19 kWh

- 7 kWh e
- 9 kWh^t

The patented **Thermo-Gas-Lift (TGL)** and dual chamber fermentor represents the core of the **Bio4Gas**-technology.

It is a universal element for:

1. Biological heating
2. Mixing (driven by gas pressure and temperature differential) without moving parts;
3. Desulphurization through sulphur oxidation

Results in :

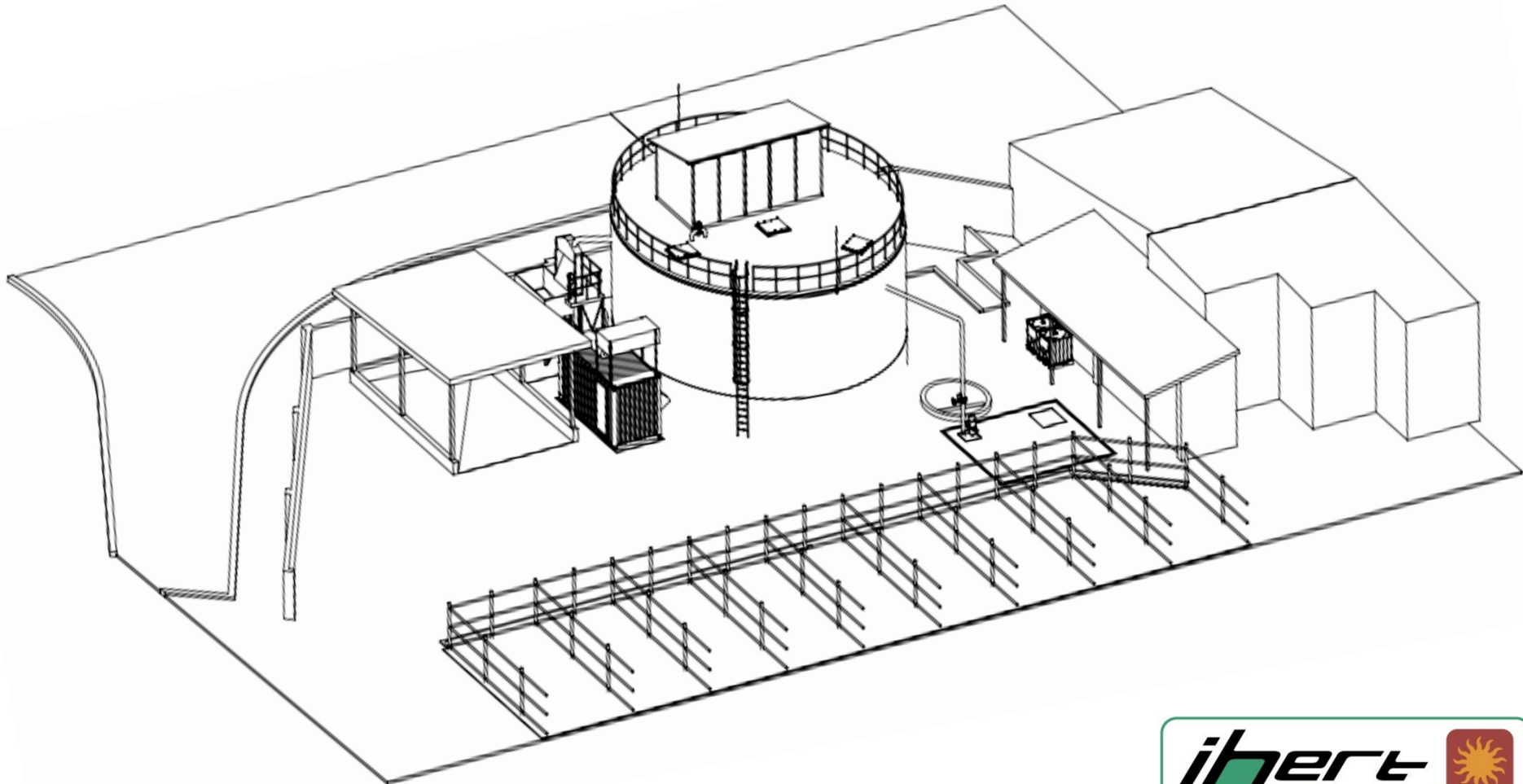
1. More stable and high quality & quantity gas production (+20% more than conventional AD)
2. Allow for cocktail of bio-waste
3. Small foot print, on site construction
4. Lower CAPEX requirement
5. Long life span & reduced operating cost no moving parts



converting bio-waste into green energy

Meat-2-Market: BERT500/100

3D Lay-out



2012.02.28 18:02:55



2012.03.15 14:54:24



2012.04.10 06:46:34



12 March 2012

2012.04.16 09:46:49



2012.04.18 10:47:26



2012.04.18 17:24:37



2009.01.04 04:12:42



2012.04.24 06:40:58



2012.04.26 08:27:25




2012.05.02 16:07:08



2012.05.07 12:33:22



Parameters	Bio4Gas 	Conventional AD
Substrates = FEEDSTOCK	Using existing biomass e.g. manure on site	Requires special y produced energy crops
Fermenter technology	Applying physics, for mixing & heating requirement up to 15% higher gas production	Expensive and high maintenance mixers & heaters
Internal process energy consumption	3 – 4% (all electrical equipment)	Up to 30% of produced energy
Operating cost and maintenance	No moving parts, 3% of capital cost for maintenance p.a.	Frequent stops of production for maintenance, 15% maintenance cost p.a.
Construction & buildings	Single fermenter and integrated gas scrubber	Large multiple fermenter and separate gas scrubber
Feed-in-technology	Pumping	Screws and pumps
Concept	Build in existing infrastructure	Green field site
Heat use	Locally used and can be converted to cold/air/water	To much to use locally, mostly unused/ wasted

iBert waste to energy project steps

Step 1	Energy audit & pre-feasibility	Q & Q energy requirement Base-line calculation Energy availability Pre-feasibility Offer
<i>Step 2</i>	<i>Go no go</i>	
Step 3	Contract negotiation	Conclude & sign MOU Sales agreement
Step 4	Contract closure	Detailed planning and design Application EIA Application for funding (IDC) Signature of power supply contract Signature of operations and maintenance agreement. Signature of construction contract Confirmation of financing
Step 5	Construction, commissioning & operation	Construction of bio-waste treatment facility (end May 12) Installation of power generation plant (1 st week June 12) Completion and testing of installation (1 st week July 12) Production of electricity & heat (mid July12) Plant maintenance CHP



converting bio-waste into green energy

we run on **RED** meat!

Visit our stall