

Skillshop



SKILLSHOP REPORT TO ARWAIN

Report May 2021 written by Chris Powell & Richard Northridge, Cwm Harry Land Trust Ltd



FOREWARD:

“The dominant patterns of nature are loops - circular flows of nutrients, seeds, water, carbon and other materials - while human systems are linear: moving from extraction to the factory, the store, the consumer and finally landfill or sky-fill (i.e., incineration). Sustainability requires reconfiguring the linear flows of human systems to match the circular, recycling flows of natural (and pre-industrial) systems. Once we undertake this transformation, many of our problems will begin to abate, but until we do so, most will intensify.”

These words belong to Canadian author Darrin Qualman, whose book *Civilization Critical - Energy, Food, Nature, and the Future*,¹ is a timely work of dense analysis published in 2019, where he argues that in order to understand our present situation and our possible futures, we must focus on material and energy flows.

We have to make fundamental changes if we are to survive as a species. Some of these changes are beginning to happen; we are on the cusp of a new technological revolution - the circular economy is taking off and going global.

Times of great change, which impact on lives and livelihoods, normally give rise to pressing *why* questions, as in *why do we need to make these changes?* We think this ‘why’ stage is increasingly behind us – that it is understood and that more and more people understand why Greta Thunberg and the rising generation are angry, and tired of hearing the same excuses from the same entrenched, vested interests in keeping things as they have been. What they are in search of are some practical answers to the ‘how’ questions: *how do ordinary people undertake this critical transformation?*

Wales has made some impressive and significant strides in dealing with its waste since devolution came about 20 years ago. The country has incorporated the tenets of sustainable development in everything that it does using public funds, and in more recent years the *Senedd* has initiated ambitious, forward-thinking legislative measures such as *The Well-being of Future Generations (Wales) Act 2015*.² These are commendable steps which should be emulated elsewhere, but there is a danger that the fine words and high reaching targets will fail to capture Joe Public’s imagination unless they have to hand detailed answers to the ‘how’ questions.

To this end, there are thousands of people around the world working diligently pioneering these answers, and we at *Skillshop* in Newtown, Mid-Wales, count ourselves amongst these pioneers. We would be the first to admit that the road is long and steep and, to adapt a well-known line in American poetry, we *have many miles to go before [we] sleep*,³ but in its modest way Skillshop tackles the big-picture challenges in bite-size chunks, keeping things local and community facing, and making things work in practicality.

A good friend of Wales and its recycling efforts, the Australian Zero Waste activist Gerry Gillespie, whose book *The Waste between Our Ears*, puts it this way: “The best place for any organic material no longer in use is back in the soil. The best place to obtain value and benefit from other materials is in the local community.”⁴

¹ Darrin Qualman, 2019, *Civilization Critical - Energy, Food, Nature, and the Future*, Fernwood Publishing, Halifax, Nova Scotia, Canada

² <https://futuregenerations.wales/about-us/future-generations-act/> accessed on 14/4/21.

³ Robert Frost, 1922, *Stopping by Woods on a Snowy Evening*, https://en.wikipedia.org/wiki/Stopping_by_Woods_on_a_Snowy_Evening accessed on 14/4/21.

⁴ Gerry Gillespie, 2020, *The Waste between Our Ears, The Missing Ingredient to Disrupt Climate Change Is In the Trash*, Acres, Greeley, Colorado, USA

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PART 1 BACKGROUND

1.0 The journey to Skillshop

1.1 To understand the particular history of Skillshop, it is important to appreciate that the years 2010-15 saw the concept of a circular economy really become a global movement for innovation and change. *The Guardian* carried an article in November 2014 summarising how circular economy thinking was shaping industries across the board. In the case of a leading waste manager, it indicated new directions the waste industry was taking: “*Veolia, for example, has transformed itself from an environmental management company to one focused on manufacturing.*”⁵ In other words, the waste management industry was now in the process of being transformed from one concentrating on managing problems, to one looking to create opportunities.

1.2 These big, global trends did not leave us, in Mid-Wales, untouched, but rather stimulated our own specific take on how the circular economy could be translated into everyday practical actions at the local level. We have been as much a part of that transformational process as anyone else engaged with waste; exploring how best to extract from the waste stream items that were either perfectly usable at the time of their disposal or could be made so by repairing (preparation for reuse or PfR) or converting them into something new (upcycling). During these formative years, as discussed below in more detail, we worked with *Dr Bike* and *Lightfoot Enterprises* in developing repair cafés in addition to that portfolio of practical knowledge the Wrap Cymru funded research project (see also below) which looked at how repair cafés could be bolted on to existing local HWRCs in north Powys.

1.3 The essential origins of Skillshop lie in our experience of running Newtown’s Repair Café between 2011 and 2014 on occasional Saturdays, at venues as diverse as its Market Hall, Cwm Harry’s premises at *Unit H*, Vastre Industrial Estate, and the campus of Newtown College, *NPTC Group*. From the outset, the café joined forces with a long-standing voluntary organisation called *Dr Bike*, which had been active off and on for a number of years and had acquired some profile in Newtown for a service which helped local people – especially young people - with bicycle maintenance, a natural bedfellow for this enterprise.

1.4 We soon realised that the repair café concept could be broadened into a much more effective tool of community intervention. *Cwm Harry* had enjoyed a long association with the Bishop’s Castle based social enterprise *Lightfoot CIC*. Lightfoot’s focus was on energy – primarily on empowering householders through educating them with practical, hands-on household energy surveys which could then suggest ways in which they could conserve usage and save money. With this background and experience of engaging communities around energy issues, we jointly ran an action research project with them offering energy advice and solutions resident at our repair cafés. This co-production experience, and partnership working capitalising on individual specialisms, gave us confidence enough to put forward an ambitious proposal to link the concept of repair cafés, which we took to mean facilities where re-use and the preparation for re-use could be carried out, with household waste recycling centres (‘HWRCs’).

⁵ <https://www.theguardian.com/sustainable-business/veolia-partner-zone/2014/nov/27/the-circular-economy-debate-examples-of-good-practice-in-business> accessed on 14/4/21.

1.5 For us, the main impediment to translating these ideas into practical action was trying to fund a fresh project in an environment denuded by public spending cuts. The UK government's austerity drive from 2010 onwards forced many local authorities to retrench services, taking them in-house, and letting go of external contractors wherever possible. This was our experience in Powys. An opportunity did however present itself at the end of 2013 when Wrap Cymru announced a tender to explore re-use in all its various guises - this was an opportunity too precious to pass up, and it might assist the reader of this report if we were to give it some specific Welsh context. It was clear by that time that the Welsh Government's strategic programme to eliminate waste all together from Wales, known as *Towards Zero Waste*, would struggle to meet its 2025 statutory target of a 70% recycling rate. In many respects the programme was on course to reach its pre-determined, targets for streams such as plastic, metal, glass, and food, but to meet a comprehensive, nation-wide 70% would not be possible without re-use being fully incorporated into the national programme and, therefore, accounted for in the *Waste Data Flow*,⁶ the web-based system for municipal waste data reporting used by local authorities in the UK since 2004.

1.6 The conclusion was clear: Wales would have to make a significant investment in re-use, the preparation for re-use ('PFR') and upcycling if it were to achieve its waste ambitions by the mid-2020s.

1.7 We successfully applied for funding and were awarded a contract to undertake a discrete piece of action research to explore how repair cafés (i.e., re-use hubs) and HWRCs could be combined. The field work was carried out in March 2014 and brought together precisely what the founders of repair cafés envisaged – local people repairing things for themselves and in the process contributing to a wider social goal of community empowerment and cohesion. People with practical knowledge, known in the Repair Café world as *Fixperts*, were brought together to undertake a variety of impromptu repairs, usually carried out on the spot, of items brought by customers looking on, often with refreshments to hand. Some of those customers wanted to know how to carry out the repair themselves, so the Fixpert changed role to that of adviser and trainer. We set up repair cafés at three HWRCs operated by *Potter Group* located in Machynlleth, Newtown and Welshpool. On the respective weekday market days of each town, we ran pop-up repair cafés from the back of a van parked on the street, acting as a market stall. At both street and HWRC venues we conducted face to face interviews: would people support a repair/reuse facility?

1.8 The analysis and findings of the research were presented in a report to WRAP. The key points are summarised as follows:

- *[The market research showed that] Repair Cafés ... meet a yearning need in people to take more control of how we live life and how we manage the myriad of things made from a huge variety of materials which we use every day yet have an extraordinary propensity to throw away long before their usefulness has come to an end.*
- *[In the context of Mid Wales] ... the best way forward is to adopt a Hub and Spoke approach, centralising a Repair Café in Newtown at a new HWRC site . . . which allows the whole*

⁶ <https://www.wastedataflow.org/> accessed on 14/4/21.

operation to be under cover and protected from the elements. The layout of any such site has to prioritise the retention of economic value in the materials that are handled.

- *[And it found] ... that there are within communities enough knowledgeable practical people of good will to form a team of Fixperts who are prepared to give that knowledge for wider benefit. What they want to see is a younger generation doing things for themselves, just as they have done during their lives. The pilot also finds that provided this sense of good will is reflected by bodies involved in local waste management – local authorities and operators of HWRCs in particular – then Repair Cafés can work as social enterprises.*
- *The HWRC operator has an incentive in hosting a Repair Café [i.e., a re-use hub]– its presence will increase footfall at the facility, it will ensure all materials that can be re-used will be diverted to re-use, repair, etc. all of which will guarantee a high recycling rate. What the Repair Café in return needs is a rent-free space. Other costs can be shared with the wider re-use / preparing for re-use enterprise(s) also clustered at the HWRC.*

1.9 The report tentatively put forward a proposal to remodel the financing of HWRCs so as to reduce the overall burden to the taxpayer and explore how they could, over time and with innovative investment, become self-financing. The general feedback from our report to Wrap Cymru was that it contained ideas and suggestions of interest. Given the Welsh statutory targets bearing down on local authorities across Wales, alongside general public sector funding constraints, we took the view that local authorities - the responsible public bodies for waste - would be interested in engaging with innovative ways in which more waste services could be delivered for less outlay of taxpayers' money, as they faced the challenge of being asked to do much more with far less; the alternative would be to cut the number of days HWRCs were open to the public and, more drastically, to close completely, which is what happened in 2015 with the closure of the Machynlleth site.

2.0 From drawing board to finding funding.

2.1 At the end of January 2016 Cwm Harry submitted an EOI on behalf of OURS (*One planet Upcycling & Repair café Skillshop*) for capex to RCDF WG (SMU) showing a £120,000 budget with an 80% intervention rate (i.e., £96,000 funding request). The spend was needed for the refurbishment of Unit H to make it fit for use as workshops, a training centre, product dispatch hub, etc. OURS, a bit of a mouthful, soon became just Skillshop. The EOI was subsequently accepted, and we were invited to submit a full bid by the end of October 2016.

2.2 In the May of that year, we also submitted two separate EOIs to ARWAIN – one from a revamped *Dr Bike*, now called Bike to The Future ('Bikettf') and the other from Cwm Harry, furthering the ideals behind Skillshop. Although both EOIs were accepted, ARWAIN insisted that only one full bid proceed from both parties working in partnership. Whilst we could readily see the logic of this decision from the funders' perspective, it was not lost on either applicant that this would pose challenges, as each were distinct and rather different entities, with somewhat separate notions of how they envisaged the evolution of their respective futures. A Bikettf board meeting (14/06/16) summarised the position thus: *"...felt that there could be creative tensions between the aims of the organisations, but that this did not need to be oppositional or competitive. After much discussion it was agreed to jointly bid into the ARWAIN round, provided that Bikettf remained focussed on its core objectives of enabling a supported workplace skills training opportunity."* Bikettf would become one

of Skillshop's principal social enterprises, and a pilot project in its own right (see Part 2 Key Performance Indicators section 8 below).

3.0 Delay and delivery

3.1 The UK voted to leave the EU on 23 June 2016. Along with all EU funded projects, this placed our entire project in doubt and confusion, at the time and for some time thereafter. ARWAIN – aware of our RCDF bid for capital funding – approved a revenue bid but made it contingent upon the award of capital funding from the Rural Community Development Fund. This gave rise to an obvious difficulty; the criteria of both funders were not identical, and the timelines for their respective processes did not marry exactly - RCDF approval finally came in July 2017, almost twelve months after ARWAIN's green light.

3.2 After this long delay, as of the summer of 2017, all necessary funding components were finally in place, but a number of factors had in the interim emerged to invite some changes to our original proposals, and more importantly to ask for some additional pause; hence in the November of that year we began a project amendment proposal which was submitted in the January of 2018.

Our proposals were essentially twofold:

- (a) To secure a change of proposed venue.
- (b) To flag concerns regarding match funding.

The Skillshop project was originally intended to operate out of a commercial building located on the Vastre Industrial Estate in Newtown, in at that time a poor state of repair. On reflection, its disadvantages were twofold; a significant proportion of our RCDF capital spend was for repair, and not positive project provision, and its location had little public profile and was poorly located to invite customer participation with little/no passing trade or footfall.

3.3 The proposed new venue (which was subsequently approved) was Newtown's Community Garden adjacent to Newtown College and Theatre Hafren, a site known as Pendinas to which Cwm Harry was leaseholder. Cwm Harry had security of tenure for a further six years, the site already enjoyed a higher public profile, and was more easily accessible by public transport being so close to Newtown College. It also had existing infrastructure in the form of a barn and yard/garden area we could utilise, and a bungalow building that could be converted into a training room and café kitchen space.

3.4 The Skillshop project envisioned two live income streams; income from taking on paid-for youth training placements (derived from the original Bikettf's EOI) and income from the involvement of the wider community in skills workshops and material reuse (derived from the original Cwm Harry proposal).

3.5 Between the approval of funds from the RCDF and the approval of funds from ARWAIN, Bikettf had established a repair workshop at Pendinas, and had been actively preparing the ground for their portion of the project. A year-long action research indicated that whereas there remained a need for youth skills training, there was little accessible income to service this need (see 8.2 below).

The conclusion was that a significant Skillsshop revenue stream - that of income generated from youth training – could not be relied upon. These amendments necessitated a revision of budgets, which also prompted changes in outputs and outcomes.

3.6 Then, in March 2018, a burst water-main in the bungalow / training room rendered the building unusable – our core working space now unavailable. Protracted and lengthy dialogue with the building’s landlord and insurance agent saw more precious months slip by – so much so that a revised plan was submitted to RCDF approving funds for an alternative build on-site, that of modified first-use shipping containers which ultimately provided the workshops and training rooms we would take up and would go on to demonstrate an excellent example of the circular-economy in their own right.



2 shipping container training rooms



3 Bungalow water damage from burst pipe

3.7 A project manager was appointed in November 2018 to undertake this work and begin the Skillsshop project in earnest.

5 Evening Classes within the new classroom



PART 2 KEY PERFORMANCE INDICATORS

FEASIBILITY STUDIES (required:1 actual:2)

4.0 PILOT Feasibility study #1: Bricolage Emporium for trade and DIY customers

4.1 In keeping with offering more local provision for recycling and reuse, we hope to expand our portfolio to include wood recycling and offer timber both for household DIY projects and also for local tradespeople wishing to source reclaimed materials as part of a more ethically sound business practice. When researching this endeavour, it made sense to build on the solid foundations of work already done; therefore, we considered whether the model put forward by the Community Wood Recycling Project (CWR)⁷ could be replicated here in Mid Wales.

4.2 CWR has two objectives:

Environmental by rescuing and re-using waste timber that would otherwise be landfilled (or at the best downcycled into woodchip.)

Social through creating sustainable jobs, as well as training and volunteering opportunities, for local people – with particular emphasis on marginalised people who would have difficulty getting into mainstream employment.

Both objectives are very much in keeping with our own and fit the agenda of a multi-strand Skillshop looking for co-production opportunities.

4.3 CWR state that they want to see 40-50 social enterprises with the above objectives busy wood recycling across the UK to provide complete national coverage. Currently it *'is looking for potential social entrepreneurs to set up and run enterprises in various towns and cities'* and that *'we may be able to help you set up, so long as you are not too close to one of our existing enterprises.'* There is then a spatial plan that splits up territory into zones belonging to specific members; if we were to establish, and become one of the enterprises, we would share Wales with just one other in Newport (see below) but the website goes on to say *'unfortunately our model won't give you a viable business in very rural areas.'* Our first of several challenges was to explore this model, and its viability in Mid-Wales. As always when working in Mid-Wales, one of the key questions when taking an idea that has been pioneered and structured in densely populated areas, is whether it can withstand the transposition to an extremely low-density rural environment. It is often sobering to find out how neighbouring recycling projects, all in England, might be coping. Our largest regional town, Shrewsbury, has a population of >70,000 which is about 10,000 more than live in the whole of Montgomeryshire. In contrast, Newtown has < 12,000, yet even Shrewsbury does not support a local wood recycling project. According to the CWR website they are looking to set up a project in the Liverpool area which is the one remaining large metropolitan area without one.

4.4 We concluded that to make wood reclamation work in Mid-Wales, we would have to borrow elements of the CWR model and tweak it to meet our 'very rural' conditions. One potential longer-

⁷ <https://www.communitywoodrecycling.org.uk/> accessed on 8/4/21.

term idea is to offer to work with CWR in finding a rural model so that, quite literally, CWR's stated aim of getting '*complete coverage of the UK*' could be achieved. At the moment, if the prescribed model works essentially for densely populated urban places *only* it would appear that whole swathes of the country will be left with no provision, yet wood waste clearly arises all the time in rural areas. From our own experience of working with rural based HWRCs informs us that timber arisings capable of reclamation are not being re-circulated other than down cycled into woodchip.

4.5 The market situation here in Mid Wales is lamentable. CWR's own website suggests that the nearest enterprise one can buy reclaimed wood from is Wood Saints⁸ in Wolverhampton, which opened in February 2018, at a distance of 88km away. Their promotional video says they collect from Wolverhampton and The Black Country (i.e. Staffordshire), Telford and Shropshire; that is revealing – a Wolverhampton based social enterprise comes as far as the Powys border for collections? Shropshire is one of the larger English counties, and it is not too far-fetched to assume that an out-of-county social enterprise based to the East in urban Wolverhampton is physically too far removed from being able to undertake comprehensive collection coverage for rural Shropshire. If that is the case, one possibility for us might be to explore an 'operational partnership' which might involve us collecting feedstock from Western Shropshire/North Powys as agents for Wood Saints, and/or sharing feedstock and downstream products, including using their urban retail outlet to shift some of our slow-moving stock which lacks a large enough market in Mid-Wales. All this is predicated on the basis that if one is trying to run a viable recycling enterprise in East Mid Wales, the nearest retail customers are unlikely to live westwards and much more likely to live and work in the West Midlands.

4.6 From an all Wales only perspective, the only Welsh member of CWR is Newport-based Reseiclo⁹ which says it collects '*from all over South Wales mostly from commercial customers.*' Reseiclo is 105 km from Newtown. So, if we got our operation up and running, we would be one of only two in Wales and the only one in Mid and North Wales. The potential geographical collection area is enormous and likely to be very expensive.

4.7 CWR's model is based on collecting timber from building sites through establishing business-to-business agreements between themselves and the builder. The unique market position it seeks to occupy is *a niche competing with smaller skips*. This might arise where a potential customer would use a 6 (cubic) yard or 8 (cubic) yard skip, as well as potential gain from the environmental and social benefits of using CWR's services. However, critically, such customers can generally save money on skip hire too. The sales' pitch is, therefore, a straightforward financial incentive to customers who would be commercial businesses in the main. Note that CWR avoid collections from waste management organisations like skip companies or councils from their waste sites, i.e. HWRCs, because '*they generate huge quantities of wood waste – well beyond CWR's capacity to deal with*'. This is revealing also as it shows how in 'very rural areas' completely different trading conditions would apply. In order to keep our emporium well stocked we shall have to collect from those very sources eschewed by the CWR model because we shall not have enough customers to fill CWR's niche. And the most likely source for us will be householders and SMEs who drop off their materials at HWRCs! In other words, the complete opposite of the urban based model. Based on a properly functioning triage at the front end of Newtown's HWRC, which is possible with an expansion in the

⁸ <http://www.communitywoodrecycling.org.uk/stores/wood-saints/> accessed on 07/04/20.

⁹ <http://www.communitywoodrecycling.org.uk/stores/reseiclo/> <http://www.reseiclo.co.uk/> accessed on 03/08/18.

existing operation's 'capture capacity', we could anticipate¹⁰ sources of wood feedstock looking something like this:

Triage classifications	re-usable / up-cyclable	unusable / down-cyclable
Examples	Furniture ready to use	Furniture unrepairable
	Furniture needing to be repaired	Any evidence of rot
	Furniture that is beyond repair but can be cannibalised to make something "new from old"	Damp / wet MDF & plywood
	Sawn timber irrespective of length/width/thickness	Unsawn timber suitable for down-cycling into chip board, pellet making
	Packaging (e.g. pallets, cases, boxes) that can be repaired or upcycled	Packaging broken beyond a second life

Table 1: Matrix for wood reclamation triage

4.8 The alternative or, in our case, parallel method of feedstock collection would be from building sites i.e. adhering strictly to the CWR model. Our research has shown that this is achievable, but it would involve collecting from sites outside Mid-Wales, most probably in western areas of Shropshire. We canvassed a variety of potential builders in 2017-19, inquiring as to where there may be sources of re-usable timber, current disposal routes for unwanted wood materials, and to explore whether there was any scope for working together to make better use of those waste material streams. We categorised these wood waste streams as follows:

- (a) **High-Grade** including timber good enough to be reused for DIY, building, garden, art, and craft projects etc. This high-grade material would be around 1.5 metres or more in length, free from splits and contaminants. Sheet materials in good condition more than 1.5 metres square, along with doors in good condition, pieces of hardwood, shorter lengths of floorboards, skirting boards and architrave and pallets that can be reused.
- (b) **Mid-grade** whilst being of decent quality, pieces which are too short or small to be easily re-used for major projects but that could be used for making bird boxes, compost bins, bookcases, benches, and other furniture, etc - particularly designed for outdoors usage.
- (c) **Low-grade** consists of everything else, including offcuts, small pieces, unrepairable pallets, and anything too damaged, rotten, or contaminated to be re-used in their current form. Any clean, solid wood (as opposed to composites like chipboard or MDF) which could be cut up and bagged as morning sticks and general firewood, which would bring in some income for the project and contribute toward financial sustainability.

In response, feedback suggested that 70% of the timber would likely be low grade, 20% mid-grade and 10% high grade. It was not possible to get estimated quantities of what might be available on a

¹⁰ This would, of course, be subject to detailed agreement with the site operator.

monthly basis and, short of a waste audit being carried out, we think any estimate would be unreliable.

4.9 As a result of a lead that was followed up with property developers *Morris Property Limited* of Welsh Bridge, Shrewsbury, Shropshire, SY3 8LH (Registered in England No 03033776) the following questions were identified as being of priority from the builders' perspective:

- (a) Waste Carriers Licence – would we be able to supply a waste transfer ticket?
- (b) Health and Safety – specifically would we be able to produce a risk assessment and method statement for collecting the timber from site?
- (c) Typically customers wanted all waste timber gone from site within 2 days of notification- could this be done?

Our response to these questions is that none of these requirements are burdensome - on the contrary, well within reasonable expectations - but removing timber from site within tight timelines presents an additional disposal cost to the project which would have to be factored in.

4.10 There are two main income streams identified in the CWR model¹¹ – collection charges from the 'alternative skip' as already mentioned plus sales, which are split into pallets, firewood, miscellaneous timber, and wood products. Raw timber can be value-added by taking bespoke orders from customers who want it cut to specific lengths, etc. The more 'bottom end' material like pallets can be converted into kindling and sold by weight in pre-packed bags for and during the heating seasons (creating a scrap steel by-product from nails and staples), but that may leave feedstock coming in during the warmer months of the year with no readily convertible product to sell. However, there are many things that can enhance the value of pallets. See, for example their use in the picture as elegant street furniture.



Figure 4 Drinks stand outside pub in Salzburg, Austria.

Cutting them up for firewood, other than those beyond rescue, may not be the only (or best) option. With recent adverse press coverage around wood burning stoves and fires in the home,¹² the firewood market may not, looking farther ahead, be as easy to get into even in rural areas such as Mid-Wales where wood burning appliances are quite common. Additional income may come from non-material sources such as training (daytime vocational or evening classes), social service placements, or volunteer support schemes such as social prescribing.¹³

4.11 Given the model sample 3 years budget (see below) on CWR's website there appears to be from our perspective an over-reliance (60%) on collection fees. If we accept that it is most unlikely our wood recycling project could earn £40,000 per year from the 'alternative skip customers', who else would be prepared

¹¹ <https://www.communitywoodrecycling.org.uk/opportunities/entrepreneurs/business-model-2/> accessed on 9/4/21.

¹² <https://www.theguardian.com/environment/2021/jan/01/avoid-using-wood-burning-stoves-if-possible-warn-health-experts> accessed on 9/4/21. <https://www.theguardian.com/environment/2021/feb/16/home-wood-burning-biggest-cause-particle-pollution-fires> accessed on 11/5/21.

<https://www.theguardian.com/money/2018/may/26/wood-burner-open-fire-pollution-cleaning-up-air-quality> accessed on 11/5/21.

¹³ <https://socialprescribingacademy.org.uk/> accessed on 11/5/21.

to pay us to collect / dispose of their waste wood? The challenge for us is whether we can switch that dependency across to sales because if we could make that switch, *on CWR's values*, we would be looking to earn *from sales* nearly £120,000 over 3 years of trading.

INCOME	YEAR 1	%	YEAR 2	%	YEAR 3	%
Collection fees	£25,000	66%	£60,000	61%	£80,000	55%
Pallet sales [1]	£250	1%	£600	1%	£800	1%
Wood sales	£8,000	21%	£25,000	25%	£50,000	34%
Products	£4,000	11%	£10,000	10%	£10,000	7%
Firewood	£800	2%	£2,800	3%	£4,500	3%
TOTAL	£38,050	100%	£98,400	100%	£145,300	100%
EXPENDITURE	YEAR 1		YEAR 2		YEAR 3	
Set - up costs						
Truck	£6,000	9%	£7,000	7%		0%
Tools/equip'	£2,500	4%	£2,000	2%	£1,000	1%
IT/office	£500	1%		0%		0%
Insurance	£1,600	2%	£2,000	2%	£1,800	1%
Other	£500	1%		0%		0%
SUB TOTAL	£11,100	16%	£11,000	11%	£2,800	2%
On-going costs						
Rent/rates [2]	£12,000	18%	£12,000	12%	£12,000	10%
Wages - entrepreneur	£16,500	24%	£20,000	20%	£25,000	20%
Wages - other [3]	£10,500	15%	£24,500	25%	£40,800	33%
Motor-fuel [4]	£2,250	3%	£5,400	5%	£7,200	6%
Motor-maintain	£500	1%	£2,000	2%	£2,500	2%
Grade 3 [5]	£4,000	6%	£9,600	10%	£12,800	10%
Marketing	£2,000	3%	£2,000	2%	£3,000	2%
Office/utilities	£2,300	3%	£2,800	3%	£4,000	3%
Volunteer expenses [6]	£5,250	8%	£7,980	8%	£9,975	8%
Other	£1,500	2%	£1,000	1%	£2,000	2%
TOTAL	£67,900	100%	£98,280	100%	£122,075	100%
Profit/loss	-£29,850		£120		£23,225	
Cumulative p/l	-£29,850		-£29,730		-£6,505	

Notes to budget.

Pallet sales estimated at 1% of collection fees.

Assumes rent and rates do not exceed this figure.

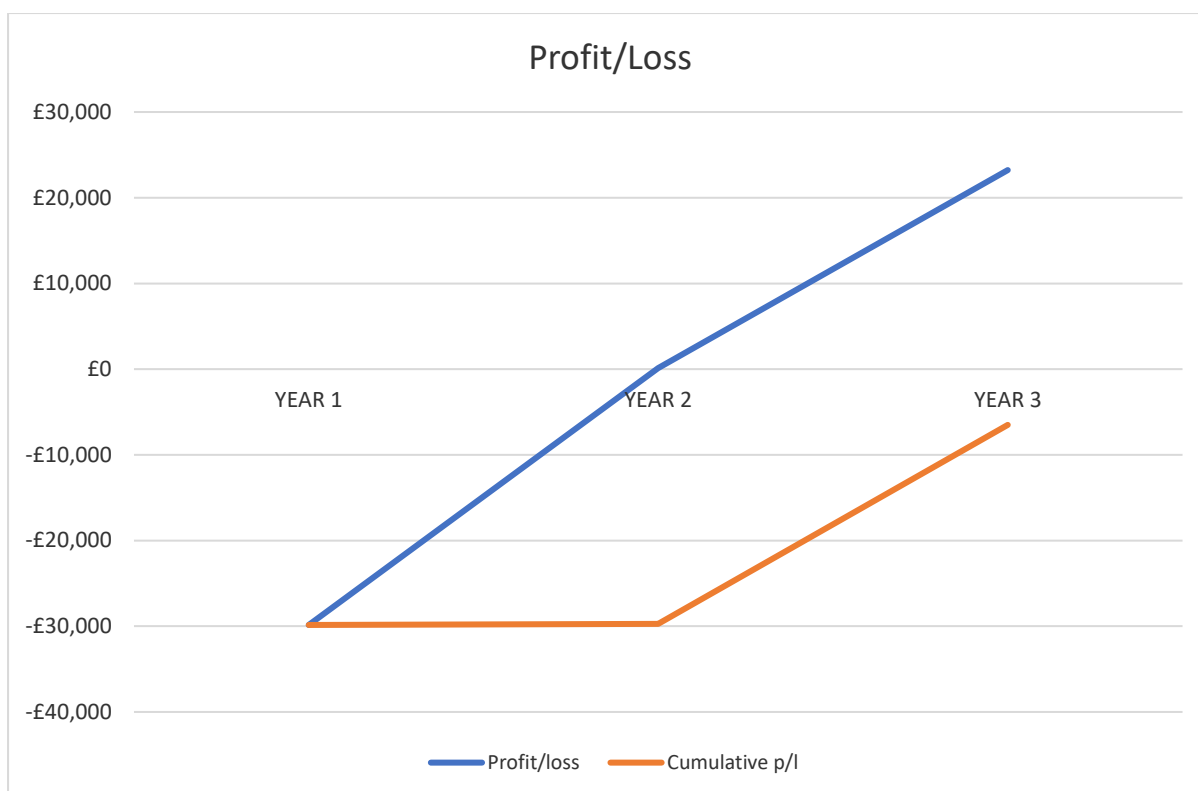
Wages - other figures are based on part-time staff taken on in month 4, 8, 13, 21 and 36 at £9 p/h x 20 hours per week.

Fuel consumption estimated at 9% of collection fees.

Cost of disposal of Grade 3 budgeted at 16% of the total collection fees.

Based on 3 volunteers' placements per day rising by 1 in months 4, 8, 13, 21, 27, 36 @ £5 each for travel/lunch expenses.

Working capital required is £33,230 (by year 2).



5 Work sheet and chart taken from CWR's website (accessed on 10/4/21)

4.12 Finding enough local commercial sources to meet our income targets will be a challenge. We would expect that a lot of local SMEs will use the HWRC as their disposal route, so where are these commercial customers of ours coming from who operate independent of the HWRC? It may depend on what the HWRC will charge commercial businesses for using it. The other factor is the size of the catchment. Reseiclo collects from the 'whole of South Wales'-which is a large area, although Phoenix Furniture¹⁴ covers the whole of Powys (i.e. 25% of Wales) so is it that much of a stretch? We could not do any collections without a 3.5t caged pickup – the vehicle of choice for CWR members – which carries a cost implication and does not form part of Phoenix's current fleet which comprises two Box Luton vans. However, if we could pass the function of collections to organisations already in the business of running a fleet of vehicles, this up-front cost risk would be less onerous. These same assets could also be used to deliver timber and other building products to customers – an extra service which would be charged to the purchaser at a commercial rate. Whether logistically an outwards delivery can be combined with an inwards collection (back hauling) is at this stage purely speculative, but if that were possible when the project is fully operational there would be obvious cost savings and possible cross-subsidies between collections and sales. Although we have some idea we are not, at this point in time, fully confident about how much waste wood is available within our operational area suitable for a Bricolage Emporium. A waste audit of wood from companies trading on the industrial estates might be a good way to start. We also need to define the geographical range which we propose to cover. It could be confined to North Powys, or the entire County or the region (Mid Wales).

¹⁴ <http://www.socialfirmswales.co.uk/members/phenix-community-furniture-scheme-ltd> accessed 26/04/20.

4.13 Set up cost varies depending on what's already available. CWR estimate £30,000 - £40,000 but it could also be much less. Emphasis is placed on the right type of vehicle – 3.5 tonne caged pick-up truck capable of carrying 12m³. Note the way waste wood is measured by volume rather than weight. This top end capital budget seems to be for *'the cost of buying a vehicle, buying tools, paying the wages, rent/rates, insurance and all the other overheads'* but if we have some of this in place already, that sum greatly decreases. The project would require working capital however, and over time refinancing the tools of the project (vehicles etc) as they wear out if we do not bring them into the business from day one.



6 Doors at Newtown's HWRC on 11/5/21

4.14 The space required to run this project is *'at least 200 to 300m² (2,000 to 3,000ft²), preferably with some secure outside space for unloading, parking, and storing pallets etc.'* The site currently occupied in Newtown by Phoenix Furniture might be appropriate, which includes an underused car park that belongs to its landlord, who has indicated an interest in seeing the car park enclosed and made more ambitious use of than its current status. At the time of this writing however our overtures to Phoenix have gone unrequited.

4.15 The next step to developing this proposal would be to explore in detail what partnerships might be possible to create with CWR, and its Welsh and West Midlands based members mentioned above. This would necessitate changes to their model because without these changes we conclude that a business based solely on reclaimed timber products would not be viable as a stand-alone operation in Mid-Wales, even working within the common brand of Skillshop. For this to work, we would need to be operating within a catchment of at least 40,000 people. We also are aware that the local HWRCs, whilst capturing a wide range of reclaimed building materials, are doing so in limited quantities and spasmodically. If a buildings reclamation emporium is to be viable it has to have a steady, guaranteed supply of feedstock.



7 Bathroom ware at Newtown's HWRC 11/5/21

5.0 PILOT Feasibility study #2: Precious Plastics (UK)

5.1 In the November of 2018, with a project manager now appointed to lead, Skillshop personnel held a round-table internal meeting to shape future waste reduction workshops and prioritise initial waste streams to be targeted. Plastics dominated the discussion, and it was determined that a 'workshop' tackling plastic waste should be prioritised. During the course of research into such a workshop, the project manager discovered Precious Plastic ('PP'),¹⁵ a Netherlands-based plastics solution that provided raw blueprints for the construction of bespoke domestic-scale plastic remoulding machines; machines that are portable, versatile, and so easy to use that a child could effectively be involved in the manufacturing process. The machines are modular, and can be repaired, replaced, or customized. They are also small enough to be theoretically installed in any workshop, garage, or school. As of November 2018, over 200 PP 'operations' existed worldwide, according to their website.



8 The range of DIY machines that were originally developed by the Precious Plastic project

Building on shared experience:

5.2 The PP 'map' indicated that PP outfits/outlets were already in operation in the UK. On further investigation however this was only partly true. Some of the projects had folded, others purported to have machines that were incomplete on investigation, and others had built machines, but none had yet put them into 'public' production.

The initial build:

5.3 Dave Hakkens, founder of PP, provides open source blueprints for the production of these machines and a series of video tutorials as to their potential uses; nevertheless, a good deal of engineering knowhow is required to follow cold blueprints, and efforts to track down an engineer in the UK with experience of building these machines proved fruitless, though eventually an engineer was discovered through the PP community link prepared to entertain this build, and the construction of two machines – the injector and rotation moulder- was commissioned in the January of 2019. (Project network partner Cae Post volunteered the use of their commercial shredder, and we determined that the extruding machine which produces 3D printer feedstock only did not justify investment in this pilot.) We took delivery of these machines in the May of 2019.

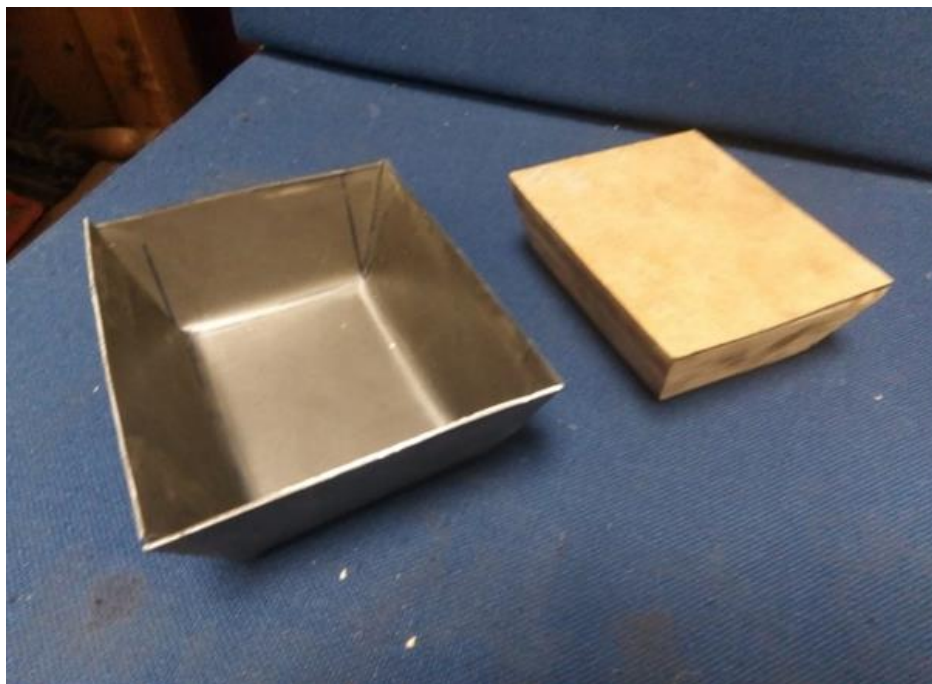
¹⁵ <https://preciousplastic.com/> accessed on 11/4/21.



9 Bristol-based engineer Jean Goubert

Initial experimentation:

5.4 The ARWAIN funding vehicle being to recover cash spent, rather than provide funds upfront did stymie progress to a degree, as investment capital in this project effectively came in stages. The donated commercial shredder required 3-phase electricity to power it, but after exploring installing 3-phase, or a 3-phase converter, we determined that to do so to power a shredder alone was not cost efficient. In the interim we were able to source a local engineer with an interest in developing product, (Adam McMahon, pictured in 11 below) and who would be willing and able to produce sample moulds to test the machines.



10 Steel mould with compression base to force shape



11 Mould being shaped after being fired in converter oven – rotation machine.



12 Finished basic product.

5.5 The absence of a granulating shredder is obvious here – this plastic being cut into strips by hand for the purposes of testing machines. Commissioning the build of a PP Shredder proved less expensive than installing 3-phase; the receipt of which should have taken place in March 2020, but has been delayed due to the Coronavirus pandemic, which further set-back progress, as without the proper means to granulate plastic, and a state of lockdown in existence, Adam McMahon could not experiment with or perfect the means of production.

5.6 Adam McMahon, also a local secondary school teacher and Head of Design and Technology ('D&T'), could however see the myriad potential applications in the classroom. Together we envisioned a perfect circular economy waste loop; that a school's waste plastics would be collected and processed by students, first having designed and created their own moulds, and that the products repurposed could then be utilised within the school itself – clipboards, trays, pots, etc. This might help circumvent the liability issues that dogged progress going forward.

Liability issues:

5.7 As the project progressed, we began to understand why no other PP outfit in the UK yet offered these machines for public use – insurance liabilities. After multiple approaches to different insurance companies and agents (including *Lloyds of London*) we found one agency prepared to insure one operator in a demonstration capacity only, and no agency prepared to underwrite products made. Schools however can access insurance unavailable to private enterprise, and any machinery regularly operated by students in a D&T lab is easily as dangerous if not considerably more so than PP machines, hence our focus returned to supplying/operating these machines in schools, where the product also would not be offered for sale but used internally.

Preparing the ground for PP (UK) public use:

5.8 Alongside negotiations to put PP machines in schools, we now began to consider how PP (UK) could be brought to market. To this end we would have to seek and obtain CE approval¹⁶; at which point we could more easily insure, use, and potentially supply, these machines.

5.9 Signposting the necessary legislation and correct procedure as to bringing new machines to market proved quite a challenge. *Business Wales* provided links to the legislative requirements in the October of 2019, but could offer no practical support, nor signpost us as to any agency or individual with personal experience of obtaining CE approval for new technology. We were able to find a small business operating out of Welshpool who could provide an overview of the steps needed, and who were prepared to produce CAD files of any safety and operating amendments we intended to make, and who would advise as to the likelihood thereafter of passing CE requirements. Adam McMahon began drafting safety and operating revisions for one of the machines – the injector - the results of which were complete by March 2020.

5.10 We estimate that so far we have got our version of PP to TRL 5.¹⁷ The next steps are to carry out, at a professional engineering level, various steps to achieve product certification. These include the following:

- (a) Thorough risk assessment so as to identify all operating hazards and develop critical control points.
- (b) Writing a technical file and manual. This is an instruction manual in both written and illustrated format.
- (c) Designing a working prototype using 3D CAD (three-dimensional computer aided design)
- (d) Constructing a working prototype is built.

5.11 At the same time as these technical steps are being taken we need to reassess the market for PP. Along with our intention to engage D&T departments in schools and further education colleges, we should take account of the growing sophistication in the repair café movement, of which we are, of course, an active participant. It is becoming clear that repair cafés are at the leading edge of a fundamental change in how people interact with the material world which we all depend upon but have little understanding of. Three D printing technology has democratised manufacturing processes and potentially allows anyone anywhere to make their own parts to replace broken ones in machines which would otherwise continue to offer their owners years of service. We would anticipate that no serious repair café is likely to operate in the future without access to this level of technology and PP could, using extruding processes, provide recycled feedstock for 3D printers, which currently use virgin feedstock. This would complete a virtuous material circle and potentially attract investment in repair cafés so as to take them to a completely new level of functionality.¹⁸

¹⁶ "Conformité Européenne" i.e. the item conforms to EU standards.

¹⁷ Technology Readiness Level is a technology assessment hierarchy originally developed by NASA (https://en.wikipedia.org/wiki/Technology_readiness_level) and see <https://www.gao.gov/assets/gao-16-410g.pdf> both accessed on 11/5/21.

¹⁸ <https://www.mmu.ac.uk/environmental-science-research/waste-to-resource-innovation-network/activity/sharepair/> accessed on 11/5/21.

NUMBER OF NETWORKS ESTABLISHED (required: 1 actual: 1)

6.0 Networks: Repair Café Newtown – a network of ‘fixperts’

6.1 Notwithstanding the work of Cwm Harry between 2011-2014, (see 1.2.) by 2018/19 Newtown had no regular repair café, and essentially any repair café culture previously established had somewhat lapsed. As a working partnership with *Circular Economy Mid Wales*¹⁹ and *Potter Group* to host a pilot reuse and reclamation project (see 7.0 below) became more certain, and concomitant access to ready reuse and repair feedstock therefore became more likely, it made sense to revive a repair café in Newtown which could not only minimise waste and support a circular economy but serve also as a working advertisement for the Skillshop/CEMW/Potter collaboration. We were also confident that the costs incurred in a wholly voluntary RC could be offset by increased publicity for Skillshop’s workshops and involvement at the HWRC, though as it turned out, each time we occasioned an event, voluntary donations in thanks for repairs exceeded volunteers’ costs.

(Re) Start-up:

6.2 Cognisant of an increasingly litigious society, our first concern was the potential liabilities of offering (albeit) free repairs undertaken by volunteer fixers. Research soon turned up however *Repair Café Wales*, a national network founded in 2017 that provides technical support and practical advice for any budding RC, and importantly the correct legal disclaimers required to indemnify events. With the paperwork in place, our project manager set out to re-active previous ‘fixperts’, core partners, and new volunteers – this was accomplished through traditional word-of-mouth and calls placed through a poster campaign and social media; we were delighted with the response.

6.3 We now considered a suitable venue. It made sense to return to Newtown’s Glanhafren Market Hall; traditionally a nexus for the people of Newtown; easy disabled access and centrally located. We were able to strike a deal with their resident café, who traded free floor-space for the increased business our Repair Café would generate. Using social media as an advertising platform, together with a poster-campaign and a feature in the local newspaper, our first of what would be monthly events took place Saturday February 1st, 2020 with 20 recorded ‘customers’ inviting the repair of 23 separate items, and the café enjoying their best day of the year.



13 Advertising outside Glanhafren 1st February 2020

¹⁹ See section 15 below.

6.4 Sufficient ‘buzz’ was generated by this event to secure our spot at Glanhafren, and new volunteers now approached us, to join our team. Our second Repair Café, a month later, met with similar success, with 19 customers bringing 27 items for repair.

6.5 Our third of now monthly cafés was scheduled to take place Saturday April 4th, but the Covid-19 pandemic forced us to suspend operations.

6.6 What had become clear by this point however was that there existed a demonstrable need for repair and re-use services such as this, as the overwhelmingly positive feedback we received from the local community suggested. We were told many times how ‘needed’ a service like this was, and that society had to stop ‘*throwing things away.*’ It was not lost on us however that the huge majority of our customers were over the age of 40 years; can we deduce from this that a ‘make do and mend’ culture is not yet embedded in younger people? Is this at odds with the rising generation’s call to save the planet? Access to Repair Café Wales data here may prove revealing; if our customer demographic is typical across Wales, then a re-education campaign of some sort is needed – in our schools? – ensuring that the desire to save our world be married to the actions that can.

6.7 Though brief in duration, our fixpert community came together to work as an effective whole, many of whom shared no previous acquaintance. A fledgling *Men in Sheds* outfit is now in the process of coming together, and these pairings have helped find new interested members.

6.8 This has morphed into a gender-neutral project, now called *Community Space Project* which has taken up residence at Pendinas next door to Bike to the Future.



14 Signing in for the first event on 1st February 2020



15 Assembling the materials for construction of the community space project



16 Community Space Project in the process of construction inside the old ‘iron’ shed.



The Community Space Project will continue to recruit and nurture 'the community of fixperts' that will have to be recreated as we gradually move out of pandemic lockdown and build back both better and greener. In so many respects the pandemic has created an unprecedented opportunity for these kind of community focused initiatives.

6.9 To this end the future of Repair Café Newtown seems assured. It will hold its regular monthly sessions at 3-4 Broad Street in the middle of town, premises that have just been acquired by Circular Economy Mid Wales from funding provided by Welsh Government's Reuse and Repair Circular Economy Fund (see below references to the Town Council's Press Release at 7.13-14). In addition to these high street premises the Repair Café project will be able to expand its range of items it can repair by having access to the CSP at Pendinas which will allow non-portable items, such as ovens and washing machines, to be taken there for repairs.

7.0 Skillshop at Newtown's household waste recycling centre ('HWRC')

7.1 One of the principal goals of the Skillshop project was to tackle waste streams in a different way. Our application to ARWAIN read:

'If this pilot can show a way in which HWRCs can be re-invented so as to be transformed from "the tip" to the "community resource centre" then the stakeholdership in their continued presence and development will expand to include a wider cross-section of the population. If, in addition, this project can show a way of keeping their running costs down and demonstrating how to achieve a better than 80% recycling rate, it will have contributed to a deeper understanding and appreciation of their potential role in organising a sustainable, locally focussed, waste management infrastructure, the hallmark of which is that waste minimisation rises up the priority ladder with waste streams collected and stored carefully to enable the community to extract the wealth from them.'

Cwm Harry's experience of working with *Potter Group* in 2014 (referenced above at 1.7) had established a positive foundation, and a line of communication had existed since, keeping alive the idea of linking a reuse and repair enterprise with the HWRC itself.

7.2 In September 2019 the project manager and director met with Richard Carter, Potter Group Business Development Manager, to revisit plans to establish a reuse and repair facility at the new HWRC site in Newtown. Our proposal was to operate a time limited contract (determined by Potters' lease) to set up, run, and evaluate, a reuse/preparation for reuse/upcycling operation resident on-site; a hands-on approach to optimise the extraction of materials that come into the HWRC capable of being re-used by being carefully handled, or after treatment be returned to the market as 'new from old' consumables, or upcycled.

7.3 The heart of the project was a learning exercise to understand how reuse could be integrated into the everyday operations of a HWRC. Comprehensive evaluation and open reporting between the partners would inform future operation; the monitoring of materials and weights accounted for using the FRN formulae.²⁰ By effective interception of appropriate items *before* they were thrown into skips for disposal, we hoped to radically increase the overall recycling performance of the HWRC and divert away from landfill an increasing amount of the facility's through-put. The intention was to handle them carefully so as not to cause damage, to clean and repair items that needed such treatment and to look for other ways of adding value by, for instance, thinking and implementing how to upcycle items, so as to get them back into local circulation, thereby demonstrating through this action research model a closed-loop economy. We proposed an open-book system whereby the goods inwards and outwards ledgers would be readily available to both parties.

7.4 *Powys County Council* had erected a shed on-site and had asked the operator to come forward with proposals as to how a greater re-use presence could be made at the facility. We proposed a 'Salvage Shed' which would become a hub for reclaimed products; staffed by our operatives who would be stationed on-site and work alongside but independent of Potters' staff to intercept items suitable for re-use and/or repair. These products would then be re-marketed to

²⁰ Furniture Recycling Network became the Reuse Network <https://reuse-network.org.uk/> accessed on 11/4/21.

reduce waste, promote the circular economy, and provide feedstock for our various skills workshops located at the Pendinas Enterprise Village (see 9 below).

7.5 It was also our view that a re-use operation which had a customer friendly and focused culture, would prove popular with users of the HWRC and have the potential for encouraging great numbers of people using the facility. Our own empirical research at the Newtown site suggested anything from 40-50 cars per hour visiting most days in which the site was open for business.

7.6 Potters Group, mindful of being in a position to meet the future Welsh recycling targets (see 1.5 above) and cognisant of the sound ethics behind a re-use store such as this gave their consent for the project to proceed.

7.7 With consent to go ahead, our concerns turned to getting the correct operational procedures in place. To undertake a project of this kind, we wanted to know if a waste management license was needed and sought advice. This confirmed that such a license was not needed in this instance provided we understood that:

- Once items were deposited in re-cycling skips on-site they became waste, and beyond our reach.
- Items intercepted before being deposited in skips, items donated to salvage, would not be classed as waste, as they had yet to enter the formal waste stream. Intention here was key; the intention of the HWRC user was to dispose of their item – *the manner of this disposal* made all the difference. ‘Dumping’ these items made them waste, ‘donating’ these items made them recoverable.

7.8 Our initial workforce would come from a fellow social enterprise called *Zero Waste Events*, who have had several years of running waste management services at public events such as the Hay Festival. Their unique approach is to reduce to the absolute minimum the amount of waste from events they manage which cannot be recycled in order to bring down the management costs to the event organiser. Their team lent a hand in getting the project off the ground whilst we went about a formal recruitment process for permanent staff. HWRC Health and safety, correct handling, site policy etc. was all covered in a training briefing provided by Potters representative Deborah Hall on February 20th, 2020; the same day our signage was put in place. Appropriate PPE was sourced from a local company, compliant with regulations pertaining to working on a HWRC.

7.9 The shed opened for business Saturday February 22nd and enjoyed a month of operation before being mothballed due to the outbreak of



17 Signs up for our first day of operation.



18 Start up crew with first stock

Covid-19. Though operating for just a month, with limited promotion and dogged by the increasing threat of the Coronavirus pandemic, the project proved wildly successful:

Week No	Diverted, kg	Diverted, tonnes	Av kg/ day
1	852.7	0.9	170.5
2	1,489.5	1.5	297.9
3	1,057.2	1.1	211.4
4	834.6	0.8	208.7
5	522.1	0.5	261.1
Total	4,756.1	4.9	226.5

19 summary of salvage shed's performance over its first month of operations 22 Feb – 22 Mar 2020

7.10 The volume of re-usable material flowing through this HWRC was staggering in it's potential; the shed was soon overwhelmed, and so promising were these figures that prior to lockdown we had negotiated an additional sales/repair point at Newtown's Glanhafren Market Hall to establish a second point of retail and were negotiating with Men in Sheds (referenced 6.7 above) to provide steady flow of feedstock for their projects to create a regular repair and upcycling programme at Pendinas. Work was underway to produce a 'Salvage Shed' sales webpage, and a new member of staff responsible for Networking and Repair had been appointed.

7.11 We came out of the first national lockdown on Monday 6th July 2020 and restarted operations but with considerable constraints. Only 6 vehicles were allowed on site at any one time and the long queues of traffic waiting to enter became a disincentive for people to use the HWRC unless absolutely necessary. The effects of all this were to slow down the growth that the first month of trading promised. The remainder of 2020 proved difficult culminating with a "fire break" lockdown in the autumn, followed by a general national lockdown just before Christmas.

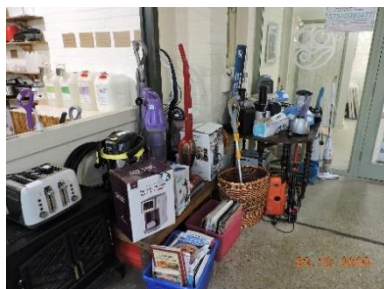
7.12 In addition to work at the HWRC we opened a market hall stall on Saturday 3rd October 2020 with an impressive range of items, mostly electric domestic appliances. It shared premises with Greener Steps, a small start-up retailing business specialising in refills, such as detergents and washing-up liquid soaps.



21 Sought after high value brands were amongst the stock on sale



20 First day of trading 3/10/20.



23 The quality of the goods took us by surprise



22 A number of items were donated in their original packaging.

7.13 The lockdown which started at midnight on Saturday 19th December 2020 continued until Monday 12th April 2021, when the Salvage Shed reopened for business, was a time to stock up. The HWRC was open for some of that time (but not the retailing activity) so customers dropped off their donations and it meant that when finally we reopened the Salvage Shed was better stocked than ever.



24 Salvage Shed fully stocked and waiting for customers on reopening day 12th May 2021

7.14 The lockdown period was also a very busy time for the Skillshop team, particularly the Project Manager. In December 2020 we worked on

a bid to apply for funding to the Welsh Government's Circular Economy Fund to set up a town centre reuse and repair hub to bring the HWRC salvage operation right into the centre of the town and link this initiative to form part of the wider efforts at town centre rejuvenation. The application was submitted by Newtown & Llanllwchaiarn Town Council ('the Town Council') and supported by Powys County Council. This was an underspend and, if successful, the grant would have to be fully accounted for (i.e. all spent) within the first quarter of the new year, that is by 31st March 2021. The application was successful and shop premises at 3-4 Broad Street ('Broad Street') in the centre of Newtown were purchased on Friday 5th March 2021. The expected date for opening the shop – a reuse hub – is July 2021.

7.14 Neither the HWRC project nor Broad Street could have happened without the support of Arwain funding. As the Town Council's press release states, the Town Council "...have joined forces with social enterprise Circular Economy Mid Wales (CEMW) to form a partnership that draws on the pioneering heritage of Newtown, and which builds on the reuse and repair foundations already laid to create a town-wide movement for change toward a zero-waste society and lower carbon economy. Together they make an investment in Newtown's future as a vibrant and sustainable place to live and work. At the heart of the initiative is the former William Hill betting shop on Broad Street . . . with the ground floor being refurbished by local trades and converted to an open plan



25. 3-4 Broad Street, Newtown, Powys

emporium to help communities promote the country's shift toward a circular economy by keeping products, materials, and goods in circulation for as long as possible – avoiding waste and maximising their life. There will be space for the sale of goods donated from the Household Waste Recycling Centre's 'Salvage Shed' situated on the Dyffryn Estate, room to expand the town's 'Repair Café' that help people keep products alive for longer and an ambition to establish a 'library of things' that allow families to borrow instead of buy. The space also anticipates being home to a zero plastic / refill shop and attempt to improve how small electrical appliances are repaired and reused. And finally, there will be space for holding workshops in anything to do with reuse and repair, from upcycling old clothes to soldering the broken radio back together." The press release goes on to quote the project manager, Chris Powell, as follows: "This is an incredible vote of confidence in the work of CEMW. As a young social enterprise we have helped bring reuse and repair to public attention by working in partnership with Potters Group to open the Salvage Shed at Newtown's HWRC, an initiative instigated by Powys County Council. This initiative will enable us to expand our capacity enabling us to divert more valuable resources away from landfill and back into the parts of our community that need them. Having a town centre venue to showcase reuse and repair on the high street forms part of our town's green recovery from Covid." Chris went on to say "This investment from the Welsh Government also allows us to build on the great work of the Skillshop project. Established in part through funding from the local Arwain LEADER programme Skillshop created the 'makerspace' adjacent to the Newtown College campus in a partnership with NPTC Group of Colleges. The new funding allows us to invest in the community repair facilities and to bring some of these into the heart of Newtown as evening or weekend workshops, open to all." The initiative also has got attention from Cardiff: Lesley Griffiths, the Minister for Environment, Energy and Rural Affairs, said: "I'm delighted to see support from the Circular Economy Fund has backed this joint effort by Newtown & Llanllwchaiarn Town Council and Circular Economy Mid Wales to invest in Newtown and create the new community Reuse and Repair Hub. The intent of the Circular Economy is to keep items and materials in use, and out of waste, as long as possible. As noted in our recently launched 'Beyond Recycling' strategy on the Circular Economy, while Wales is currently the third best recycling nation in the world, keeping items in use through repair, re-use and recycling will help us reach the number one spot, and play a vital role in our drive towards becoming a carbon net-zero nation by 2050."²¹

²¹ <https://newtown.org.uk/uncategorized/newtown-a-pioneering-town-for-reuse-and-repair-in-wales.html> accessed on 12/4/21.

8.0 Bike to the Future – a social enterprise at Pendinas

8.1 Bike to the Future ('Bikettf')²² was formed in November 2015 as a charitable incorporated organisation with 5 charitable trustees. Bikettf 'wanted to provide a real time work experience platform, to deliver transferable work skills, and at the same time promote cycle use. There has been a steady evolution of delivery throughout this time, and we now run the workshop as a conventional commercial "shopfront", which helps to support our wider community and personal development aims.'²³ Prior to Arwain funding Bikettf's founder and project manager, Tom Chandler, undertook a feasibility study to ascertain the likely market for a work-skills based training entity. He came up with a project that as a workplace training project which uses bicycles as the medium for delivery of certificated training. It sought to work with people currently removed from the workplace, and through a mix of personal support and tangible work experience planned to deliver accredited learning outcomes. Participants would make themselves more employable by demonstrating workplace learning and gaining in certificated skills which would be valid for the wider world of work.



8.2 Delays in getting Skillshop up and running (see 3 above) allowed for continued market action research in 2017 which summarised the situation with the various agencies:

(a) Job Centre had by then moved to supporting the "Hard to Help" category through the Flexible Support Fund. Bikettf managed to get on the provider list, but it was not possible to actually make any progress at the local level.

(b) Kaleidoscope (a Powys-wide agency which provides drug and alcohol services to Children, Young People and Adults) showed enthusiasm to direct their clients to the project but were completely unable to accompany this direction with any funding. There seemed to be a difficulty recognising that each engagement brings a material and managerial cost.

(c) Adult Learners Wales (ALW) initially indicated that there might be a payment per 5-hour training block, which would bring in an assumed £15 per person, but this has changed to £120 per session with an 8-person minimum number group size. This was an unworkably large cohort to manage in a workshop situation. There was an attempt to 'try

before you buy' by putting on "a Tuesdays in the bike workshop" event to the various agencies to see what response there was, but it did not get near the prescribed threshold of 8 participants. It may be that there are actually very few participants reflecting the fact that there are very few people who live in Mid Wales. Bikettf explored with ALW the possibility of delivering cycle maintenance specific outcomes, which could have brought in 'a payment by unit delivered' mechanism, not by number of people taught.



26. Trainee bike mechanic

²² <https://bikettf.org/> accessed on 12/4/21.

²³ <https://bikettf.org/our-story/> accessed on 12/4/21.

(d) Remploy initially formed a very successful partnership with Bikettf, with one client attending the workshop and then almost immediately moving on into paid employment. Unfortunately no further contact has been possible, and it is probable that their work is now project funded and so keep clients in-house.

(e) Youth Service cater for people not in employment, education, or training (i.e. NEETs) up to age 24. However, they are unwilling to talk about funded placements. There was one case where Bikettf engaged with a “leaving care” client who had made direct contact and his life coach indicated he may be able to find money to pay for an award or certificate.

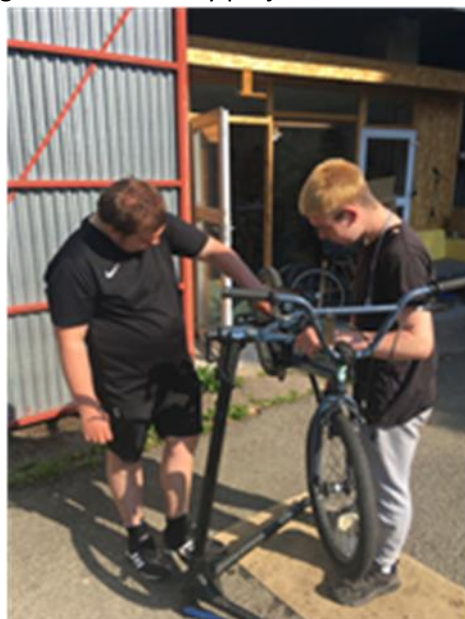
(f) Careers Wales, whose target demographic has been extended to embrace job seekers of any age, was not approached by Bikettf as their clients are directed to conventional training agencies such as Bethany Training.

(g) Pupil Referral Unit could make use of Bikettf’s resources, but it would need to engage with children under 16, involve a higher level of personal support and there would be vulnerability issues to manage with care. This proved difficult to achieve as not everyone on the Bikettf team felt comfortable working with this age group.

8.3 The outreach projects engaged in by Bikettf had been very successful, being both well attended and generating a lot of interest in attending cycle skills workshops. Interest had been generated through Dr Bike, through Facebook and also through the Pedal Away project.²⁴ The conclusion was that had Bikettf been set up to service this unexpected interest it could have been running community cycle repair skills workshops as its core activity.

8.4 This practical experience led to the conclusion that the focus of Bikettf be changed from one of supporting people to engage with work-based skills, to a cycle promotion focus, whereby people learn “community” skills in the very real arena of cycle repair. The advantages are that it is comparatively easy to measure, it can provide for a community of cycle knowledge which in itself will ripple out into social cohesion and enhanced life and employability skills. The major differences between this focus and the initial aim were that:

- (a) No attempt would be made to deliver the accreditation based on work-based skills.
- (b) Bikettf would not be targeting placement provider agencies directly, but instead will be promoting its services into individuals and communities.
- (c) There will not be an expectation of delivering accredited outcomes, unless people specifically request this, in which case they (or a support agency) can provide the funding for it.



27. Bikettf’s co-production training model in practice

²⁴ <https://cycling.org.uk/pedal-away/> accessed on 12/4/21.

8.5 Social enterprise like Bikettf often start off with one set of ideas and through hard won experience are forced to make some drastic reassessments about how they might ply their trade. For a variety of reasons none of which it had any control over, Bikettf could not earn a viable income from placements paid by various agencies – those resources never materialised. In this case, Bikettf embraced social prescribing from which it was hoping to earn its keep, but social prescribing was and remains in its infancy, though it has gained traction since those early years, but it will take some more years before budgets to make it happen practically and at the grass roots hang down from the theoretical concept. Social enterprise is often wrong by being right too soon because it is trying to pioneer change before the world is ready to accept that change. Bikettf has had its share of disappointments but it has survived and is now thriving as “*the community bicycle workshop.*”



28 The Community Bicycle Workshop in action

8.6 It is clear that Bikettf is a much-needed social and environmental project. In the lockdown in 2020 Bikettf’s cargo bike delivered much needed essentials to vulnerable people.²⁵

The hands-on and informal approach to training works with many people who are put off and often excluded from mainstream skill learning venues. Bikettf has demonstrated that these young people can be reached and are able to contribute to the wider society.



Project Manager and founder Tom Chandler 29 Setting off for a delivery on the e-boost cargo bike

consulted a range of organisations which advocate for those who are economically inactive and/or the recipient of third-party support. It was clear from these conversations that there existed many individuals who could benefit from tangible work-based training, and that existing outlets were few and far between.

²⁵ <https://www.facebook.com/Bikettforg/posts/897998863975520>



31 Bikettf's spacious workshop at Pendas



30 Bikettf's original workshop entrance at Pendas



8.7 Bikettf continues to find engaging with outside agencies to support referrals extremely challenging. Organisations such as the Job Centre, Kaleidoscope, etc do their own good work but continue to lack a robust framework for external partner working – something anecdotally acknowledged by Job Centre personnel. Careers Wales seem to have outsourced their engagement to an organisation called Communities Work, who have proved poor communicators so far as Bikettf is concerned. It is possible that Bikettf is too small a player focussed on support and outcomes, so it has little ability to engage with organisations which have a focus on internal systems. The project has had no participants placed through these agencies.

8.8 Where it has been successful is in partnering with schools. Brynllwarch,²⁶ Pathways²⁷ and the privately run Bettws Life House²⁸ have all come on board, using engagement in the workshop as

²⁶ <https://brynllwarch.powys.sch.uk/> accessed on 12/4/21.

²⁷ <https://www.facebook.com/PositivepathwaysPowys/> accessed on 12/4/21.

²⁸ <https://bettwslifehouse.org.uk/> accessed on 12/4/21.

an alternative learning resource. This has stopped since the first lockdown in March 2020, but the intention is to begin with placements once the Covid situation is resolved.

8.9 Also, there have been a number of self-referrals, who have either participated simply to learn how to mend their bike or have participated over a longer period with a view to learning new skills and improving either their own well-being or their employability. This has included the following: of the 10 long term participants, 3 have gone into paid work, 2 have kept out of prison due to engagement (as stated by the Magistrate), 1 has returned to education, 4 are ongoing well-being participants.

8.10 Bikettf's Community engagement is good, ongoing, and growing, with people using the workshop as a conventional bicycle workshop, which provides the opportunity for a viable economic base for the organisation. Bikettf has worked in partnership with likeminded social enterprises, such as Cultivate which shares space at Pendinas and Open Newtown which manages the green spaces of the town, as well as organisations like Dyfed Powys Police and Circular Economy Mid Wales. Bikettf is well placed to move towards a Commercial / Charitable hybrid model, using its community engagement through bicycle repairs to support and deliver its outcomes on the social agenda.

NUMBER OF COMMUNITY HUBS (required: 1 actual: 1)

9.0 Community Hubs: Pendinas enterprise village workshops



32. Skillshop's Enterprise Village at Pendinas

9.1 Skillshop's Pendinas site has become the very definition of a community hub, as outlined by ARWAIN – 'a public space offering co-located or integrated services'-with a range of activities taking place within a nearly 3-acre site comprised of a community garden, four bespoke workshop areas and a training/conference room.

9.2 Site partner *Cultivate* occupy and maintain a community garden and micro allotment area, together with a commercial-grade production kitchen which feeds their organic foods shop located in the centre of Newtown. Thanks to Skillshop, Cultivate has invested in a commercial kitchen which cooks food sold in Cultivate's Deli in the High Street in the centre of town. The commercial kitchen has been critical in safeguarding the 2 jobs running the Deli.



33 Community Garden and micro allotments



35. Commercial kitchen



34. Community gardeners shed

9.3 The site has a large, corrugated iron shed which has been divided into two separate units. Bikettf occupies the right-hand half (see pictures 24), and the left-hand half is being developed into a Community Shed, the successor to the original idea of a “Men in Sheds” project.

9.4 At the time of this writing a small function room has been created in the refurbished bungalow (referenced 3.6 above).

9.5 And modified shipping containers provide for a training room with annexed kitchenette and a separate facility in which we hope to develop the *Precious Plastics Project* (see 5 above).



36. Old shed which accommodates Bikettf and the Community Shed Project



37. Stand-alone Precious Plastics workshop

9.6 As detailed earlier, (see 3.6 above) the opening of a training room, intended to house the majority of Skillshop courses, was sorely delayed by flood-damage to the bungalow; it seemed at

one point that the damage may have gone unrepaired as it became an insurance issue with the landlord stretching over several months - so much so that we were forced to source a suitable replacement in the form of the purpose-built modified shipping containers which were finally installed in the September of 2019.

9.7 By this time, Skillshop had recruited a number of potential tutors through advertisement and word-of-mouth recommendation to provide the skills workshop training that we required as an income stream to use as match funding – each workshop would generate funds from a paying clientele, these funds would be used to reimburse our tutors and count as match. Each tutor was screened through a formal application process - paperwork and interview - with the project manager.

9.8 A ‘soft’ launch began at the end of July 2019 in a partly refurbished bungalow - the flood damage having by this point made somewhat good in two rooms, though the rest of the building remained compromised. A sold-out yoga course seemed to herald a promising start, but a subsequent monitoring meeting with ARWAIN reminded us that yoga, and other similar activities, were not a part of our mission brief relating to reuse and repair, which all future courses must strictly adhere to. Abashed, we were forced to drop yoga, sugarcraft and fine art from our public offering.

9.9 Our first course proper, emanating from the new shipping container training room (see picture 5 above), was a reuse and repair textile course, that repeated several times and morphed into *Cheryl’s Sewing Project*, which saw masterclasses in a range of techniques ranging from mending and repair of clothing to the design and production of bespoke garments. These courses, led by a local professional and entrepreneur, proved popular with attendees.

38 Textiles’ tutor Cheryl giving budding student Tom a lesson in sewing machine use – a posed still for a promotional splash in the local press.

9.10 Another workshop, that has run across multiple sessions to date, is the *Weaving With Recyclables*, or hand weaving using entirely recovered materials –picture frame weaving frames, and thread coming from used textiles. This workshop too has enjoyed very positive feedback.





39. Irene E pictured with her first class of weavers.

9.11 Our most recent courses have been concerned with furniture upcycling, led by new tutor Tina Fox:



40. Furniture upcycling with Tina Fox

Though these courses have run, and feedback has been positive, the numbers of attendees have been small, with classes of three or four not unusual. This may be due to a number of factors:

(a) A need for greater publicity – though we have been featured in the local press, conducted leaflet drops, have a website (1,984 logged views) and Facebook page (378 followers) and have raised the profile of the Skillshop brand at repair cafés and at the HWRC shed.

(b) The courses on offer – on reflection, courses limited exclusively to re-use and repair may simply not be attractive enough to the relatively small catchment of rural Mid Wales to justify greater numbers?

(c) The cost. It would be remiss to not acknowledge that the funding mechanism (9.8 above) argues against free or subsidised courses, and this may well have deterred uptake. Additionally, a number of other skills providers have begun offering free/low-cost courses in our area; Newtown College, *Siawns Teg*, *Ponhafren*, etc – all of which compete for the same client base.

9.12 Whilst Skillshop intends to continue to offer skills workshop classes post-grant, it is unlikely that this aspect of the project will generate significant income without expanding beyond our strict remit of reuse and repair, nor is it likely to become Skillshop's principal source of income and will likely require some support from other more successful aspects of the project.

9.13 The whole subject of courses - which ones to run and how much to charge - will be reassessed, with the likelihood that many in the future are held at the new Broad Street premises.

10.0 REFLECTIONS AND THE FUTURE

REFLECTIONS

10.1 Without any doubt Skillshop's presence at Newtown's HWRC has been a success although sadly the pandemic has prevented us from demonstrating how successful it could have been and, therefore, we are still only able to make tentative observations about the long-term impact this will have.

10.2 In the same way that Bikettf (see section 8 above) found that its sources of income generation were frustrated by the approach of many of the referral agencies it had planned to rely upon, Skillshop has also encountered frustrations along its journey in terms of income sources. For instance, it thought there would be plenty of scope in developing classes to run courses in one or other form of 'remakery' in its enterprise village at Pendinas, but both the Covid and funding restrictions proved frustrating in that they placed a constraint on the potential market. However, over and above that it is undoubtedly also the case that we found a general lack of interest in the acquisition of 'remaking' skills. For the future this has to be taken on board.

10.3 Covid conditions have frustrated another long-term strategic goal for this project which was to examine the impact reuse located at an HWRC could have on the finances of such a facility. It, therefore, remains to be seen whether the net income from re-use activities at an HWRC, along with the downstream processes including PFR, upcycling and online sales, will have sufficient financial impact on the running of waste management facilities such as HWRCs, so as to move them from being financially cost negative towards cost neutrality, leave alone becoming cost positive. This project is enough to show that if a customer facing and retail marketing approach is adopted at such facilities, it's possible to increase the quantity of material diverted from landfill, which not only helps meet the targets laid down in Towards Zero Waste, but which also paves the way for making such facilities less dependent on public subsidy. What is clear is that this is not going to be achieved solely relying on the quantities of reusable things which can be diverted from landfill. It's the quality of the articles donated to Skillshop which has been surprising, and which bodes well for the future in terms of making this type of intervention pay for itself.

10.4 The location for the downstream activities is important. With the benefit of hindsight we would not have attempted to operate this project on an old fashioned, 20th century industrial estate such as we have on the edges of Newtown. We would have looked for premises in the centre of town and would have tried to position this project as a town centre regeneration project. However, timing is everything when it comes to funding applications and there is a time lag between the identification of a problem (i.e. the decline of town centres) that can be tackled through publicly funded initiatives and actual funding programmes (i.e. Reuse & Repair Fund) coming on stream. Furthermore, it would have taken a leap of imagination 5 years ago to envisage innovation in waste management linked to town centre regeneration, not to say that we all need to understand and accept that the stale old silos have to be broken open to blow in fresh ideas.

THE FUTURE

10.5 In section 1.6 above we concluded that ‘Wales would have to make a significant investment in re-use, the preparation for re-use, (‘PfR’) and upcycling if it were to achieve its waste ambitions by the mid-2020s’. In looking at the overall profile of the waste management industry in Wales re-use remains the Cinderella of the piece. That is to say it does have, in the longer term, a bright future; however, that future is not yet with us and in section 15.2 above we made the point about the need for the market to change and develop. As a society we have quite some way to go before we can genuinely claim that there is a vibrant and expanding market in remaking things. The brand ‘Remade in Wales’ has yet to take off. Whilst there are people in every community who are animated and possess an abiding interest in how appliances work, how they are made and how they are repaired, the ‘world of remakery’, it has to be said, is populated by a small minority of people and, therefore, comprises a niche market. Whilst this might be described as ‘market failure’, what the ambitions for re-use demand is a much bigger market of consumers of reuse and upcycled appliances than is currently available. And we also need consumers to be far more conscious than hitherto of what they are throwing away. For instance, WEEE (waste electrical and electronic equipment) has serious gaps between what people buy and what is recycled with over 300,000 tonnes a year lost to the recycling system.²⁹ If we study the history of charity shops, particularly those operated by the large national charities, we can see a steady growth in their market share over the past 20 years.³⁰ In the case of Wales that market share is above the UK average.³¹ It’s important to remember that charity shops trade in items, mostly clothing and knickknacks, which if not donated to them would have been thrown away, thereby becoming waste and potentially ending up in landfill. As it is charity shops pass on a substantial amount of what they are given to the rag trade simply to keep up with the huge amount of clothing that is being donated to them on a daily basis. To get re-use firing on all cylinders, well beyond the items found in most charity shops, we need consumers to think ‘re-use’ before committing the act of throwing away – clearly that has caught on in the case of clothing, but it needs to catch on across all types of things that flow through our lives. The more retail outlets there are the better; the number of charity shops in high streets has lodged in shoppers’ minds, just as the presence of Skillshop at Newtown’s HWRC has lodged in the minds of those who regularly use that facility. If it’s there and it’s easy to access consumers will change their behaviour and donate what would otherwise be waste to enable it to be recycled. This is why having a presence in the centre of towns for a re-use hub is one of the catalysts to unlocking the market.

10.6 By setting up Circular Economy Mid Wales Ltd [‘CEMW’]³² the Skillshop team have implemented a succession plan that takes the work funded by Arwain to the next stage and level. Originally set up in 2018 CEMW has the structure of a community interest company and in collaboration with Newtown Town Council has purchased 3-4 Broad Street in the middle of Newtown (as described in 7.14 above) which will open as a re-use hub in the summer of this year. The plan is for this building to become the nerve centre of re-use in Newtown and its environs. Cwm

²⁹ [U.K. Among Worst Offenders For E-Waste Following Black Friday Binge \(forbes.com\)](https://www.forbes.com) accessed on 15/5/2021.

³⁰ <https://fundraising.co.uk/2020/02/12/charity-retailers-outperforming-high-street-stores/> accessed on 18 April 2020.

³¹ <https://www.statista.com/statistics/1034125/charity-shops-in-uk-high-streets-by-region/> accessed on 18 April 2020.

³² <https://beta.companieshouse.gov.uk/company/11874821> accessed on 15/5/2021.

Harry has surrendered its lease of Pendinas, and a new lease has been granted by Newtown College (NPTC Group)³³ to CEMW to run and expand the enterprise village described in section 9 above.

10.7 CEMW has in turn granted sub-leases to a number of social enterprises including Bikettf, Cultivate and the Community Shed Project. Bikettf and its contribution to the local economy has already been described in section 8 above. Cultivate has been mentioned throughout this report but it would be useful to dwell on what it is doing at Pendinas as it will complement the future work of CEMW both there and at the Broad Street premises. Based out of Pendinas it has established a community orchard across four local sites. It is in the process of converting part of the existing bungalow on site into a food production hub to make fruit juices and cider based on the produce coming from the community orchard. This will sit alongside the kitchen also located in the bungalow (see photo 36 and opposite 42). CEMW plans a joint project with Cultivate to operate from 3-4 Broad Street a Community Fridge³⁴ although in fact it is more likely to be a Community Freezer, located in Broad Street but serviced by ready made frozen meals made from a combination of local produce sourced from Cultivate's growers and surplus food from local shops and supermarkets. The ready-made meals will be prepared and cooked at the Pendinas kitchen.



42 Bungalow showing newly constructed plinth forming part of community orchard processing unit



41 Commercial kitchen at Pendinas

10.7 Perhaps the most innovative start-up business at Pendinas is Cultivate's Controlled Environment Agriculture Project.³⁵ The project started at the beginning of this April and has already produced its first crop of micro greens. Based on Farm Urban's technology³⁶ the plan is to produce crops all the year round from the adapted shipping container seen in pictures 4 and 5. There are several elements to this which make it, so far as we know, a first for Mid Wales and possibly one of the first in any part of Wales. This is using aquaponic and hydroponic methods and has the potential to grow large quantities of produce within a minimum space. The College has expressed interest to both develop a module around the technology using Pendinas for the agriculture students and as a means of producing food for the



43 State of the art urban farming come to Mid Wales

³³ <https://www.nptcgroup.ac.uk/locations/newtown-college/> accessed on 15/5/2021.

³⁴ <https://www.hubhub.org.uk/the-community-fridge> accessed on 15/5/2021.

³⁵ https://en.wikipedia.org/wiki/Controlled-environment_agriculture accessed on 15/5/2021.

³⁶ <https://farmurban.co.uk/> accessed on 15/5/2021.

canteens of NPTC Group's various campuses from Newtown to Neath Port Talbot. Farm Urban through Cultivate will be launched this autumn in Newtown's schools as an outreach education programme on aquaponics. This is a 6-week programme aimed at years 5 and 6 where each school is supplied a produce pod combined with visits to the Pendinas site. The 'living wall' facility (seen in picture 44 opposite) will be relocated to Broad Street once the premises have been redeveloped in time for opening this summer to demonstrate the technology and advertise what CEMW and Cultivate are doing at Pendinas. The micro greens can also be combined with the fruit juices from the community orchard to produce a locally sourced health drink which will be sold direct as well as in Cultivate's café in town.



44 Living wall of micro greens at Pendinas



46 Seeds germinating on a bed of mist



45 CEA controls unit

10.8 As for future CEMW stand-alone projects, we believe it is best placed to realise both the bricolage and precious plastics projects, as described in the feasibility studies in sections 4 and 5 above.