

Data and input services - proposed approach

Innovation and
Participation
Advisory Group

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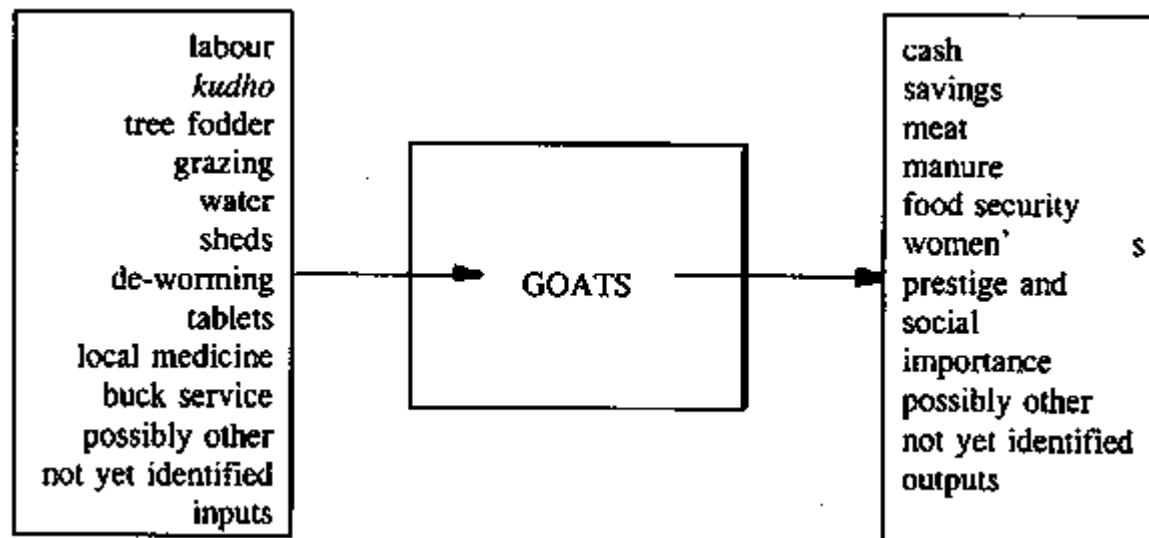
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What is the project?

- Customers buy, sell, and trade electricity services.
- Increasing uptake of new technology is changing the nature of these services.
- New kinds of service are available, and customers can have multiple service providers at one location.
- To provide new electricity services to customers, service providers need access to input services: metering & network connection
- There are no standards for input services where multiple parties use the same data and network connection.
- The Authority has asked IPAG for advice on ways to reduce and remove barriers associated with:
 - Access to data to supply services to a consumer
 - Shared use of the distribution service to supply services to a consumer

What is an 'input service'

- At broadest level, an Input is anything used by a process to provide an Output.
- Some are goods, some are services



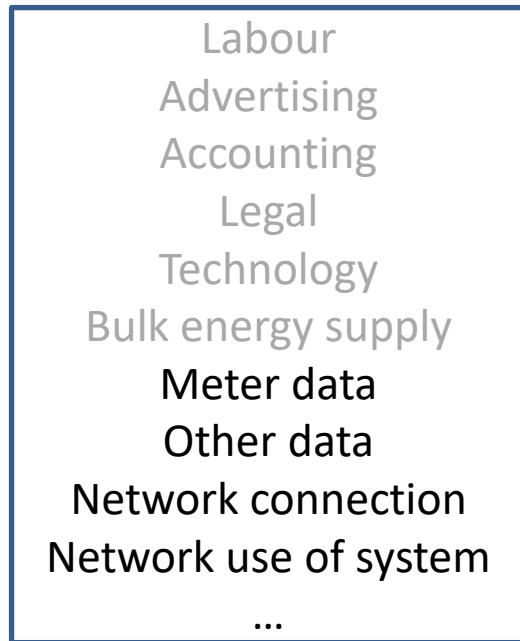
<http://www.fao.org/3/x5676e/x5676e08.htm>

Electricity input services

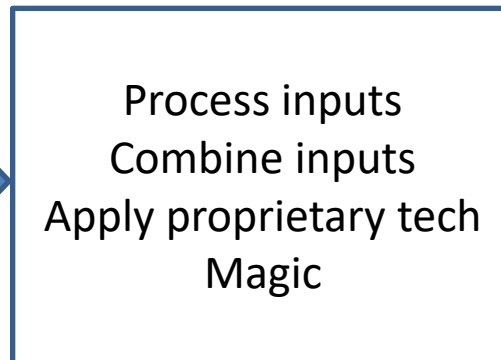
- In this project, we are focused on the *specific* input services *required* to *efficiently* provide electricity services to customers at ICP and sub-ICP level.
 - *Specific*: particular to electricity services
 - *Required*: output services cannot be provided without them
 - *Efficient*: even where the service could be otherwise sourced by duplicating existing infrastructure
 - *Sub-ICP*: where the customer has services from multiple providers
- Two services have been identified:
 - Data: provision of usage & technical data at ICP &/or sub-ICP level
 - Distribution service: connection to and usage of the electricity network to move energy to and from the customer

Are there others that fit this definition?

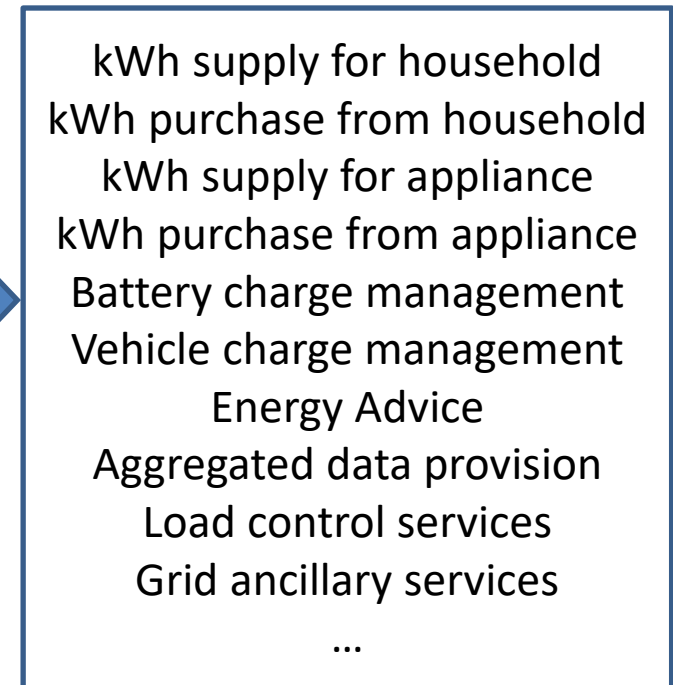
Input services



Service provider



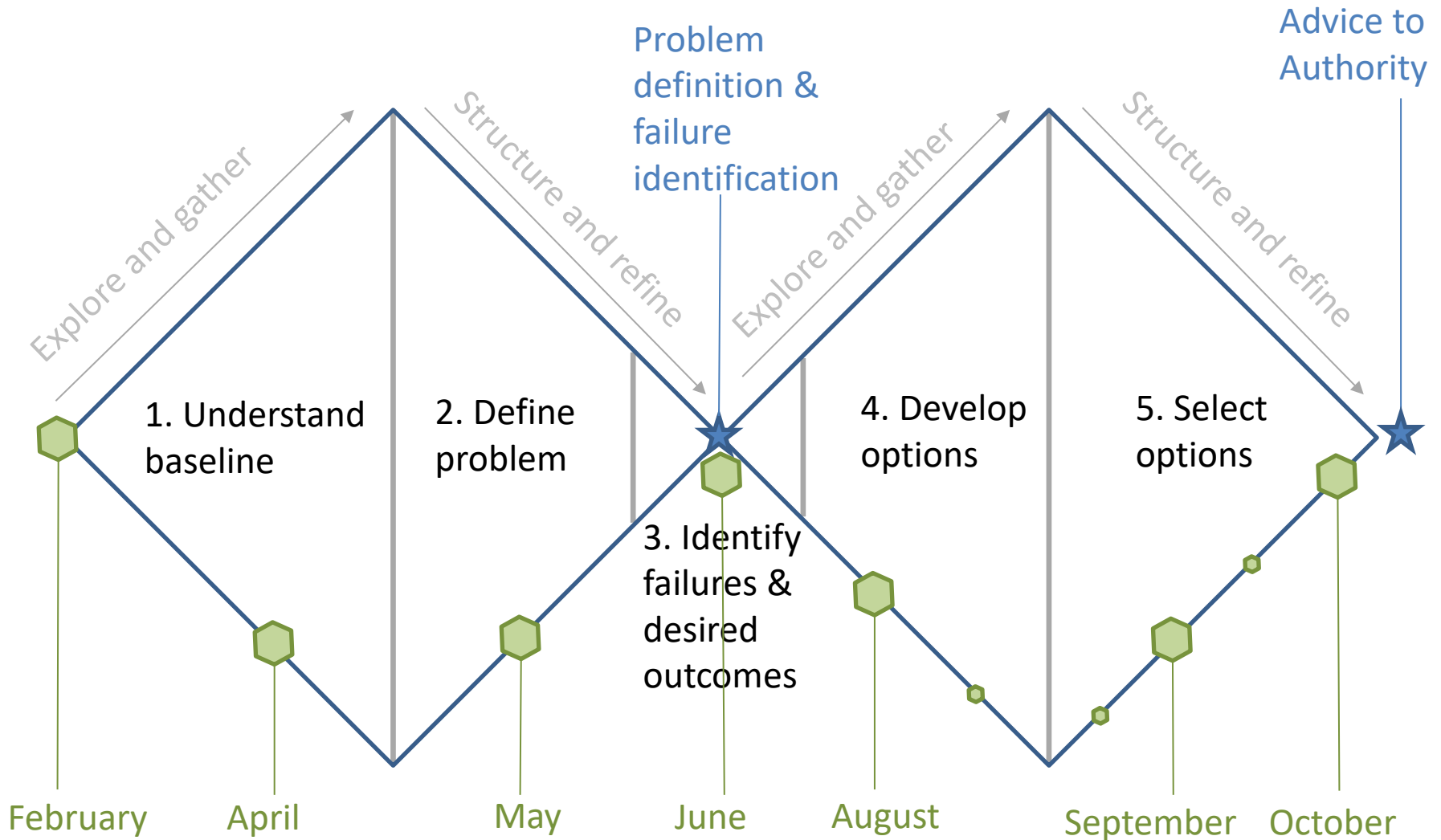
Output services



Proposed approach

1. Understand baseline
Describe current state and expected future changes
2. Define problem
Set out where the current arrangements are not working, or will not work in future
3. Identify failures and desired outcomes
Determine which issues identified in the problem definition are due to market or regulatory failure. Turn those issues into desired outcomes.
4. Develop options
Identify and define possible solution options to address identified failures and achieve desired outcomes
5. Select options
Assess options against standard criteria and determine preferred (+ costs and benefits)

Proposed approach



Proposed timetable

- **April:** Understand baseline
 - Advance papers: proposed approach and timetable (this deck);
 - Discuss and agree approach including assessment framework
 - Baseline - current: gather information on current state and possible problems by hearing from people who want the data or services (retailer, distributor, analytics)
- **May:** Understand baseline
 - Advance papers: Draft baseline including summary of what we've heard so far
 - Hear from people who provide or convey the data or services (MEPs, comms companies, MOSPs)
 - Hear from Authority on proposed ACCES framework (into which the IPAG work fits)
 - Baseline – future: workshop new services and new service providers who will want the data or services
 - **[Hear from Secretariat on potential solutions?]**
- **June:** Define problem, identify failures and desired outcomes
 - Advance papers: Draft problem definition; Draft mapping to market and regulatory failures
 - Discuss and agree problem definition and failure identification
 - Discuss desired outcomes
 - Discuss possible solutions at high level, to inform option development
 - **[Hear from Secretariat on potential solutions?]**
- **August:** Develop options
 - Advance papers: Final problem definition, failure identification and desired outcomes; Information on possible solution options
 - Hear from Secretariat on potential solutions
 - Visit sites in Waikato for insight into things happening now
- **September:** Develop options, select options
 - Advance papers: Options assessment
 - Discuss options assessment
 - Discuss draft advice
- **October:** Select options
 - Advance papers: draft advice to Authority
 - Confirm advice to Authority
- **Additional meetings:**
 - Depending on how much information the group requires on possible solutions, we may need to meet via teleconference between meetings in August/September/October, or shift content between those meetings

Does this cover what is needed? Are there any other steps required? Is the timeline achievable?

Regulatory strategy principles

In assessing options, the IPAG will consider the regulatory strategy principles published by the Electricity Authority:

- As far as possible, adopt regulatory arrangements that move the problem over time to a situation where the first-best solution can be adopted.
- Where possible, avoid 'one size fits all' approaches to regulation when regulating parties that may exit the regulated activity.
- Adopt regulatory approaches that, over time, reveal more about the true nature of the problem and the true constraints on regulatory intervention so that more effective regulation can be designed as the regulatory problem and regulatory constraints are better understood over time. The aim is to address the cause, not the symptom.
- As much as possible, avoid the slippery slope of ever more intrusive interventions arising from poorly designed regulatory interventions.
- Avoid regulatory interventions that are not likely to be credible when adverse events occur.
- Strive to achieve regulatory predictability because this is particularly important when regulating high capital investment industries such as electricity.
- These regulatory strategy principles are designed to complement the Authority's overall approach to its role, which places an emphasis on a coherent holistic market design and competition and consumer choice to deliver efficient outcomes, supplemented by effective monitoring of market outcomes and wide dissemination of information

Code amendment principles

The Authority and its advisory groups will have regard to the following Code amendment principles:

- Lawfulness
- Clearly Identified Efficiency Gain or Market or Regulatory Failure
- Quantitative Assessment
- Preference for Small-Scale 'Trial and Error' Options
- Preference for Greater Competition
- Preference for Market Solutions
- Preference for flexibility to allow innovation
- Preference for non-descriptive options
- Risk Reporting

Supplementary material – capturing what we have heard so far

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Current state - data

- What existing data is in scope?
 - kWh (smart meters)
 - Technical (eg voltage, frequency, power quality)
 - Metadata (registry)
- Who owns/holds it?
 - Customers own retail kWh data
 - MEP/retailer holds all data depending on contract
- Who is allowed access to it and how?
 - Customers are entitled to historic data held by their retailer, four times yearly.
 - Third parties can theoretically get data where customer authorises
 - Distributors can theoretically get technical data through commercial negotiation with MEPs

Current state – Distribution and metering charges

- All distribution charges and MEP charges are contracted by a single retailer at each ICP.
- Distribution and MEP charges are bundled into retailer offering, and usually (but not always) passed through to the end customer. Exceptions include distribution costs for peer-to-peer solar trading volumes (Trustpower, p2power) where the network cost may not be explicitly passed on to the customer.
- There is no standard way to price distribution and metering services when services are shared by several users

Current state – Metering technology

- Volumes for behind the meter activities can come from any device which the service provider chooses
- Volumes used in wholesale reconciliation and settlement must come from certified meters.
- Meter certification process incurs significant overhead in pursuit of accuracy and precision
- The long life of metering equipment (10-15 years) means the provider has an effective monopoly for services at that location. It is inefficient to displace equipment.
- The market for MEP services is highly concentrated (HHI >4000, 3 largest firms have >90% market share)

Future state – multiple service providers

In future, multiple service providers will provide services at a single ICP. This is already happening behind the meter.

- How can we enable efficient access to input services for multiple service providers at the same location?
- Who are the new service providers?
- What services will they need?
- Which existing relationships/agreements are affected?
- What data will be needed?
- Who has that data now, and who will have it in future?
- Who will need what data?
- Where will the data come from?

What we have heard so far - problems

1. Lots of data exists, but participants find it hard to access. This means that participants cannot use the data to find efficiencies. (eg analysis for distribution network reinforcement)
2. The data that exists is not always of good quality (missing values in kWh data, incorrect registry data)
3. Some data that would be useful is not collected (eg location of EV charger installations)
4. The same data is provided in different formats by different parties
5. Access to real-time data feeds is difficult and expensive – only historic data is available.
6. In most cases there is a delay between requesting historic data and getting access – it is not available instantaneously. This means that it is not possible for participants to build customer-friendly automated tools.
7. Some existing contracts restrict access to data (eg where retailer-MEP contract disallows MEP from providing data to anyone else)
8. There are no mechanisms to require and enforce multiple party access to data or services from entities with effective monopoly power

What we have heard so far – options for distribution & metering

1. Retain single party procurement of metering and distribution services
2. Define pricing principles that responsible party must adhere to when charging multiple parties (eg EIPC sched 6.4)
3. Define mandatory default arrangements for when commercial agreement cannot be reached (requires definition of default services)
4. Set prescribed fees for defined services (eg EIPC sched 6.5)

What we have heard so far – options for data

1. Additional enforcement mechanisms for existing data access requirements
2. Further standardisation of data exchange
3. Capture and dissemination of new types of data
4. Expansion of consumer rights to instantaneous real-time data (eg Australian Consumer Data Right)
5. Trial of open data platforms (eg UK Open LV)
6. Creation of a central data repository
7. Define standard dataset for data consumers to select from

What we have heard so far – options for metering tech

1. No change to metrology requirements
2. Require certification of consumer electronics devices
3. “Deemed certification” of measurement devices in consumer electronics
4. Allow non-certified meter data to be used for wholesale reconciliation
5. Allow non-certified meter data to be used for wholesale reconciliation, but only where netted off ICP level certified meter data