

Biogas Digesters

Capture methane from manure and scraps for cooking fuel

DIFFICULTY Moderate–hard

TYPE One-off build, ongoing operation

TIME A weekend to build, weeks to start producing



DIFFICULTY
Moderate–hard



TIME
Build: 1–2 days



COST
Moderate



BEST SEASON
Warmer months
work best
(temperature-
dependent
process)



FREQUENCY
Fed
daily/regularly

01 Manure and scraps in, gas out

A biogas digester is essentially a sealed tank where bacteria break down manure and organic waste in the absence of oxygen, producing methane-rich biogas that can be piped directly to a stove or burner.



source – hydro, wind, or fuel



storage / regulation



the house / shed

02 What you'll need

- A sealed digester tank (purpose-built or a well-adapted DIY design)
- A steady supply of manure and/or food scraps
- A gas storage bladder or holder
- Gas piping and a compatible burner or stove fitting

03 Method

1. Choose a digester design and size suited to your available manure/scrap volume.
2. Site the digester somewhere warm, ideally with some sun exposure — the process slows significantly in cold conditions.
3. Start the digester with an initial manure slurry and let bacterial activity establish over several weeks.
4. Feed regularly with manure and/or suitable scraps, maintaining a consistent input rhythm.
5. Connect gas output to storage and then to a compatible burner or stove fitting, adjusted for biogas rather than LPG/natural gas.

04 Troubleshooting

- **Little or no gas production** — usually temperature too low, insufficient feeding, or an imbalanced feedstock; check all three.
- **Gas production stalls over time** — feedstock imbalance or a build-up of inhibitory substances; may need a partial reset with fresh slurry.
- **Bad smell around the digester** — indicates a leak in the sealed system, which should be fully airtight; check seals and connections.
- **Burner not working well with biogas** — biogas burns differently to LPG/natural gas; burner jets often need adjustment for the different gas composition.

05 Timing & maintenance

BEST TIME	Start in warmer months when bacterial activity establishes fastest; performance drops in cold weather.
DURATION	Weeks to establish initial gas production; ongoing output with regular feeding thereafter.
MAINTENANCE	Daily or near-daily feeding, periodic checks of seals and gas storage.
SIGNS OF SUCCESS	A consistent, usable volume of gas each day, sufficient for at least some cooking needs.

06 Tips & variations

PAIRS WELL WITH

Hot Composting

COMMON MISTAKES

Underfeeding or irregular feeding, causing inconsistent gas production

Not accounting for reduced output in cold weather when planning reliance on the system

PRO TIP

Biogas is a genuinely useful supplementary cooking fuel on a homestead with livestock, but rarely replaces LPG or mains gas entirely — treat it as a valuable offset rather than a complete substitute.