Canadian Digital Service
Service numérique canadien

Canada

Pre-Discovery Findings and Recommendations

NRCan – CanmetENERGY

What was done

- We spoke with people from IT, Comms, Policy, Legal, Executive Leadership, LEEP, and their OEE and OERD colleagues
- Pre-Discovery enabled diverse perspectives to come together, to understand the conditions in place

- We asked questions and had discussions that helped us understand the space
- We shared some good laughs
- The Pre-Discovery group analyzed the interviews together against our Framework

21

ATTENDED KICKOFF

11

INTERVIEWS CONDUCTED

Where we've landed

We are excited to work with you.

We don't want to impose what that will look like.

We would like you to be part of that conversation.

Agenda

Objective: identify needs and next steps for collaborating

1. We will present our findings from the Pre-Discovery exercise
2. We'll share some recommendations based on our analysis
3. We'll review a proposed roadmap to help you in your journey
4. We've set aside some time to discuss a collaboration that would work for you

What we heard during our interviews and discussions

What we heard by success criteria

Our findings are based on the following criteria*

1. Establishing and empowering multidisciplinary teams
2. Conducting user research
3. Practicing continuous improvement
4. Working in the open
5. Cultivating a culture of collaboration
6. Shifting to a product delivery model

**See findings by criteria at the end of the presentation.*

WHAT WE HEARD

About CBAT

- Desire to enhance CBAT for two-way data exchange, make it easier to use, and broaden accessibility
- Unanswered questions from user perspective: utility of tool, usability, impact, and relevance
- Initiative has executive support
- Convergence of national energy targets, new National Building Code, market availability of technologies, and stakeholder interest and expectations
- Some unknowns on how to fund a service initiative long term

WHAT WE HEARD

Internal partners

- Groups tend to be self contained but there's a genuine desire to break down silos: concrete efforts to improve communication across groups
- LEEP shows enthusiasm for working with other groups and openness to working differently
- There are diverging views on the scope of CanmetENERGY's RD&D role relative to other players and service delivery
- Strong shared org vision and commitment in support of greenhouse gas reduction, Net 0, and energy efficiency targets
- Teams within OEE and OERD would like to see CBAT modernized for an example to guide their own modernization efforts

WHAT WE HEARD

Approval and departmental support

- Within CanmetENERGY the team has autonomy to make decisions
- Departmental teams, e.g., legal, comms, are generally engaged and available for support
- NRCan is on path to using cloud services – this will help with continuous implementation and delivery
- It is unclear whether long-term funding is available to support a continuous delivery model
- The way funds are earmarked in the R&D/RD&D funding model contributes to teams working in silos – this appears to be the principal source of funds

WHAT WE HEARD

Users and user research

- LEEP has regular contact with stakeholder groups and an understanding of their needs
- No formal design research being conducted currently
- Feedback from the users is not necessarily informing design options
- Potential users include:
  - homebuilders, including CHBA
  - technology and materials manufacturers
  - homebuilding consultants (energy, design, architecture)
  - solar consultants
  - Engineers
  - regional and provincial governments
  - energy utilities

WHAT WE HEARD

Digital skills and expertise

- Skills gap: expertise needed in areas such as user experience, user research, design, development, and accessibility
- User feedback not consistently being translated into design updates
- Already an RD&D shop with market-driven approach
- Team is well versed in research and development concepts and therefore iteration
- Groups spoke openly about failures and shortcomings as well as successes

WHAT WE HEARD

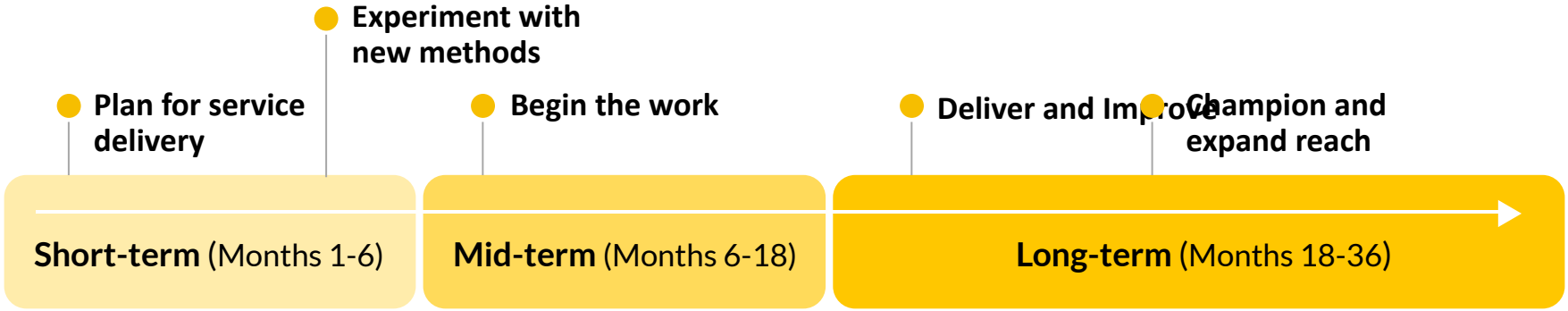
About digital services

- There’s ambition to modernize how CanmetENERGY creates public value through its data, knowledge, and decision-making tools
- Teams historically haven’t considered themselves service providers
- Most teams that work on tools for stakeholders don’t necessarily think of them as products or services
- CanmetENERGY is predominantly composed of architects, engineers, and researchers – some are reluctant to take on what is seen as a client service role
- LEEP and CBAT could provide an opportunity to test improvements to CanmetENERGY’s RD&D model

Proposed road map

Proposed road map

We recommend a set of short-, mid-, and longer-term objectives to build a product team, iterate upon CBAT, and increase capacity to deliver services in the broader organization. The timing is suggested and would depend on what is feasible for the LEEP team.



Short-term: plan and tinker

Plan for service delivery

- **Create a working group** across CanmetENERGY focused on service delivery to discuss success metrics and the goals of org.
- **Work on staffing CBAT team**: Identify skills gaps; define needed roles by group (e.g., developer, design); and look internally for potential staffing and/or explore hiring.
- **Plan delivery**: Draft road map and identify where the service will be housed.
- **Secure funding** available along service continuum that isn't competing with research dollars – won't sunset.

Experiment with new methods

- **Try some user research**: Clarify user groups; research on workflows; usability tests of tool; interview existing users; incorporate findings. Test again!
- **Tools**: Work with CISB on cloud adoption strategy. Ensure LEEP has access to needed modern tools.

Mid-term: staff and iterate

Begin the work

- **Staffing**: Hire a small team (i.e., developer, designer, researcher).
- **Development**: Continue to iterate and incorporate research into tool; consider A/B testing with different versions / user flows; and incorporate design research into the development.
- **Culture**: “Outcomes over outputs” approach and advocate for delivering services within CanmetENERGY and NRCan.

Long-term: deliver and champion

Deliver and Improve

- **Launch service** to a broader audience.
- **Iterate on the product roadmap** to guide testing and continuous improvement of CanmetENERGY.

Champion and expand reach

- **Enable bi-directional data sharing** between users and NRCan.
- Move towards an **open source strategy**, leveraging open source community and tools for development.
- **Share outcomes** of adopting this delivery model, working with interdisciplinary teams, and conducting user research.
- **Champion structural changes** to empower more decision-making at the team level.

Let’s discuss!

Discussion

- Is this roadmap feasible?
- What is doable by LEEP?
- Where could CDS best help?

Our management is asking:

- How could CDS best use resources to have the most impact?

Where do we go from here?

Why now?

Several factors make the need for upgraded decision-support tools for builders more urgent:

1. “Achieving net-zero emissions by 2050 is a pan-Canadian project to transform our economy” – Fall Economic Statement 2020
2. Buildings, including homes, account for 17% of Canada’s greenhouse gas emissions
3. New National Building Code to include ambitious goals for energy efficient homes

To address this need, LEEP has built a first version of the Cost Benefit Analysis Tool (CBAT). They now want to make the tool more accessible, usable, and broadly available.

Enabling conditions for proceeding to next steps

Effort in these areas can help move forward:

1. LEEP commits to hiring or internally staffing the team early/now
2. LEEP explores options for long-term home and funding for service early/now
3. Work on shifting culture within CanmetENERGY and NRCan – some disagreement about what activities are out of scope for the organization
4. Synchronize work with legacy systems HOT2000 and HTAB that CBAT depends on.

Thank you!

Merci!

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1

Establishing and empowering multidisciplinary teams

Multidisciplinary teams — combining design researchers, designers, software developers, and a product manager into a single team — are the core unit of digital service delivery.

Traditionally, IT projects are delivered by isolated IT teams, adding significant overhead, eliminating important feedback loops, and leading to legacy systems and services.

Overcoming this requires changes to departmental processes, funding priorities, and structures.

1 Establishing and empowering multidisciplinary teams

CanmetENERGY conditions

- Within CanmetENERGY the team has autonomy to make decisions
- Skills gaps appear to exist around user experience (UX), development, and accessibility
- Leadership is aware teams are siloed and is moving towards improving communication across groups

- Create working group across the department focused on outcomes/objectives
- Identify skills gaps
- Document new roles by group, i.e., UX researcher/designer, 1 or more developers
- Look internally for potential staffing

- Use CBAT project to demonstrate a new way to work
- Establish a team with the ability to design, deliver, and maintain the tool long term

2

Conducting user research

User research — direct research and testing with the people who will use a service — is instrumental in building user-centred designs. It ensures that services meet real needs and provide a smooth user experience.

Many departments are not equipped to conduct this type of research due to perceived policy constraints, including public opinion research and privacy, and/or because they lack the in-house expertise to do so.

2 Conducting user research

CanmetENERGY conditions

- LEEP has regular contact with stakeholder groups and an understanding of their needs
- Already an RD&D shop with market-driven approach
- Gap: no User Experience (UX) staff, not always translating feedback into design updates
- Unanswered questions: utility of tool, usability, impact, and relevance

- Plan hire of UXer to do design & research
- Clarify user groups
- Train on & try: research on workflows; usability tests of tool; interview existing users
- Incorporate findings. Test again!

- Staff UX designer/researcher
- Develop a plan for user research long term
- Include research into development
- Incorporate behavioural insights into tool to design for impact

3

Practicing continuous improvement

Making small, steady improvements to a service – and quickly deploying them to get feedback from real users – is how leading technology firms build great products.

Traditionally in government, IT projects lock in requirements based on lengthy upfront planning, without the ability to course correct based on feedback from users, and changes to services are deployed very infrequently.

Overcoming this requires changes to how projects are approved and funded, how infrastructure (e.g., cloud) is accessed, and the tools available for software development and web publishing.

3 Practicing continuous improvement

CanmetENERGY conditions

- Team is well versed in research and development concepts and therefore iteration
- NRCan is on path to using cloud services – this will help with continuous implementation and delivery
- Teams historically haven't considered themselves service providers

- Plan future of delivery of CBAT (LEEP / OEE / Other)
- Focus on usability of current proof of concept and identify future iterations of the tool (data driven decisions)

- Work with CISB on cloud adoption strategy
- Broaden access to the product
- Leverage learnings to refine features
- Enable bi-directional data sharing between users and NRCan

4

Working in the open

“Working in the open” — sharing lessons-learned, successes and failures, performance data, and software code publicly — is an important function of service delivery teams.

This can be a significant departure for some risk-averse IT and service delivery teams.

Navigating existing government communications approval processes and culture can discourage teams from working in the open.

4 Working in the open

CanmetENERGY conditions

- NRCan understands the value of data and the need to share it – this is something they already do
- Intellectual Property (IP) concerns are present within the department
- Multilayer approval processes for publishing some web and communications content

- Start to share how CanmetENERGY does their work – share research and work methods

- Move towards an open source strategy
- Push impact over outputs
- Explore how to share data more readily and encourage stakeholders to share data with NRCan to curate

5

Cultivating a culture of collaboration

A collaborative, or generative, culture is one of high cooperation, skilled communicators, and shared risks.

A high-trust culture that supports creativity and change cultivates an environment of continuous improvement. Innovation and failure are viewed through a lens of curiosity and learning.

This kind of generative, adaptive culture has been shown to be a predictor of both productivity and job satisfaction.

5 Cultivating a culture of collaboration

CanmetENERGY conditions

- LEEP shows enthusiasm for working with other groups & openness to working differently
- Leadership acknowledges silos: concrete efforts to improve communication across groups
- Groups spoke openly about failures and shortcomings as well as successes
- Strong org commitment supporting greenhouse gas reduction, Net 0, and energy efficiency targets

- Set goals for product performance and stakeholder behaviour outcomes
- Explore ways to incentivize outcomes, e.g. builders' behaviours around energy efficiency
- Introduce usability testing and design research to reveal any risk earlier in the product life cycle

- Share outcomes gained from valuing user research with colleague and partner groups
- Champion structural changes to empower more decision-making at team level
- Secure funding available along service continuum that isn't competing with research dollars, won't sunset

6

Shifting to a product delivery model

A delivery model reflects the purpose of an organization or program, and articulates what it does, how it works, and who is involved to create or enable public value.

Delivery models in government can avoid becoming path dependent or over reliant on existing ways of working when continuously improved and responsive to shifting contexts and needs.

They can position the organization or program, and the value it is aiming to create, relative to and interconnected with, other actors and organizations aiming to influence the same system and people, and enable similar outcomes.

6 Product delivery model

CanmetENERGY conditions

- There's ambition to modernize how CanmetENERGY creates public value through its data, knowledge, and decision-making tools
- There are diverging views on the scope of CanmetENERGY's RD&D role relative to other players and service delivery
- There's a genuine desire to break down silos
- LEEP and CBAT provide an opportunity to test improvements to CanmetENERGY's RD&D model

- Empower LEEP to learn and demonstrate what a modern delivery model looks like using CBAT as an initial product
- Ensure LEEP has access to modern tools and practices to design and deliver CBAT to meet user needs

- Create a CanmetENERGY product roadmap to guide the testing and continuously improvement of CanmetENERGY tools (e.g. CBAT) and their integration into energy efficiency service delivery
- Articulate how products and components will be monitored, evaluated, and sustained via funding, if demonstrating value to users