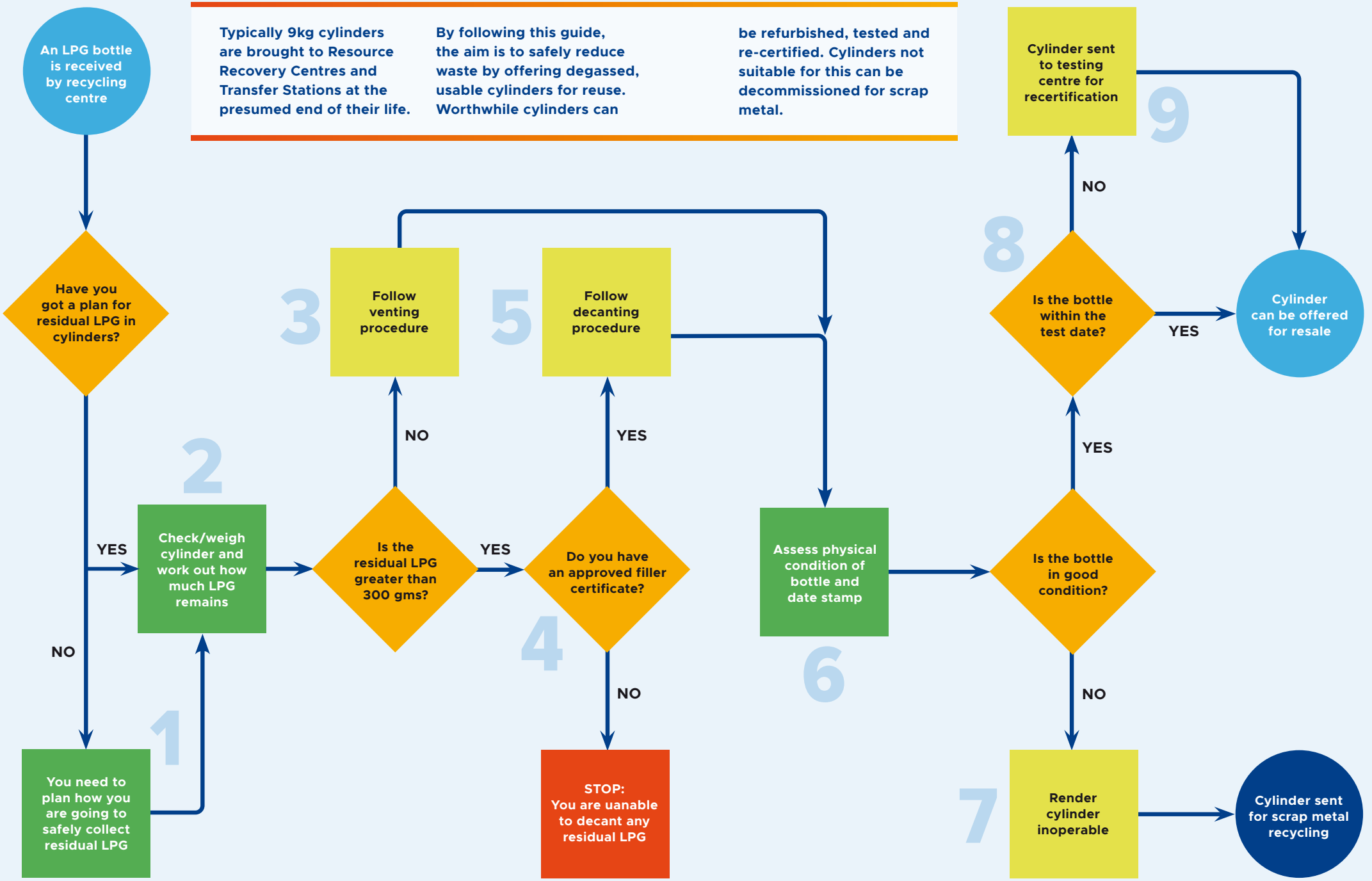
GASNZ

LPG CYLINDER
RECYCLING GUIDE

Typically 9kg cylinders are brought to Resource Recovery Centres and Transfer Stations at the presumed end of their life. By following this guide, the aim is to safely reduce waste by offering degassed, usable cylinders for reuse. Worthwhile cylinders can be refurbished, tested and re-certified. Cylinders not suitable for this can be decommissioned for scrap metal.



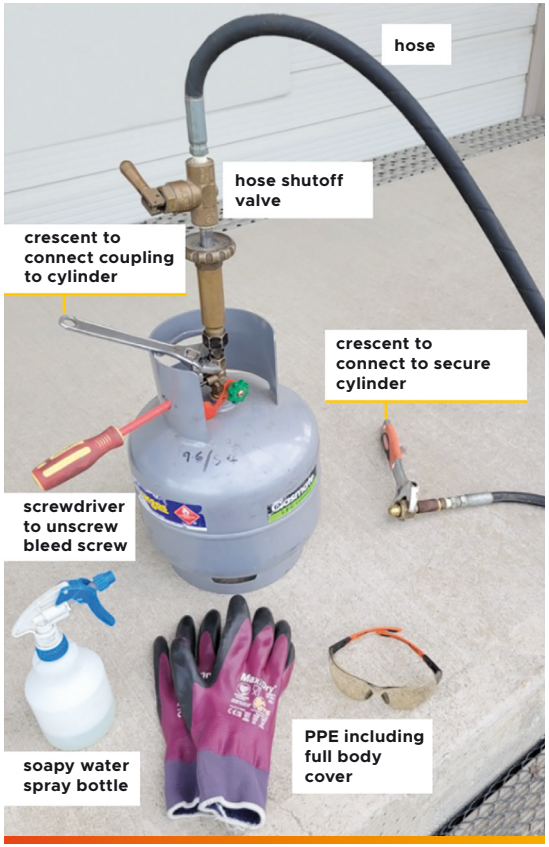
1 Before you start

You need to have a plan for the reclaimed LPG. Cylinders containing greater than 300 grams need to be decanted into another cylinder. Once the collection cylinder is at capacity, you need to have a plan for passing it on so that the LPG is safely disposed of or used.

Be considerate of your neighbours. If you have close neighbours, be aware that an uncontrolled gas release may alarm and the smell offend. If this is possible, don't remove the gas from too many cylinders at once.

Competency requirements

People undertaking decanting must have an Approved Filler Certificate. To obtain this certificate and the necessary training, contact one of the LPG industry trainers. Refer to the GasNZ website.



Equipment

- Personal Protective Equipment (PPE).
  - Full anti-static body cover — normally cotton
  - Safety shoes
  - Eye protection
  - Safety gloves
- Decant hose — must be an approved liquid LPG hose with a shutoff valve at one end
- Spray bottle containing soapy water
- Scales — accurate to 50 grams
- Screwdriver or allen key for opening bleed/ullage screw
- Stillage crate or suitable sturdy pallet for cylinder storage and transport
- In-test 9kg or 45kg cylinder for collecting the residual LPG
- Calculator
- Cylinder checklist to ensure all steps are taken and to record results.

2 Checking for residual gas

Assess the contents of the cylinder by comparing the actual weight with the cylinder's empty weight.

1. Identify the empty weight (EW) stamped on the cylinder shroud and take note (on a form if you are using a form system).
2. Weigh the cylinder.
3. Subtract the empty weight from the actual weight of the cylinder.
   - If the weight difference is 300 grams or less, refer to Venting the gas.
   - If the weight difference is greater than 300 grams, refer to Decanting the gas.

3 Venting the gas

Only vent the gas if there is less than 300 grams of LPG in the cylinder.

1. Position the cylinder in a well-ventilated area away from the public and any drains and potential ignition sources.
2. Open the cylinder valve and release the residual gas.

4 Competency requirements

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5 Decanting the gas

The operator must be an approved filler and in attendance for the duration of this process.

1. Connect both cylinders to the decant hose using the appropriate filling adaptors.
2. Have cylinder on a stable non-plastic surface. Wood would be best.
3. The cylinder you are decanting into should be on scales.
4. Only fill to 80% of the cylinder capacity. Calculate using the stamped water capacity (WC) x 0.444.
5. Turn the cylinder you are decanting from upside down and restrain if unstable.
6. Open the cylinder valve on the cylinder you are decanting from.

7. Open the cylinder valve on the receiving cylinder and slowly open the shutoff valve on the decant hose.
8. Check for leaks by spraying around the valves and connections. Bubbles must not form.
9. Open the bleed/ullage screw on the receiving cylinder. This releases vapour and reduces pressure to allow the liquid transfer.
10. Check on the scales that the receiving cylinder is not filled beyond 80% of its water capacity or liquid comes out the ullage valve.

Ways to tell that liquid transfer is complete

- Position the decant cylinder on the scales. Stop decanting once the empty weight (EW) is reached.
- Ice may form around the bleed/ullage screw vent as an indication that liquid is transferring. If the ice disappears, this is a sign that liquid has stopped transferring and vapour is now being transferred.
- There may be a reduction in the noise level of the transfer.

6 Inspect the cylinder's worthiness

If the cylinder is in poor condition it will need to be emptied and disposed of. Poor condition means:

- Damaged or no foot ring
- Damaged or no valve protection
- A damaged valve
- Dents, rust or holes — check for pinhole leaks using soapy water, especially around the cylinder welds.

7 Prepare the cylinder for scrap metal disposal

If a cylinder has been condemned, the cylinder must be made unserviceable. Remove the valve and destroy the valve thread.

1. Vent or decant as per previous instructions. **This does not make the cylinder gas-free.**
2. ❗ Remove the valve. The valve may be corroded and should only be removed by a suitably trained person. **Never use heat or cutting disks on the cylinder.**
3. Destroy the cylinder valve thread at least down to the root of the thread over a minimum of 6mm of the thread circumference.
4. Scrape off or paint over the diamond so that it is unreadable.

5. Write the date on the cylinder with permanent marker and leave sitting outside for a month before sending to scrap.
6. Optional — at least a month after the valve was removed, drill a hole of at least 25 mm diameter through the wall or base. Some scrap metal companies require the hole, we recommend that you approach your nominated scrap metal company to find this out. If this is required the cylinders can be stored in a cage, but away from ignition sources.

Equipment needed to remove the valve may include:

- Cylinder clamps
- Crows-foot wrench of the correct size to span the valve flats, with extension
- Tubular or box wrench
- Split sockets
- Soft mallets (eg rubber or wooden)

8 Check the Test Date stamped on the cylinder shroud

- Cylinders are in-test for 10 years. If the cylinder is in good condition but out of test, you can send to a Testing Station for re-certification. Contact your local Testing Station to arrange collections or transport the cylinders yourself ensuring you comply with NZ Land Transport Rule: Dangerous Goods 2005 — Rule 45001/1.

9 Testing Stations

For a list of testing stations, see the Cylinder Testing Laboratory Association: www.ctla.co.nz

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