Turn manure into electricity

Did you know that manure can be turned into electricity? Yes, farmers across the world are using the manure of cows, pigs or chickens to produce electricity for their farms. In order to generate electricity from manure, a digester is needed.

The digester

Manure digesters are easy to operate, cost-effective and take a lot of the foul-smelling odour out of manure. The manure in the digester is stirred, otherwise the manure will settle and form a hard layer on the top. A digester will start producing biogas after 2 to 4 weeks.

Digesters can be covered lagoons or pits or even sealed concrete tanks with inverted drums in them. The digester is usually insulated, so that it retains its temperature.

How does it work?

- Collect manure daily by scraping it from the dairy parlour.
- The manure is put into the digester through the inlet.
- The manure in the digester is heated, so that it decomposes quicker.
- The heat in the digester is regulated by stirring warm water through the slurry (manure).
- Methane gas is separated from the liquid and solid waste.
- The gas is let out through a valve and into a gas line, which is attached to a generator.
- The leftover manure in the digester can be used as fertiliser on your lands.

Temperature

If you live in a very warm area, it is preferable to keep your digester in the shade or you can even put a roof over it. However, if you live in a very cold area, you can insulate the digester with straw or wood shavings. Do this by placing a layer of 50 to 100 cm of straw or shavings on top of the digester, and coat it with a waterproof covering (plastic).

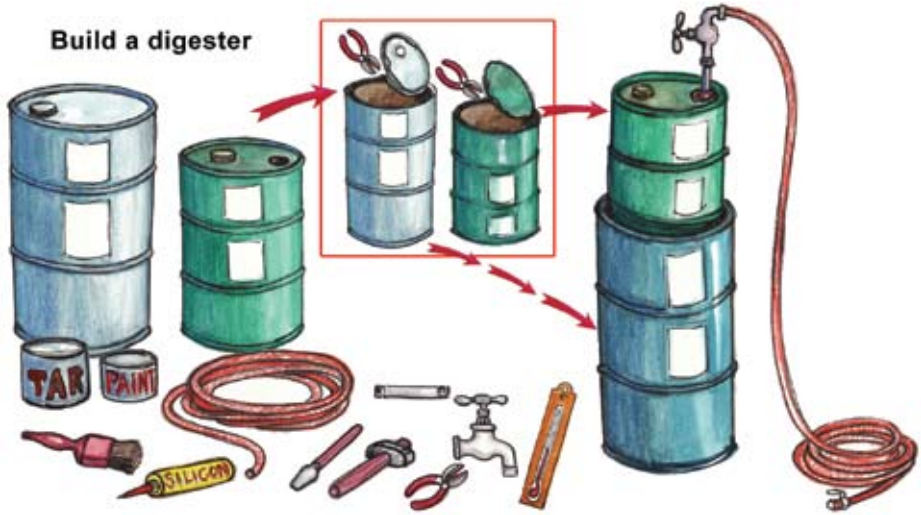
Electricity in animal housing

Here are some tips from Eskom, for saving electricity in your animal housing:

- Rinse milking machines with cold water directly after milking.
- Insulate the roof of your animal housing. This will mean less additional energy to regulate temperatures.
- A silver roof will reflect more heat off the structure.
- When using natural ventilation for animal housing, buildings should not be wider than 12 metres for optimum utilisation of wind cooling. UM

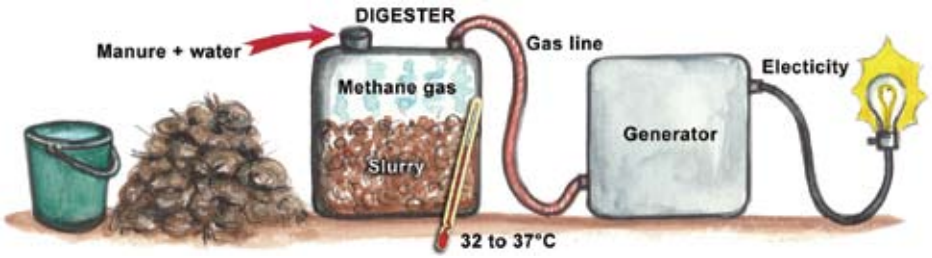
Electricity from manure

1. Build a digester from a sealed tank or cover a pit or dam with plastic sheeting.
2. Collect manure from cows, pigs or chickens and place into the digester.
3. Stir warm water through the slurry so that it decomposes quicker.
4. Collect Methane gas through a valve into a gas line.
5. Use the gas for your generator.



Elektrisiteit uit mis

1. Bou 'n misverteerder uit 'n verseëlde drom of maak 'n put of dam met plastiekseile toe.
2. Maak koei-, vark- of hoendermis bymekaar en plaas dit in die verteerder.
3. Meng warm water deur die afval sodat dit vinniger kan ontbind.
4. Maak metaangas bymekaar deur middel van 'n klep wat in 'n gaspyp inloop.
5. Gebruik die gas vir jou kragopwekker.



Ugesi ovela ku-manure

1. Yakha okokugaya okuvela ethangini elivaliwe noma vala umgodi noma idamu ngeshidi likapulasitiki.
2. Qoqa umanyolo ovela ezinkomeni, ezingulubeni noma ezinkukhwini bese uwuthela esigayweni.
3. Goqoza amanzi afudumele obindizini ukuze kusheshe kubole.
4. Qoqa igesi ye-Methane ngevalvu iye kulayini wegesi.
5. Sebenzisa igesi kujenereyitha yakho.

Motlakase wa moitedi

1. Haha modiko ka tanka e kwetsweng kapa o kwahele mokoti kapa letamo ka polastiki.
2. Bokella bolokwe ba dikgomo, dikolobe kapa dikgoho le ho bo kenya modikong.
3. Tshela metsi a futhumetseng e le hore moitedi o bole kapele.
4. Bokella kgase ya Methane ka valve ho kena moleng wa kgase.
5. Sebedisa kgase ena bakeng sa jenereita ya hao.

Umbane ophuma kumgquba

1. Yakha isivundisi (i-digester) kwitanki etywiniweyo okanye umngxuma ogqunyiweyo okanye fumisa ngomaleko weplastiki.
2. Qokelela umgquba ovela kwiinkomo, iihagu okanye iinkuku uwufake kwisivundisi .
3. Galela amanzi ashushu kudaka ze uzamise ukuze umgquba uvunde ngokukhawuleza.
4. Qokelela igesi ye-Methane ukugqitha kwisivalo ukungena kumbhobho wegesi.
5. Sebenzisa igesi kwijenereitha yakho. UM