

Opportunities for value addition to selected Western Cape organic waste streams

Livestock: a focus on manure & abattoir waste

July 2017

Authors Usisipho Gogela Pieter Frederik Janse van Vuuren Cathy Pineo

Contact Cathy Pineo cathy@greencape.co.za

Contents

Livestock: a focus on manure & abattoir waste1	l				
Goal statement1					
2. Scope1	l				
3. Current status of utilisation of the resource	2				
3.1. Regional distribution of manure and abbitoir waste2	2				
3.1.1. Dairies	2				
3.1.2. Piggeries	3				
3.1.3. Feedlots	ļ				
3.1.4. Poultry battery farms	5				
3.1.5. Abattoirs6	3				
3.2. Daily throughput in Western Cape abbitoirs	7				
3.3. Quantity of waste available)				
3.3.1. Manure)				
3.3.2. Abattoir waste)				
3.4. Current use)				
3.4.1. Manure)				
3.4.2. Abattoir waste10)				
4. What is required to unlock this opportunity for utilisation/transformation11	l				
4.1. Manure11	l				
4.1.1. Anaerobic digestion	l				
4.1.2. Compost/fertiliser11					
4.2. Abattoir waste	l				
5. Possible South African business partners	3				
5.1. Other stakeholders to note	ł				
6. SWOT analysis	5				
. Opportunities outside of the Western Cape					
3. References					
Appendix A: Dairies	7				
Appendix B: Abattoirs)				

Livestock: a focus on manure & abattoir waste

1. Goal statement

This document sets out the business opportunity for value addition to livestock wastes, with a focus on manure¹ and abattoir waste. This document forms the foundation for discussion with the intended final outcome of business-matching, shared expertise and ideally (foreign) investment in value add opportunities in South Africa.

2. Scope

The analysis is limited to the Western Cape of South Africa, but where there may be other regions with equal or greater potential, links to sources of information and potential business partners are provided. In South Africa, the various parts of livestock value chains are typically private sector owned rather than government owned, although there are still some abattoirs owned by Department of Correctional Services (Maistry, 2014).

¹ Mostly from dairies

3. Current status of utilisation of the resource

3.1. Regional distribution of manure and abbitoir waste

The regional distribution of dairies, piggeries, feedlots, poultry battery farms and red meat abattoirs, the primary sources for manure and abattoir waste, is shown in the figures below. This information is publicly available on through the Western Cape Department of Agriculture's website tool Cape Farm Mapper² under the Resource Layer "Agri-Infrastructure".

3.1.1. Dairies

As visible from Figure 1 below, the dairies in the Western Cape are numerous (at least 79) and widely distributed. The greatest concentrations of facilities are found along the southern parts of the province, stretching eastwards to George; as well as just outside Cape Town, stretching northwards to Saldanha Bay. There are far fewer dairies found in the central parts of the province (semi-desert), and none found in north-eastern region (more arid semi-desert). A list of known Western Cape dairies is included in the Appendix A.



Figure 1: Dairies in the Western Cape

² https://gis.elsenburg.com/apps/cfm/

3.1.2. Piggeries

The figure below indicates that the Western Cape piggeries are primarily concentrated in the south east of the province. The greatest concentrations are just outside Cape Town in the Cape Winelands, with several distributed within the West Coast.



Figure 2: Piggeries in the Western Cape

3.1.3. Feedlots

From Figure 3 below, it can be seen that feedlots are mostly concentrated north of Cape Town, in the Overberg region, and near George. In general, Western Cape dairy production consists of both intensive stall-based facilities, as well as pasture-based systems (Notten & Mason-Jones, 2011).



Figure 3: Feedlots in the Western Cape

3.1.4. Poultry battery farms

From Figure 4 below, it is visible that poultry batteries are concentrated around Cape Town, Paarl and Worcester. Smaller concentrations are found along the southern part of the province, most notably in the Overberg region, and near the town of George.



Figure 4: Poultry battery distribution

3.1.5. Abattoirs

From Figure 5 below, it is visible that red meat abattoirs are widely dispersed throughout the province. A list of abattoirs is included in the appendix.



Figure 5: Abattoirs in the Western Cape

3.2. Daily throughput in Western Cape abbitoirs

Approximately 40% of abattoirs in the Western Cape are high throughput abattoirs, as classified in the table below (Leask, 2017; Britten & Lasher-Scheepers, 2016).

Throughput	Red-meat abattoirs	Poultry abattoirs ³
High throughput	>20 units per day ⁴	Maximum throughput determined by provincial executive officer on grounds of available equipment, facilities and chiller capacity
Low throughput	2 - 20 units per day⁵	2 000 poultry units
Rural throughput	Less than 2 units	50 poultry units

The figures below represent the throughputs for ostriches, poultry and red meat abattoirs in the Western Cape. This information is provided in Appendix B. The GPS co-ordinates for the abattoirs are available from GreenCape on request.⁶



Ostrich: Daily Throughput (units per day)

Figure 6: Location and daily throughput for ostrich abattoirs in the Western Cape

³ With one unit being equal to: $\frac{1}{2}$ a goose or $\frac{1}{4}$ of a turkey or four pigeons or two partridges or 12 quails or three baby fowls (petit pousons).

⁴ With one unit being equal to: one cow or two calves or one horse or 6 sheep or 6 goats or four small pigs (porkers) or two bacon pigs or one sausage pig.

⁵ Unless only one species is slaughtered per day then maximum throughput is 40 units for sheep or goats or 30 units for pigs.

⁶ Contact Cathy Pineo at cathy@greencape.co.za.



Figure 7: Location and daily throughput for poultry abattoirs in the Western Cape



Figure 8: Location and daily throughput for red meat abattoirs in the Western Cape

Source: Personal communication with and data provided by Dr. Graham Leask, State Veterinarian: Veterinary Public Health, Veterinary Services, Department of Agriculture, Provincial Government of the Western Cape.

Note that:

- Ostrich: 1 unit = 2 ostriches
- Poultry: 1 unit = 1 chicken or duck
- Red Meat: 1 unit = 1 adult bovine, or 2 calves, or 6 sheep or goats, or 2 baconers, or 4 porkers, or 1 sausage pig, or 1 class B game, or 6 class C game.

The figures indicate that the majority of high throughput poultry and red meat abattoirs are in the south east part of the Western Cape. This is in contrast with the high throughput ostrich abattoirs which are based in the Eden District. It is also important to note that these "official" throughput figures are likely to be underestimates – according to the Department of Agriculture many of the facilities exceed their daily throughput.

3.3. Quantity of waste available

Of the food wastes (i.e. product destined for consumption) in South Africa food value chains, 15% has an animal origin, with approximately half of this originating from milk (Oelofste & Nahman cited in Britten & Lasher-Scheepers, 2016). Information on residues and wastes from production is provided below.

3.3.1. Manure

The table below shows manure production estimates.

Table 2: Manure production estimates in the Western Cape

Source	Quantity (tonnes/annum)
Poultry manure	370,000
Cattle manure	6,000,000 - 10,000,000
Piggery manure	170,000

Sources: Hoekman (2015), GreenCape (2016)

3.3.2. Abattoir waste

It is estimated that 24 000 tonnes of red meat abattoir wastes are generated per annum in the Western Cape, of which 22 000 tonnes are "by-products" and 2 000 tonnes are considered waste (Neethling, 2016). For poultry, waste from condemned slaughters⁷ is estimated at 75 000 tonnes per annum (Britten & Lasher-Scheepers, 2016).

3.4. Current use

3.4.1. Manure

As a significant amount of bovine livestock is farmed extensively and allowed to forage relatively widely, manure collection is often a barrier to value addition. When livestock is farmed intensively (which is more common practice with piggeries and poultries), there may be a greater opportunity for value add. However, with poultry batteries, manure is often part of a mixture containing bedding material and feathers. This mixed stream is often unsuitable for some value addition methods, with common practice among farmers being the use this mixture as a soil conditioner.

⁷ Not suitable for human consumption

3.4.2. Abattoir waste

Table 3 below illustrates current uses and disposal methods for abattoir wastes from 47 abattoirs surveyed by the Western Cape Government Department of Environmental Affairs and Development Planning (Britten & Lasher-Scheepers, 2016).

Current use or method of disposal	Total
Municipal collection	6
Disposal at waste disposal facility ⁸	16
Private dumping	8
Burial on farms	14
Incineration	4
Composting	9
Rendering	3
Anaerobic digestion	2
Alkaline hydrolysis	0
Other	2

Table 3: Current use or disposal method for abattoir waste

Source: Britten & Lasher-Scheepers (2016). The authors of the above study note the following:

"In some instances, abattoir owners indicated that they were disposing their waste at WDFs [waste disposal facilities] however, when interviewing the municipality's waste manager, he indicated that no abattoir waste enters the site. It was also evident that due to the uncertainty regarding legislation the interviewees were not willing to disclose information or the information provided was untruthful."

The information from the above table and author notes, as well as interviews with the Department of Agriculture, suggest that:

- The majority of abattoirs in the Western Cape are not adding value to their waste directly over 60% of the samples abattoirs claim to dispose of waste via on farm burial or diversion to waste disposal facilities.
- There remains potential for diversion of wastes from landfill to other value add methods. Although
 there is uncertainty in terms of how much of this waste is actually diverted to waste disposal
 facilities, it is unlikely that it is going to value addition i.e. probably also buried. The Department of
 Agriculture believe that most abattoirs, particularly the smaller ones, have not explored value add
 options.
- Composting is currently the dominant value add solution, with several abattoirs in the Robertson area diverting their waste to the registered composting facility at Tomis Abattoir.
- There has been interest in anaerobic digestion but uptake has been slow, due in part to a lack of awareness of the technology, business case complexity regarding variable feedstocks and markets for the by-products and a lack of skills in terms of design and implementation of the facilities. Successful projects using livestock wastes were developed for a large dairy farm containing an energy-intensive feedmill, for a piggery partnered with a cheese-making facility, and a pork abattoir.

⁸ The current disposal practice for abattoir wastes in most municipalities is trenching (adding lime to the waste and covering with soil) as this is generally the most economical disposal method.

- Interviews with the Western Cape Department of Agriculture confirm that there are very few rendering facilities. This may be due to lower economies of scale and relatively high logistic costs particularly for the small and rural throughput abattoirs. However, there is a rendering facility at Bonnievale Abattoir a relatively small abattoir which processes 25 pig units per day (i.e. 50-100 pigs). They are currently exploring technical options to improve cost effectiveness, specifically in terms of increasing the quantity and quality of fat.
- There was an alkali hydrolysis facility in the Western Cape, but it closed down due to lack of cost competitiveness.

4. What is required to unlock this opportunity for utilisation/transformation

4.1. Manure

4.1.1. Anaerobic digestion

Most biogas produced is used on-site to generate electricity and heat, with very little being bottled for sale. Electricity feed into the grid or wheeling is also quite rare and depends on location and nearby industries. There are challenges to feeding onto the grid if served by the state-owned electricity utility Eskom which currently prohibits feed-in for low voltage connections. Furthermore, if connected to a local municipal grid, regulations vary by region.

4.1.2. Compost/fertiliser

Fertiliser/compost produced is generally sold to individual farmers who collect it by the truckload. This is largely due to technicalities with regulations: in order to be able to package and sell compost as fertilizer, registration and authorization is required. However, when compost is unpackaged and unlabelled it can be sold, usually referred to as "mulch". Hence, product buyers/offtakers are generally context specific, with very few large/dominant offtakers in the market.

4.2. Abattoir waste

One of the key opportunities for value addition to abattoir wastes is due to Section 4 (2) (iii) of the National Norms and Standards for the Disposal of Waste to Landfill (23 August 2013, GG No. 36784 GN No. 636). This requires non-infectious animal carcasses to be disposed of at a Class B waste disposal facility or at one designed in accordance with the requirements for a G:L:B+ waste disposal facility, as specified in the Department of Water Affairs and Forestry (DWAF) Minimum Requirements for Waste Disposal by Landfill (2nd Edition, 1998). Currently, there is only one landfill that meets these requirements in the Western Cape: Vissershok which is situated just north of Cape Town. A map of waste disposal facilities and abattoirs is shown below.



Figure 9: Location of abattoirs and waste disposal facilities

Source: Department of Environmental Affairs & Development Planning (2017)

The Department of Environmental Affairs and Development Planning (DEA&DP) does however realise that this change cannot occur overnight and the costs of transporting waste to Vissershok make it financially prohibitive. This means that any solutions that are able to provide financially viable solutions for abattoir waste treatment (especially for small scale abattoirs) could help ensure legal compliance.

The pressure to comply with these regulations will increase over time and thus now is a key time to provide a solution to abattoirs, with 45 abattoirs already closing down in South Africa in the last 2 years, partly due to issues related to regulatory compliance (G Neethling, personal communication, December 2016). The figure overleaf shows some of the waste treatment facilities planned (e.g. Wellington) or already implemented.



Figure 10: Location of abattoirs and waste treatment facilities

Source: Department of Environmental Affairs & Development Planning (2017)

5. **Possible South African business partners**

Waste providers

See appendix for lists of abattoirs and dairies in the Western Cape

Solution / technology providers

Company name: AgriProtein
Core business: Insect protein
Website: www.agriprotein.com
Company name: Bio2Watt
Core business: Anaerobic digestion
Website: www.bio2watt.com
Company name: New Horizons Energy (subsidiary of Clean Energy Africa)
Core business: Anaerobic digestion
Website: www.cleanenergyafrica.co.za
Company name: Cape Advanced Engineering
Core business: Anaerobic digestion
Website: www.cae.co.za
Company name: Global Energy
Core business: Anaerobic digestion
Website: www.globalenergy.co.za

Solution / technology providers

Company name: ibert

Core business: Anaerobic digestion

Website: www.ibert.co.za

Company name: Trigen

Core business: Anaerobic digestion (with a focus on poultry wastewater)

Website: www.trigen.co.za

Company name: DNA Biofuels

Core business: Biofuels (generally from poultry waste)

Company name: Reliance Compost

Core business: Composting

Website: http://www.reliance.co.za/

Product buyers / offtakers

Company name: PowerX

Core business: Electricity distribution/wheeling

Website: www.powerx.energy

Company name: Afrox

Core business: Gas distributor

Website: www.afrox.co.za

Company name: Avison

Core business: Fertiliser supplier

Note: GreenCape is able to furnish potential partners with contact details for those companies listed below, as well as wider ecosystem contacts not listed in this table.

5.1. Other stakeholders to note

Key stakeholders in the livestock sector are the various industry associations:

- Red Meat Producers Organization (RPO)
- National Emerging Red Meat Producers Association (NERPO)
- Milk Producers Association (MPO)
- SA Dairy Foundation (MPO)
- SA Pork Producers Association (SAPPO)⁹
- SA Poultry Association (SAPA)
- SA Ostrich Business Chamber
- National Wool Growers Association (NWGA)
- South African Meat Industry Company (SAMIC)
- Red Meat Abattoir Association (RMAA)
- SA Feedlot Association (SAFA)
- South African Mohair Growers Association
- South African Milk Processors' Organization (SAMPRO)

⁹ The SAPPO collective membership is 21 000 (approximately 19 % of the total for South Africa) sows in the Western Cape alone and serves as a mouthpiece for pig producers. Two major contributors to pig production in the Western Cape are Winelands Pork (Pty) Ltd situated in the CoCT Municipality (installing pyrolysis facility) and Roelcor Holdings (Pty) Ltd situated in Swartland Municipality.

6. SWOT analysis

Below is a SWOT analysis for this opportunity from the point of view of the likelihood of the opportunity being realised through foreign business matchmaking, foreign investment or sharing of overseas expertise.

	Strengths	Weaknesses		
Internal	 High biogas potential of many of the waste streams. High nutrient content of abattoir waste makes it a good fertiliser when supplemented with green waste. 	 Highly disaggregated wastes especially for manure as often farmed extensively. Anaerobic digestion is an infant industry in South Africa. The rendering industry is small and difficult to access. 		
	Opportunities	Threats		
External	 Government legislation is driving a search for alternatives to landfill / better utilisation. If the poultry industry can be convinced that additional value can be gained they will be keen to engage as their margins are being put under pressure through cheap imports and international trade agreements not going their way. Government support for agri-processing through the dti's agro-processing support scheme and WCG DEDAT's Agri-processing Supplier Development Programme. 	 The poultry industry is facing significant pressure (due to competition with imports) and companies are thus not very open to collaboration. The red meat abattoir sector is generally reluctant to share information. Legislation on (use of) compost derived from animal tissue is unclear. 		

7. Opportunities outside of the Western Cape

Outside of the Western Cape, beef cattle will present a greater opportunity although the extensive nature of this in many regions will still be problematic. The Gauteng Province is likely to have at least some larger abattoirs. Smaller scale solutions will find uptake in the KwaZulu-Natal and the Eastern Cape as small scale livestock production and agrarian households are more prolific in these provinces that in the Western Cape.

A good source of information on wastes that have potential for biogas generation is a report done for the National Department of Environmental Affairs, which focused on biogas potential in South Africa and its potential use as a transport fuel. Please see the report for more details. It is available at https://www.environment.gov.za/sites/default/files/reports/bioagas_report.pdf.

8. References

- Britten, R. & Lasher-Scheepers, C., 2016. *Status Quo of Abattoir Waste in the Western Cape*, Cape Town: Western Cape Department of Environmental Affairs and Development Planning.
- Department of Environmental Affairs & Development Planning, 2017. *Guideline on the Management of Abattoir Waste in the Western Cape*, Cape Town: Western Cape Government.

GreenCape, 2017. Bioenergy and Product Diversification Project, Cape Town: GreenCape.

Leask, G., 2017. Personal communication, s.l.: s.n.

Maistry, L., 2014. Correctional Services on training of inmates in agriculture activities. [Online] Available at: <u>http://www.gov.za/more-inmates-be-trained-agriculture-activities</u> [Accessed 5 July 2017].

Neethling, G., 2016. Personal communication, s.l.: s.n.

- Notten, P. & Mason-Jones, K., 2011. *Lice Cycle Assessment of Milk Production in the Western Cape,* Cape Town: The Green House.
- Western Cape Department of Agriculture, 2017. *Cape Farm Mapper.* [Online] Available at: <u>https://gis.elsenburg.com/apps/cfm/</u> [Accessed 3 July 2017].

Note: Britten & Lashers (2016), and Department of Environmental Affairs & Development Planning (2017) reports available upon request.

Appendix A: Dairies

Table 4: List of dairies in the Western Cape

NAME	MUNICIPALITY	DISTRICT
AKBAR DAIRY TRUST	City of Cape Town	City of Cape Town
ALFALFA DAIRY	Breede Valley	Cape Winelands
ALLEE BLEUE ESTATE	Stellenbosch	Cape Winelands
AMALIENSTEIN	Kannaland	Eden
AMPIE DE SWARDT	Bitou	Eden
ARBEIDSGENOT	Swartland	West Coast
CALEDON DAIRY FACTORY	Theewaterskloof	Overberg
CALEDON FOOD AND BEVERAGE GROUP	Theewaterskloof	Overberg
CLOETESKRAAL	Swellendam	Overberg
DE HOOP DAIRY	Witzenberg	Cape Winelands
DE LANGEKLOOF	Swartland	West Coast
DEUGAS	George	Eden
DEUR DIE DRIF	Knysna	Eden
DIE EIKE	Kannaland	Eden
DOORNFONTEIN HOLSTEINS	Swartland	West Coast
DORMEL FARMS	Knysna	Eden
DRIE SUSTERS MELKERY	Swartland	West Coast
DROEVLEI	Swartland	West Coast
EASTSIDE	Cederberg	West Coast
ELEVATION JERSEYS	Oudtshoorn	Eden
ESELFONTEIN	Witzenberg	Cape Winelands
FAIR CAPE	City of Cape Town	City of Cape Town
GANZ VLEI	Knysna	Eden
GAY'S GUERNSEY DAIRY	Prince Albert	Central Karoo
GOEDEHOOP	George	Eden
GOEDGEDACHT	Swartland	West Coast
GROOTVLAKTE	Swellendam	Overberg
HARTEBEESFONTEIN	Swartland	West Coast
HARTEBEESKLOOF	Swartland	West Coast
HARTEBEEST KUIL 220	Mossel Bay	Eden
HIGHLAND HOME	Knysna	Eden
HOUTBAAI DAIRY	Drakenstein	Cape Winelands
JOYCE'S DAIRY FARM	City of Cape Town	City of Cape Town
JOYCE'S DAIRY FARM (PTY) LTD	City of Cape Town	City of Cape Town
KLEINBAKOVEN	Swartland	West Coast
KLEINBOS DAIRY	George	Eden
KLIPHOOGTE	Swellendam	Overberg
KONINGSVLEI	Saldanha Bay	West Coast
KWESSIE BOERDERY	Kannaland	Eden
	George	Eden
	Knysna	Eden
LEEUWENBOSCH DAIRIES	Knysna	Eden

LEIDERSBURG DAIRY	Drakenstein	Cape Winelands
LISMORE DAIRY	Swellendam	Overberg
MARK RUBEN LANCEWOOD DAIRY 2	Knysna	Eden
MATJIESVLEI - DIE KOM	Kannaland	Eden
MOOIRIVER DAIRY (CHEESE FACTORY)	Langeberg	Cape Winelands
OAKHURST DAIRY	George	Eden
OUDEKRAAL	Theewaterskloof	Overberg
OUDEWAGENDRIFT BOERDERY	Breede Valley	Cape Winelands
PLATRUG	Swellendam	Overberg
POPULIERBOS	Swartland	West Coast
REDLANDS	Kannaland	Eden
RHEBOKSFONTEIN	Swartland	West Coast
RHENOSTERBOSRUG DAIRY	Swartland	West Coast
ROOIHOOGTEVLEI	Swartland	West Coast
RUYTEPLASS	Knysna	Eden
SAAMSTAAN DAIRY	George	Eden
SANDPLASIE DAIRY	Swartland	West Coast
SCHONENBERG DAIRY	Swartland	West Coast
SEEKOEGATSDRIFT	Kannaland	Eden
SIE	Drakenstein	Cape Winelands
SKUINSKRAAL	George	Eden
SONNEDAL DAIRIES	City of Cape Town	City of Cape Town
SPITSKOP	Swellendam	Overberg
STERKWATER / WITZENBERGVALLEI	Witzenberg	Cape Winelands
SWARTWATER DAIRY	Swartland	West Coast
THE GRAINS DAIRY	Swartland	West Coast
TRADOUWSHOEK DIARY	Swellendam	Overberg
TWEEKUIL MELKERY	Swartland	West Coast
UILENKRAAL	Swartland	West Coast
VAN GREENEN BOERDERY	George	Eden
VENSTERKRANS	Kannaland	Eden
VLEIPLAAS	George	Eden
VOORHUIS	Swellendam	Overberg
VYEKRAAL	Swartland	West Coast
WELGEVONDEN	Oudtshoorn	Eden
WOLWEFONTEIN	Swartland	West Coast
WOODSIDE FARM	Knysna	Eden

Source: Department of Agriculture (2013)

Appendix B: Abattoirs

The location and throughputs for the ostrich, poultry and red meat abattoirs is shown in the table below.

Note that:

- Ostrich: 1 unit = 2 ostriches
- Poultry: 1 unit = 1 chicken or duck
- Red Meat: 1 unit = 1 adult bovine, or 2 calves, or 6 sheep or goats, or 2 baconers, or 4 porkers, or 1 sausage pig, or 1 class B game, or 6 class C game.

Table 5: Daily throughput per abattoir in the Western Cape

Abattoir type	Throughput category	District Municipality	Local Municipality	Town	Abattoir Name	Daily throughput (units/day)
Ostrich	High	Eden	Mossel Bay	Mosselbaai	Mosstrich Abattoir	225
			Oudtshoorn	Oudtshoorn	Klein Karoo International	505
		Overberg	Swellendam	Swellendam	Ostriswell Abattoir	100
		West Coast	Swartland	Malmesbury	Swartland Ostrich & Game (Ltd)	80
Poultry	High	Cape Winelands	Breede Valley	Worcester	RCL Foods Consumer RAINBOW	300 000
			Drakenstein	Paarl South	Drakenstein Pluimvee Abattoir	6 000
		City of Cape Town	City of Cape Town	Durbanville	County Fair Foods	320 000
				Gordonsbaai	Lazena Boerdery Abattoir	4 000
		Overberg	Theewaterskloof	Elgin	Elgin Poultry Abattoir	25 000
		West Coast	Swartland	Malmesbury	Peries Foods	20 000
	Low	Cape Winelands	Breede Valley	Worcester	Sonrise Free Range Chickens	400
			Langeberg	Montagu	Elkana Boerdery Trust	800
		Central Karoo	Beaufort West	Beaufort West	Karoo Chicken Abattoir	250
		City of Cape Town	City of Cape Town	Kraaifontein	Duck Farm Abattoir	1 000
		Eden	Knysna	Plettenberg Bay	Eden Free Range Chickens	500
			Mossel Bay	Grootbrakrivier	Reebok Pluimvee Abattoir	500

Abattoir type	Throughput category	District Municipality	Local Municipality	Town	Abattoir Name	Daily throughput (units/day)
		West Coast	Saldanha Bay	Hopefield	Hopefield Abattoir	850
	Rural	Central Karoo	Beaufort West	Beaufort West	Juriesfontein Poultry Abattoir	50
		City of Cape Town	City of Cape Town	Phillipi	Frylinckspoort Poultry Abattoir	50
		Eden	George	Misgund	Langkloof Halaal Abattoir	50
			Hessequa	Albertinia	Midkins Poultry Abattoir	50
		Overberg	Swellendam	Bredasdorp	Hanskraal Free Range Poultry Abattoir	50
		West Coast	Cederberg	Clanwilliam	Nieuwoudt Braaikuikens	50
				Graafwater	Turner Poultry Abattoir	50
Red	High	Cape Winelands	Breede Valley	Worcester	Worcester Abattoir	80
Meat			Drakenstein	Paarl	Osdam Trading (Pty)Ltd	100
				Wellington	Tomis Abattoir & Fresh Meat Wholesalers	185*
			Langeberg	Bonnievale	Bonnievale Abattoir	25**
				Robertson	S A F A M Group CC - Robertson	90
			Witzenberg	Ceres	Yabantu Abattoir	125
		Central Karoo	Beaufort West	Beaufort West	Karoolam	50
		City of Cape Town	City of Cape Town	Bellville	Winelands Pork Abattoir	650
		Eden	George	George	Roelcor George Abattoir	100
			Hessequa	Riversdal	Hessequa Abattoir	50
		Overberg	Cape Agulhas	Bredasdorp	Bredasdorp Abattoir	100
			Theewaterskloof	Grabouw	Groenland Meat Traders	100
		West Coast	Matzikama	Vredendal	Namlam Abattoir	120
			Saldanha Bay	Saldanha	Cartol Abattoir	160
			Swartland	Malmesbury	Roelcor Malmesbury (Pty) Ltd	250
				Moorreesburg	Wespin 65 (Pty) Ltd	65
	Low	Cape Winelands	Drakenstein	Paarl South	Drakenstein Correctional Services	8

Abattoir type	Throughput category	District Municipality	Local Municipality	Town	Abattoir Name	Daily throughput (units/day)
		Central Karoo	Beaufort West	Beaufort West	Free Range Meat Distributors (PTY)LTD - My Karoo	20
					Rooiheuwel Abattoir	5
					S A F A M Group CC - Beaufort West	10
					Scheurfontein Abattoir	3
				Leeu-Gamka	Bulwater Abattoir	10
				Merweville	Merweville Abattoir	10
			Laingsburg	Laingsburg	Buffelsrivier Abattoir (Viskuil)	6
					Nanini 210 BK Abattoir	25
			Prince Albert	Prins Albert	Prins Albert Abattoir	5
		Eden	George	George	Van Rensburg Abattoir	20
			Hessequa	Albertinia	Albertinia Halaal Abattoir	10
			Kannaland	Ladismith	Towerkop Abattoir	4
			Knysna	Karatara	Fernbank Abattoir	5
				Knysna	Knysna Abattoir	15
			Mossel Bay	Hartenbos	Mosselbaai Vleishandelaar	13
				Mosselbaai	Bartelsfontein Abattoir	5
			Oudtshoorn	Oudtshoorn	Klein Karoo Rooivleis Abattoir	15
		Overberg	Cape Agulhas	Napier	Napier Abattoir	5
			Overstrand	Gansbaai	Slanghoek Abattoir	8
			Swellendam	Bredasdorp	Excelsior Abattoir	10
				Swellendam	Global Pact Halaal Abattoir Swellendam	10
			Theewaterskloof	Caledon	Helderstroom Correctional Services	10
		West Coast	Bergrivier	Porterville	Callies Abattoir	17
					Voorberg Abattoir	15
			Cederberg	Clanwilliam	Clanwilliam Abattoir	5

Abattoir type	Throughput category	District Municipality	Local Municipality	Town	Abattoir Name	Daily throughput (units/day)
			Swartland	Riebeeck Kasteel	Deli- Co Abattoir	16
	Rural	West Coast	Cederberg	Clanwilliam	Travellers' Rest Abattoir	2

* Tomis abattoir runs two slaughter lines under one roof – one for cattle (60 units) and one for sheep (125 units). This abattoir already has its own registered composting facility.

** Bonnievale Abattoir is currently rendering to add value to their slaughter waste.

Source: Personal communication with and data provided by Dr. Graham Leask, State Veterinarian: Veterinary Public Health, Veterinary Services, Department of Agriculture, Provincial Government of the Western Cape