



White paper

Seven steps to kick-start your sustainability initiative

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Making an impact and driving change on any topic is easier – and more enjoyable – as part of a team. Changing your radiology department's way of working to become more sustainable is no different. If you care about the environment and are looking for some inspiration on how to get started with a departmental initiative, this guide is for you.

We have collected resources and ideas from those who have travelled the road you are about to embark on and curated them into a template you could use to drive the change you want to see.

Seven steps to kick-start your sustainability initiative

- 1** | Involve all perspectives
- 2** | Level the knowledge field
- 3** | Find and select your levers
- 4** | Obtain administrative buy-in
- 5** | Reach beyond your core circle of green allies
- 6** | Implement small improvements, one at a time
- 7** | Succeed, Celebrate, Repeat

Step 1

Involve all perspectives

The simplest eco-friendly activity you want to implement – switching off systems at night, for instance, will touch the routines and turf of many people in your department

Try to identify your green allies in each function or team so that you can consider all perspectives that matter to the process. That way you may reduce scepticism towards your ideas.

A [stakeholder map](#) can be a great way to visualize whom you need as allies.



“Build a team, it’s more fun together and makes things easier. Connect with others, exchanging ideas and solutions helps a lot.”

Isabelle Redenius

Spokeswoman of the German Radiology Society’s Sustainability Network



“Start with awareness, collecting data and building a team. What I’ve learned is really important to engage everyone that will be impacted by a given action before you implement it.”

Kate Hanneman

Vice Chair and Sustainability Deputy Lead at University of Toronto, Canada

Step 2

Level the knowledge field

Each member of your team comes with different experiences and knowledge about resource preservation and eco-friendly practices. Once you have found each other, we suggest the following:



Share your moments of truth

What was the triggering experience for you to start caring about the environment? What shaped your desire to become active?

Sharing your experiences and motivations can be a great bonding experience, helps you get to know one another beyond your professional duties and can open new perspectives to your team mates they haven't considered yet.

If you want to conduct this exercise a bit more playfully, consider setting it up as [🔗 colleague bingo](#) (p.11).

Map out your joint knowledge

A great way to visualize everything you already know as a group is a knowledge map. You can use any mind mapping software – or a whiteboard, pen and paper, whatever works best for your group.

You can start by collecting random topics you are familiar with in a quick 10 minute brain dump, one topic per card (virtual or hard copy). Then share with the group and find themes and categories. Maybe some additional knowledge areas come up during sharing.

When you feel good about the mind map representing your group's current state of knowledge, move on to identifying open questions and topic gaps you would like to fill.

Here is a list of resources on knowledge mapping methodology that you may find useful:

🔗 Techniques and Application of Knowledge Mapping

Create a space to share

You need a space – either digitally or physically – where your group can meet, exchange ideas and information.

Possibly your department's infrastructure offers some tools you can use. If not, there are numerous free-of-charge collaboration platforms and group messenger services available to use.

Elevate your group expertise

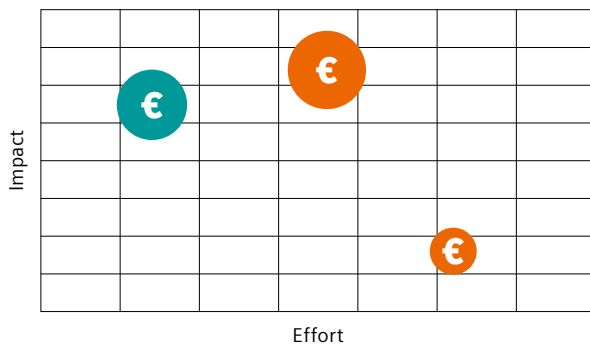
With the knowledge fields you have identified to fill, you can utilize a wide range of resources to fill them. Here is a non-exhaustive list to get you started:

- 🔗 Reducing contrast agent residuals in hospital wastewater: the GREENWATER study protocol
- 🔗 Society for Cardiovascular Magnetic Resonance recommendations toward environmentally sustainable cardiovascular magnetic resonance
- 🔗 Cardiovascular Imaging, Climate Change, and Environmental Sustainability
- 🔗 EcoRad: sustainable radiology and the ecology of economics
- 🔗 Climate resilient and environmentally sustainable radiology: a framework for implementation
- 🔗 Sustainability in radiology: position paper and call to action from ACR, AOSR, ASR, CAR, CIR, ESR, ESRNM, ISR, IS3R, RANZCR, and RSNA
- 🔗 Sustainability in Radiology – ESOR
- 🔗 Green Imaging Department – Siemens Healthineers
- 🔗 ActGreen Energy Efficiency Services – Siemens Healthineers

Step 3

Find and select your Levers

Perhaps the knowledge mapping exercise helped you generate ideas of where in your department you could have an impact. You might want to sort these ideas in a simple chart:



Consider both environmental as well as financial impact/effort. You can separate the two by using the axes for environmental impact and “work” effort and bubble size for financial output divided by input.

Your most promising projects will have high impact and low effort (and a large bubble size). Start with those and tackle high impact – high effort projects once you have celebrated your first successes. Stay clear of high effort – low impact activities for now. They are not yet worth your limited time. The estimated effort may change once your initiative is more established.

Some ideas might require you to gather more information. Agree on an observation period of a week or two where you all pay extra attention to the topic and gather your insights.

Page 26 through 35 of our [business creation toolkit](#) describe methods such as Shadowing or 5 Whys to help you generate concrete insights.

And I think bringing together a sustainability or a green team or however you want to frame it is one of the most important first steps linking that closely with data collection, really understanding what is the baseline environmental footprint so that when you make a change, ... you are able to quantify the impact.”

Kate Hanneman

Vice Chair and Sustainability Deputy Lead at University of Toronto, Canada

Step 4

Obtain administrative buy-in

Environmental friendliness is sometimes perceived as costly, and financial resources are notoriously scarce in healthcare. To obtain managerial support for your initiative, be sure to highlight the ways environmental and fiscal goals may mutually reinforce one another. Here are some examples¹ we have seen:



Energy saving saves cost

Power consumption:

Eco power mode can help achieve a 30% reduction in MRI energy consumption during non-productive hours, saving 4,881 EUR per scanner/year [1].



Upgrading expands capabilities sustainably

A MAGNETOM Aera to MAGNETOM Sola Fit upgrade offers a compelling combination of sustainability, innovation, and value. Compared with purchasing a new MR system, the upgrade can reduce manufacturing- and materials-related CO₂e emissions by up to 71%, while enabling access to advanced technologies such as BioMatrix and Deep Resolve - potentially at a lower acquisition cost.²



Digitalizing patient scheduling reduces paper use

In one radiology department, the adoption of digital-only communications for outpatient MRI appointment scheduling would reduce annual GHG emissions by 6,414 kg CO₂e, paper waste by 651 kg, and postage cost by \$51,253, without increasing the proportion of missed appointments [2].



Remotely operating scanners expands reach and thereby revenue streams

Remote MRI scanning capabilities have reduced inter-hospital transfers by 95% at Advent Health in Orlando (USA), saving 250,000 USD/year while growing cardiac examination revenue by 38%.

“Often financial and sustainability targets go hand in hand, and we see opportunities to deliver both a better business impact as well as a better sustainability impact for people and planet at the same time.”

Kati Kaksonen

Vice President Investor Relations and Sustainability
at Terveystalo, Finland

Step 5

Reach beyond your core circle of green allies

To actually implement the changes you want to make, you will need a broader base of support in the department. It is time to widen your circles. Be mindful that not everyone may share your excitement and ecological passion.

Step 1 – Share your knowledge

The first step is to educate. Not everyone needs to understand the issue as deeply as your core team does. Try with a reasonably short educational activity. Find ways to put numbers into perspective with concepts a broader audience can relate to, such as expressing energy consumption in terms of the equivalent of four-person-households.

Step 2 – Share your insights and invite contributions

Once you have educated the wider community about an issue, share your chart of potential activities, their impact and estimated effort. Gather feedback, questions, concerns and further ideas. If the culture of your organizations is amenable to it, vote on the first topic to approach.

Step 3 – Break the “winning” project down into a series of steps

To figure out how to get started, you may want to use “How might we questions” or other methods from our [business creation toolkit](#) (page 44). Make sure to have a team designated to run that first initiative. While everyone needs to contribute to implement it successfully, measuring, informing and monitoring should be assigned responsibilities. This could be your initial core team, but you might find additional volunteers at this stage – or need people with a primary responsibility for a topic to be involved.



“Our purpose is to fight for a healthier life. And that really motivates me to work towards sustainability, whether it’s creating a better workplace for our professionals or creating better services for our patients or decreasing the environmental impact that our services have.”

Kati Kaksonen

Vice President Investor Relations and Sustainability at Terveystalo, Finland

Step 6

Implement small improvements, one at a time

How will you know whether you have succeeded? Any improvement project should start with a solid baselining exercise and then regular measurement of progress [3]

Define a type of dashboard where you will regularly update your figures. This should be informative enough to give people a sense of how things are going but simply enough to maintain that you can easily keep it updated. Some things can be measured using dashboards such as ↗ **teampplay contrast** or the energy efficiency dashboard in ↗ **teampplay insights**.

Make sure your progress dashboard is displayed somewhere where it's clearly visible to everyone involved – the breakroom or even the foyer if you want to display your efforts to patients [4]. Use your translation mechanism into an easy-to-understand equivalent to improve the saliency of the information [5]–[10].

When you start, set a finish date for your first improvement sprint, for instance four weeks. Set a goal for those four weeks. In between, have regular stand-up meetings – daily or weekly – so that you can adjust quickly when you discover a flaw in your plan.

Listen to observations and concerns of everyone involved and keep the meetings reliably brief to ensure continued attendance [11].

To help people implement any behavioral changes associated with your project, for instance switching off systems at night, you could tap into the bountiful toolbox of behavioral interventions available from economic research (ref to ↗ **Costa textbook**, blog). Here are a few well-proven examples:

- Create a project space that you can design creatively. Display not only your dashboard but posters explaining the project background and pictures of successful or funny moments.
- Create visual reminders wherever people need to take action. Design them in a visually appealing way, add mnemonic devices or rhymes to help memorize the core behavior you want people to adopt.
- Frame new behaviors as the social norms. “Your colleagues are doing XYZ. Can you spare 10 seconds and do it, too?”
- Wherever possible, change default settings to help people adopt new behaviors. We all have a lot on our minds and whatever can be done to lighten the cognitive load is a welcome help. But be sure to explain the change to avoid frustration [12].

“My advice is start small and look for the quick wins like saving energy or reducing waste.”

Isabelle Redenius
Spokeswoman of the German Radiology Society's Sustainability Network

Step 7

Succeed, celebrate, repeat

When a defined milestone is reached, celebrate

Retrospective

It is important to take some time to reflect on the exercise you have just completed. Not everyone involved will be excited about the change and even those who are passionate about the result might have experienced some frustration along the way. A retrospective is a great way to collect what went well and what needs to change in your next iteration of sustainability improvements.

What worked 	What could be improved 
Questions 	Ideas 

Figure 1: Feedback capture grid – Siemens Healthineers Business Creation Toolkit page 102

Select your next goal/level you want to achieve

Now you can revisit your Effort / Impact chart, update it with whatever new information you might be able to add and select your next project.

Repeat from step 5 or 6 onwards

For your first couple of iterations, you can simply repeat the previous steps for each new project. Once you are more established as a green team, you might want to consider a more formalized organizational setup. Take inspiration from our [🔗 Radiology Greenfluencers](#) to achieve that.

We wish you good luck with your green endeavours! If you like, we'd love to hear your ideas and successes. Send them to [✉ Franziska Altenbeck](#).

“Working on environmental sustainability has brought me an incredible amount of joy.”

Kate Hanneman

Vice Chair and Sustainability Deputy Lead at University of Toronto, Canada

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With our unique combination of strengths in Patient Twinning², Precision Therapy, and Healthcare AI, we take on the greatest challenges in healthcare. We help improve access to healthcare for underserved communities worldwide and overcome the most threatening diseases: Neurodegenerative and cardiovascular diseases, stroke, and cancer. We partner with healthcare providers to address their most pressing challenges so that they can deliver high-quality, patient-centered care, efficiently.

Motivated by our purpose and guided by our values, we foster an inclusive and innovative workplace for our diverse and engaged teams globally. We are a team of around 74,000 Healthineers in over 70 countries passionately pushing the boundaries of what is possible in healthcare so that patients can live with hope, not fear of disease.

The products/features mentioned herein are not commercially available in all countries. Their future availability cannot be guaranteed.

¹ The results by Siemens Healthineers customers described herein are based on results that were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption), it cannot be guaranteed that other customers will achieve the same results.

² Data comparing a MAGNETOM Sola Fit upgrade and MAGNETOM Sola system manufacturing and materials only, data on file.

³ Early detection, accurate diagnosis, individualized therapy selection, simulation and planning, continuous monitoring, and aftercare.

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