

# 12 steps to GREEN A KIDNEY UNIT



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# 1. Communication & engagement

- Ensure at least one senior member of the unit's core team undergoes training in sustainability, that there is a named staff Sustainability Champion, a Kidney Community Green Ambassador (patient representative) and that there is a working group with senior managerial support.
- Staff, patients and other specialties should be informed about any positive green actions, so effective communications is essential. Staff should be provided with practical ways to participate, and kidney units should consider establishing a Sustainable Kidney Care (SKC) working group to monitor and advocate for the following aspects and any other sustainability changes.
- Encourage all staff to attend sustainable healthcare training.
- Integrate sustainability into Quality Improvement (QI) initiatives: there are numerous examples and opportunities for staff members to engage in QI projects.

## Resources



- Sustainability Champion Scheme
- e-Learning for Healthcare free modules
- Kidney Care Sustainability Network and case studies\*
- Sustainability in QI toolkit
- Sustainable Kidney Care course

*\*We are always looking for new case studies, please post yours as a resource on the Network. Templates are available [here](#) if required.*

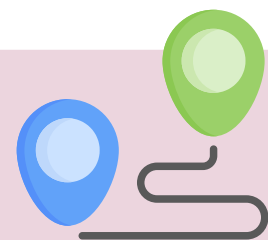
## 2. Reduce and decarbonise travel

Patient transport is a significant contributor to a kidney unit's carbon footprint and is both costly and polluting.

- Move to low emission vehicles as soon as possible and ensure a move in this direction is built into contracts.
- Aim to offer virtual clinics (>25% of total kidney outpatient activity) where appropriate, and consider developing diagnostic hubs to facilitate this.
- Look into aborted transport (instances where hospital transport is sent to patients who are away or already in the hospital, or to those patients who independently travel instead of waiting for transport). Ensure that all transport providers are aware of patients not at home and facilitate patient engagement in this.
- Encourage patients in active travel and consider encouraging public transport to reduce hospital-based transport.
- Regularly review hospital transport arrangements for dialysis and outpatient services, including the potential for reimbursement of expenses for public transport, and set up a working group to reduce this.

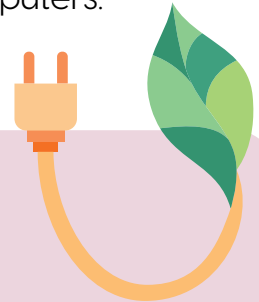
### Case studies

- [Electric vehicles lowering carbon emissions](#)
- [Telephone clinics in transplant follow up - Coventry](#)
- [Electronic consultation alternative to referral - Bradford](#)
- [Sustainable Action Planning for carbon reduction - Cornwall \(includes reducing aborted transport\)](#)



# 3. Reduce energy consumption of kidney care estates

- Perform an environmental audit of dialysis units and kidney care buildings.
- Retrofit buildings to reduce heat loss with cost effective insulation (and protect against excessive heat in summer), review use of heating and work toward smart heating (maintaining appropriate temperatures when building is occupied and unoccupied). Work with the estates department to set goals, monitor and audit heating and electricity use.
- Switch all lights to LEDs and install movement activation controls for lighting.
- Work with IT to ensure energy efficient monitors and computers.



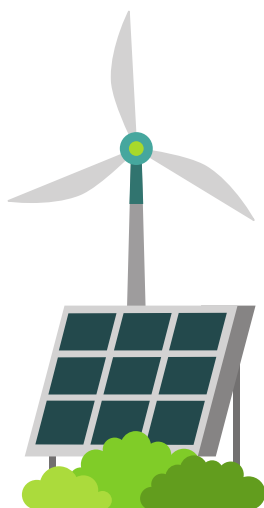
## Case studies

- [LED lighting - Bradford](#)
- [Baling and recycling of cardboard and plastic bottles - Newcastle](#)
- [Waste management - Fife](#)

## Resource

- [NHS Net Zero Building Standard](#)

## 4. Decarbonise energy sources



- If possible, switch to a 100% renewable energy purchase agreement as soon as possible.
- Explore local microgeneration, such as solar power (this may work well for satellite units with available roof space or large carparks) and heat pumps. Consider crowdsource funding as a potential avenue for implementing these solutions.
- Encourage your hospital or organisation to join a power purchase agreement so procurement of future energy builds new renewable generation.

## 5. Acid concentrates

Where possible (and always in new units) switch to bulk delivery of acid concentrates distributed through a ring main system, or their on-site reconstitution from dry powder, to reduce the use of plastic canisters. This reduces plastic and concentrate waste, saving carbon emissions associated with the manufacture and transport of these products, as well as manual handling. In the meantime, ensure that you are purchasing acid concentrates with the highest concentration available (1:44 not 1:34), to reduce the volumes being transported.

### Case studies

- Central delivery of acid for Haemodialysis - Bradford
- 44:1 Haemodialysis concentrate solution - Kent

## 6. Save water

- Work with technicians to ensure that the reverse osmosis (RO) system does not discard excessive water.
- Ensure dialysate flow rate is switched off to reduce priming fluids and energy while waiting for patients.
- Discuss with estates department the potential use of RO reject water for flushing toilets or to supply laundry facilities.



### Case studies

- [Upgrade water treatment systems - Bradford](#)
- [Reuse of reject water - Kent](#)
- [Reuse of reject water - Lister](#)

## 7. Staff travel

Staff travel is also a significant contributor of a kidney unit's carbon footprint.

- Support staff in decarbonising their journeys using more active travel, for example, walking, cycling (ensure decent facilities and support for cycling, e.g. showers and lockers) and car share. Flex shift patterns to tie in with public transport timetables and promote staff discount schemes. Promote loan/trial e-bikes and salary sacrifice schemes for EVs and bikes.
- Consider offering occasional working from home for admin days.
- Encourage lowest carbon route to meetings and conferences, e.g. [RouteZero](#).
- Adopt a unit policy of actively avoiding non-essential flights.

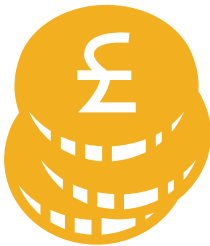
## 8. Linen on dialysis

Offer patients the chance to have their own sheets/blankets during dialysis sessions. This dramatically reduces laundry costs, saves nursing time and is a good narrative about simple sustainability changes.

### Case Study

- [Carbon reduction via sustainable action planning - Cornwall](#)

## 9. Funding



Switch any accounts, including charitable and research accounts and disinvest from banks that promote funding for fossil fuel companies or single use plastic. There is remarkable inertia to switching banks, but it is of paramount importance that funding for environmentally destructive industry is withdrawn.

[www.bank.green](http://www.bank.green)

## 10. Procurement

This is a major area and a very significant component of the NHS carbon footprint. In principle, consider the possible environmental footprint of any significant or recurring purchase, especially equipment, medications and dialysis consumables, and conduct regular reviews.

## 11. Dialysis avoidance and tailoring dialysis

- Promote early prevention bundles to mitigate the risk of progression to end-stage kidney disease (ESKD).
- For those approaching ESKD, and suitable for transplantation, ensure equitable access to pre-emptive transplantation, ensure optimum living donor programme and participation in paired-exchange programmes, plus best possible utilisation of deceased donor transplants.
- Systematically review graft survival and explore ways to enhance this.
- For those not receiving a transplant, consider introducing incremental dialysis for those with preserved urine output and decremental dialysis for frail or end-of-life patients who find thrice weekly dialysis difficult.

### Case Studies

- [Systematic review of dialysis prescriptions - Bradford](#)
- [Kidney patient results monitoring service - Cornwall](#)

## 12. Resilience

- Develop a working group and work with estates and sister kidney units to identify the risk of flooding and extreme heat events for both staff and patients.
- Develop contingency plans for scenarios of systemic IT failures, temporary loss of a dialysis unit or transplant theatres.
- Consider potential supply chain problems and strategies to mitigate these.