

Unpacking the elusive one-stop-shop for energy upgrades

14 February 2024
State of Energy Research Conference

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Acknowledgements:

Dr Ibrahim Ibrahim (UTS) – Research
Dr Christoph Brodnik (Monash) – Research
Dr Paris Hadfield (Monash) – Research
Jenny Gregory (RACE) – Market intel



Source: RACEfor2030 LinkedIn post

Defining the one-stop-shop

Flavour of the day


Menu Search

Tuesday, February 6, 2024

RENEW ECONOMY
CLEAN ENERGY NEWS AND ANALYSIS

Home Wind Solar Storage Hydrogen Electrification Commentary Podcasts All SwitchedOn The Dr

1Komma5 makes third Aussie acquisition of solar and air-con one-stop shop



Menu Search

Sunday, February 11, 2024

RENEW ECONOMY
CLEAN ENERGY NEWS AND ANALYSIS

Home Wind Solar Storage Hydrogen Electrification Commentary Podcasts All SwitchedOn The Dr

SwitchedOn Australia Podcast: A 'one stop shop' for electrification

SWITCHED ON
ELECTRIFYING EVERYTHING EVERYWHERE

Articles Podcasts Explainers Myth Busters

HOUSES INDUSTRY GOVERNMENTS

Victoria's new State Electricity Commission to establish one-stop-shops for householder electrification

Victoria's strategy to electrify the state at scale, and fast, is to revamp the public-owned electricity authority.

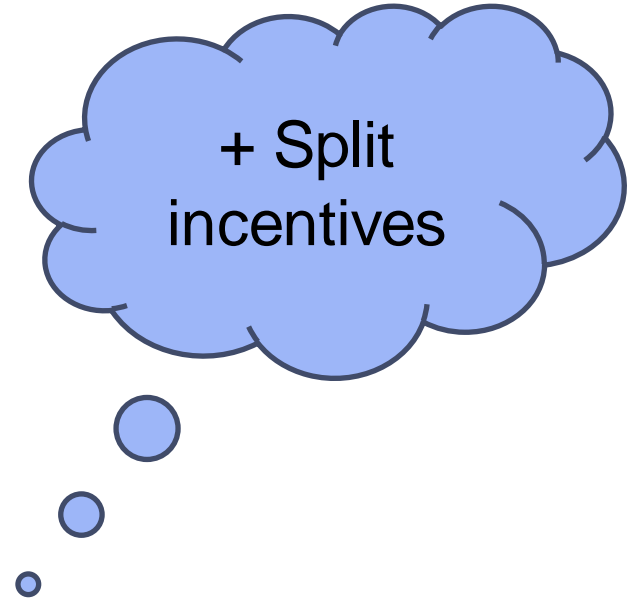
One-stop-shop: a definition

A One-Stop-Shop (OSS) is an [entity or] platform that serves as a single-point contact offering [a full suite of] residential energy [and electrification] upgrades and services. The concept of OSS involves streamlining various services under a unified umbrella to simplify and make the upgrade process more accessible and less complicated for homeowners looking to enhance energy efficiency [and electrify] their homes.

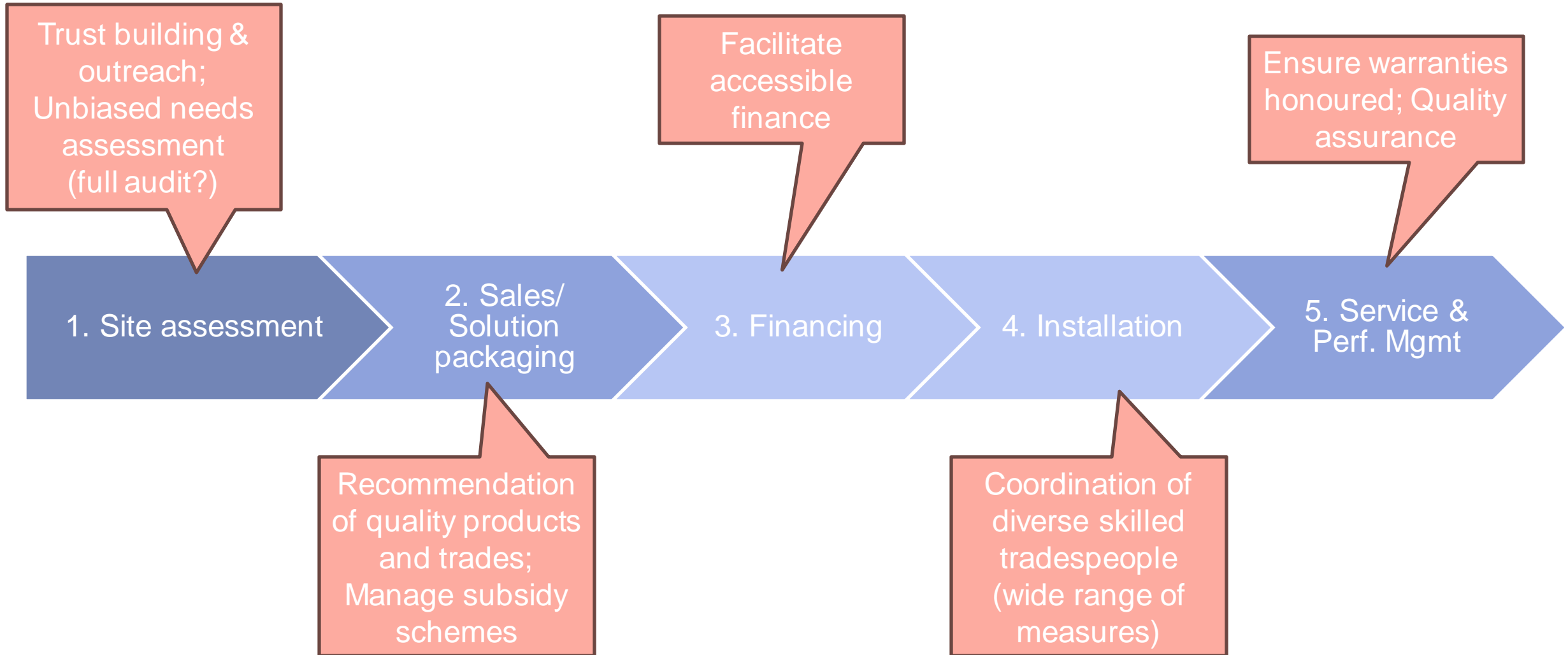
– **[Adapted from] Bertoldi et al. (2021)**



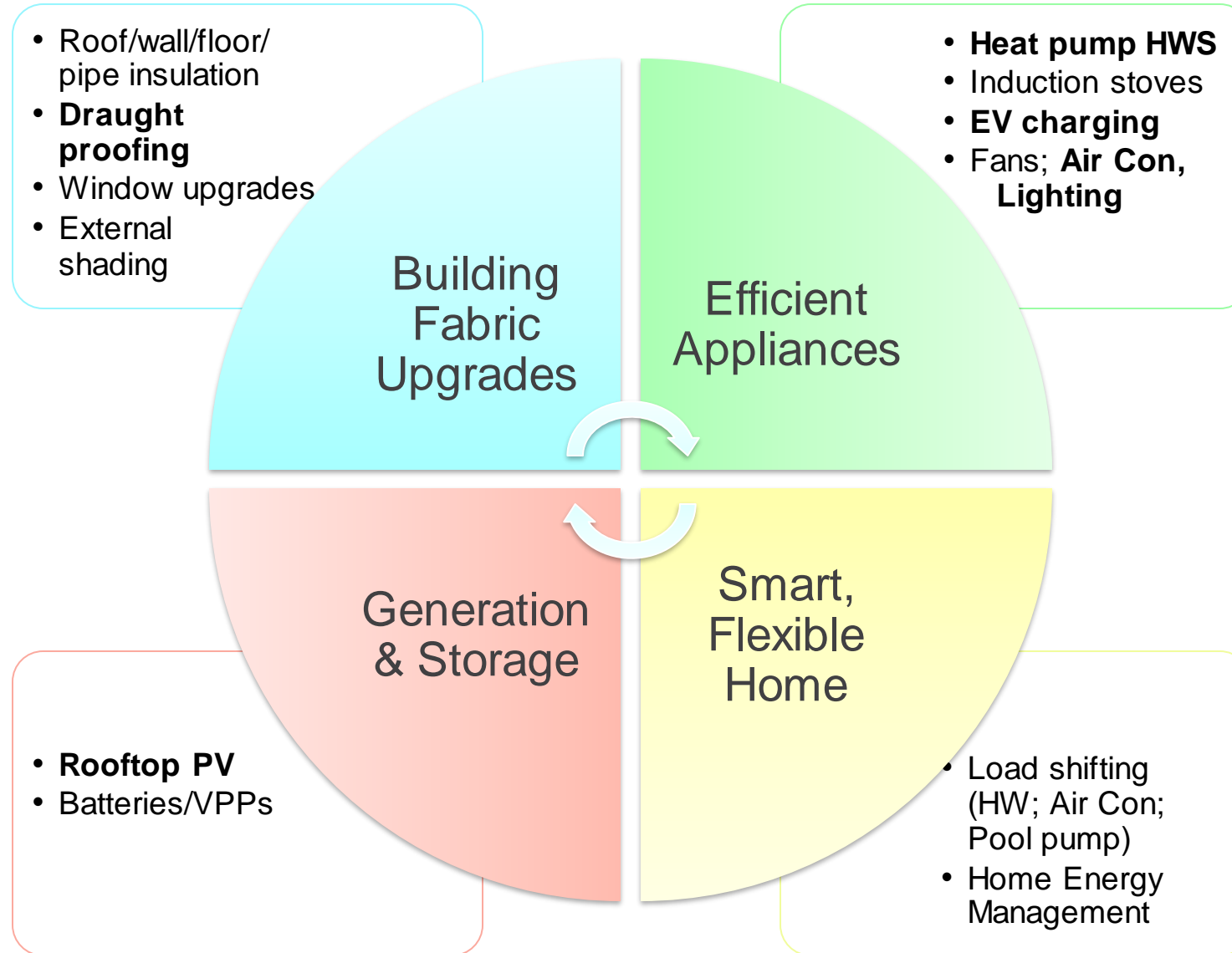
OSS Operating Environment



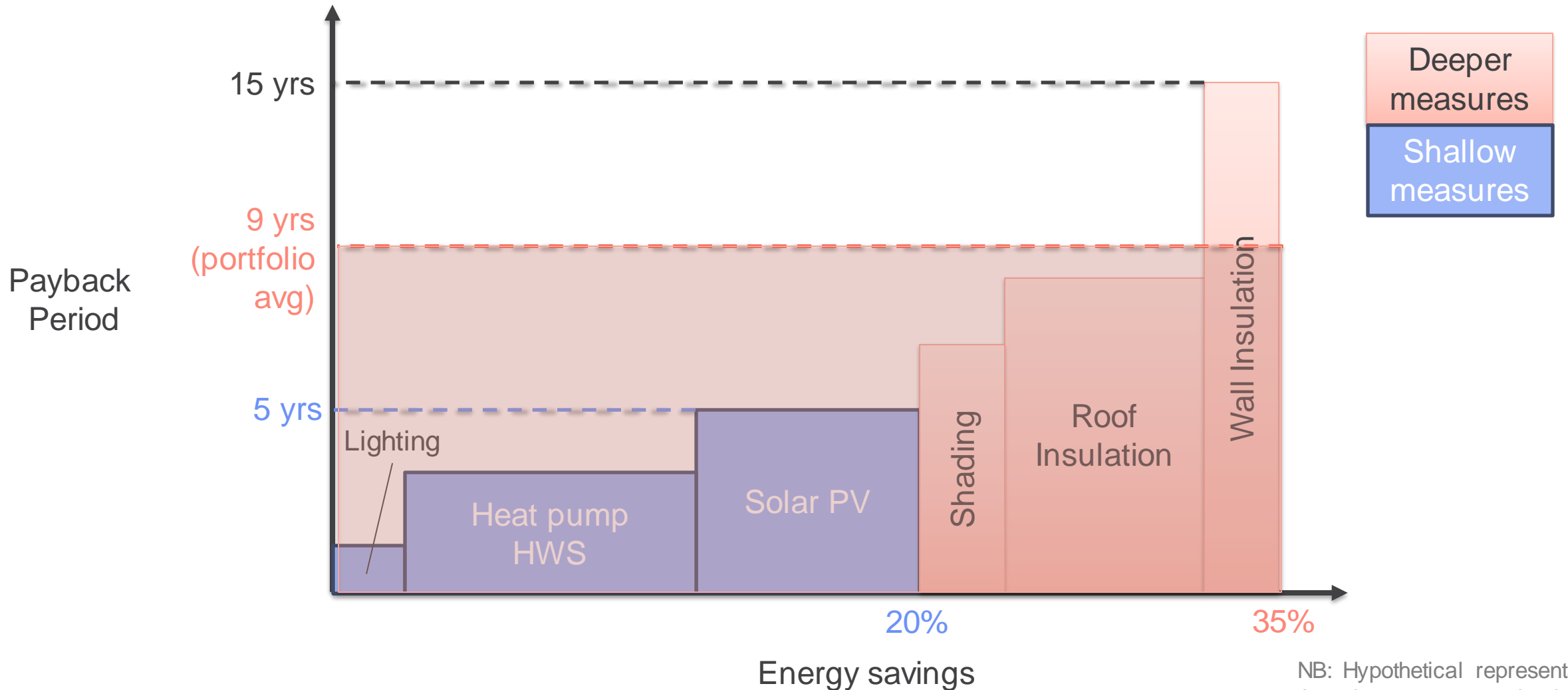
One-stop-shop: ideal functions



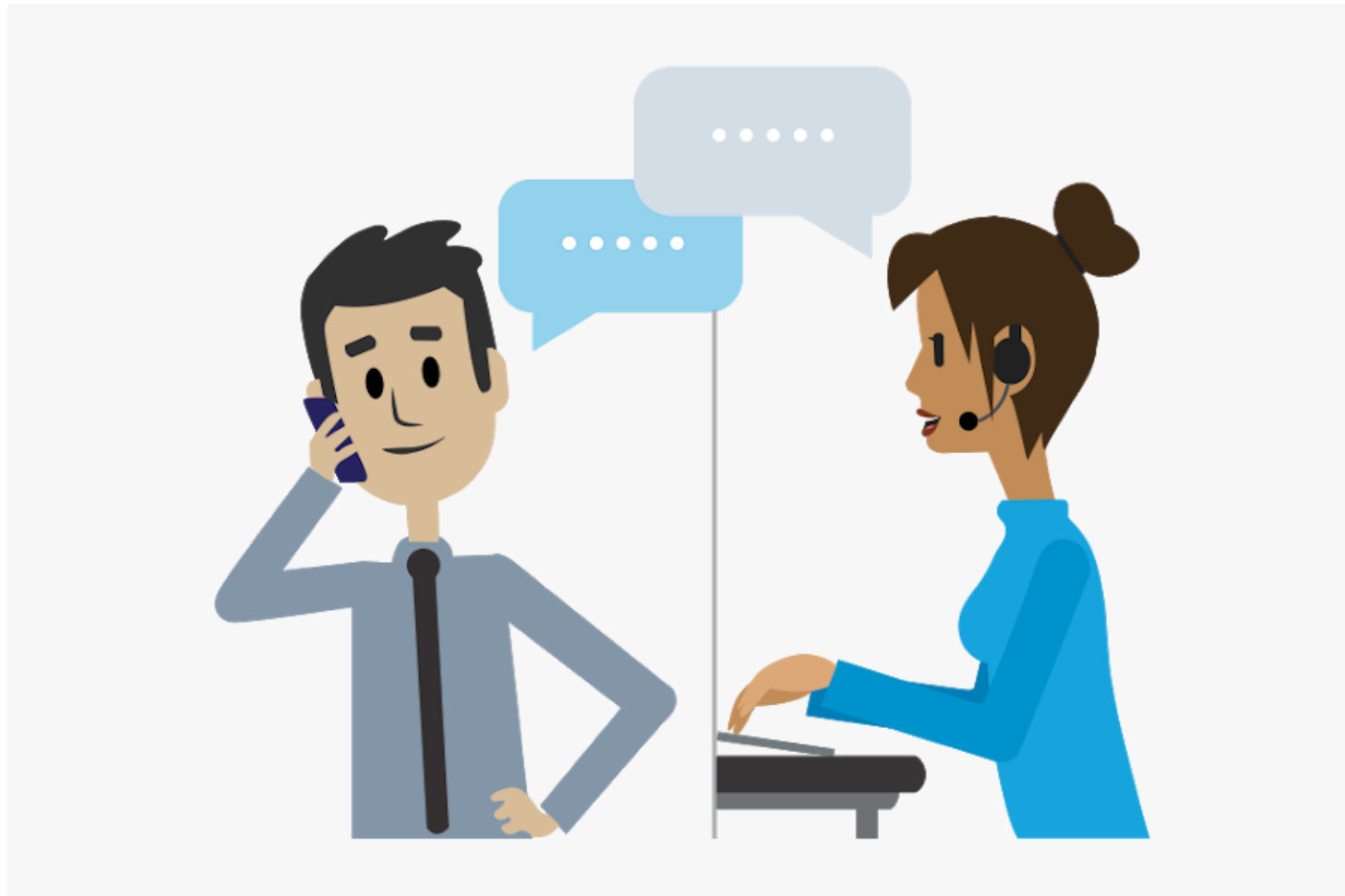
A Full Suite of Measures



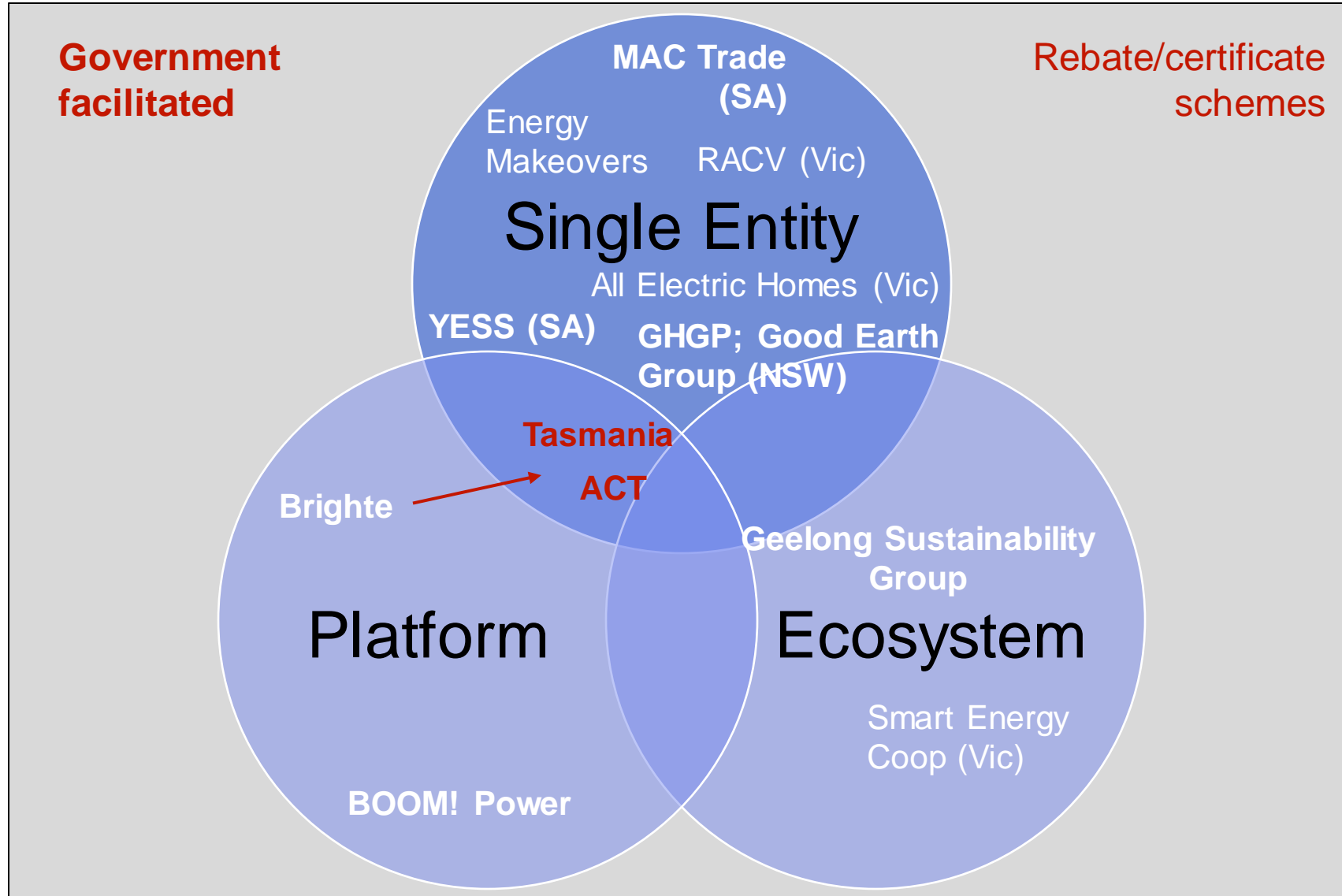
Importance of *Integration* of Deep & Diverse Measures



So how easy is it to find one?



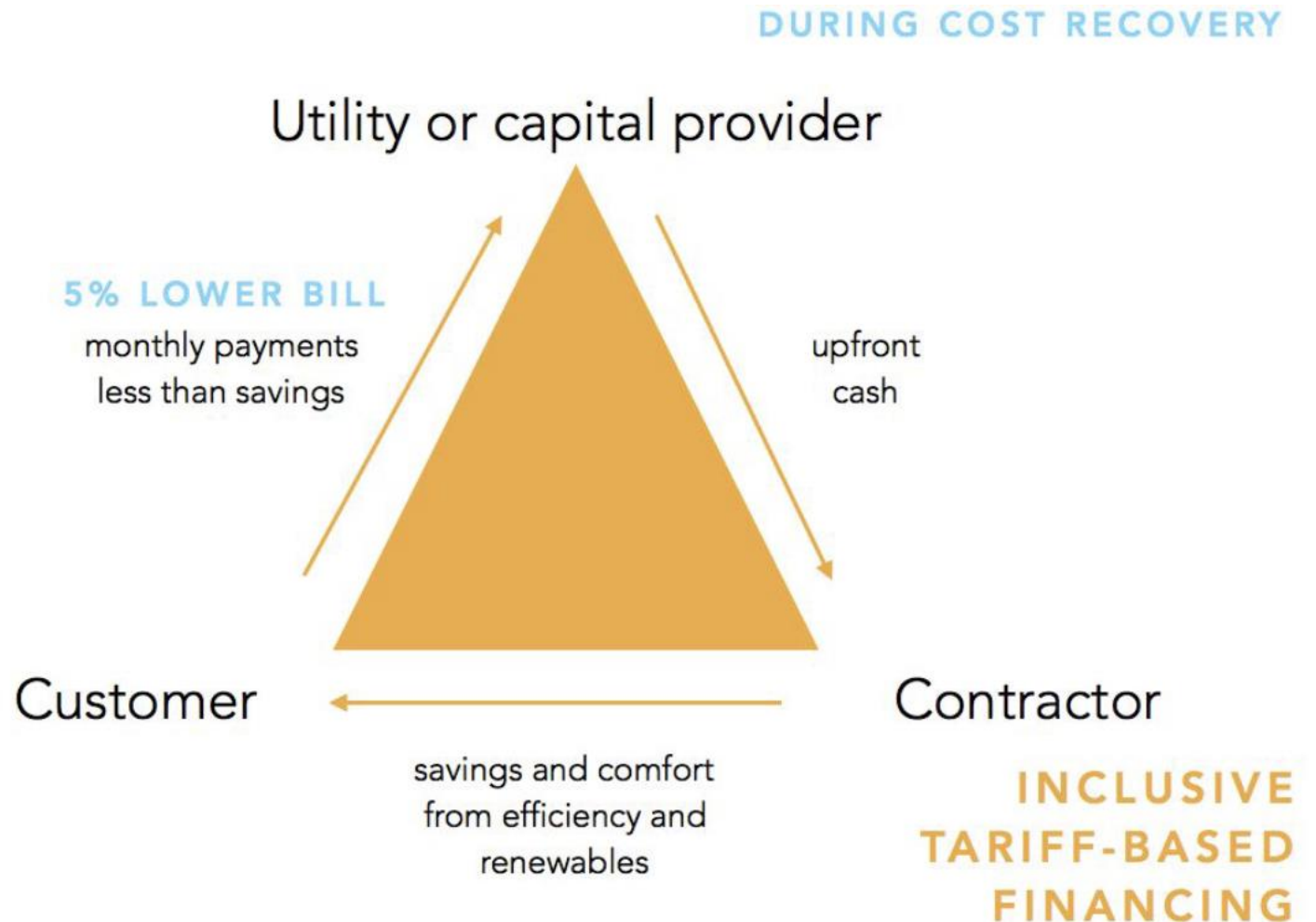
Emerging Types of One-Stop-Shops



US Experience: Finance Focus

Inclusive utility investment programs or Pay As you Save (PAYS)

- Inclusive = accessible to all independent of creditworthiness, unlike loans.
- Utility = an approved utility tariff; recovery tied to premise/site/ meter vs. an individual.
- Investment = treated as an investment like supply side; utilities earn a rate of return/ return on equity.





WP1 Policy and Regulation

WP2 Community Implementation Models

WP3 Household and Community Behaviour Change

WP4 Building Stock, Retrofit Cost and Co-Benefits Modelling

WP5 Supply Chain Development

WP6 Pilot and Platform Development

WP7 Program Coordination

YEAR 1 Research
 Review of current evidence and practice, preliminary data collection

Synthesis of opportunities, barriers, and recommendations

YEAR 1 Pilots
 VIC, Geelong Sustainability – Electric Homes Program.
 Launch Aug 2023

SA, APY Lands Indigenous Remote
 Launch Jul 2023

YEAR 2 Research
 Data collection and translation into tools and applied platform framework.

Platform and tools prototyping for community upgrades.

YEAR 2 Pilots

YEAR 2 Research
 Testing, evaluating, and refining of tools and platform from place-based pilots.

YEAR 3 Pilots

Seeking pilots that test (amongst other things) different approaches to one-stop-shop delivery, e.g. depth of auditing/advice, different coordinating agents, finance approaches.

Early Conclusions



Market for one-stop-shop service providers is fragmented but is developing rapidly



Jurisdictions with supportive EE programs are seeing the most promising developments



Integrated low-cost finance (for a portfolio of measures) is a big hole



We need more focus on opening the upgrade market to renters



Source: RACEfor2030

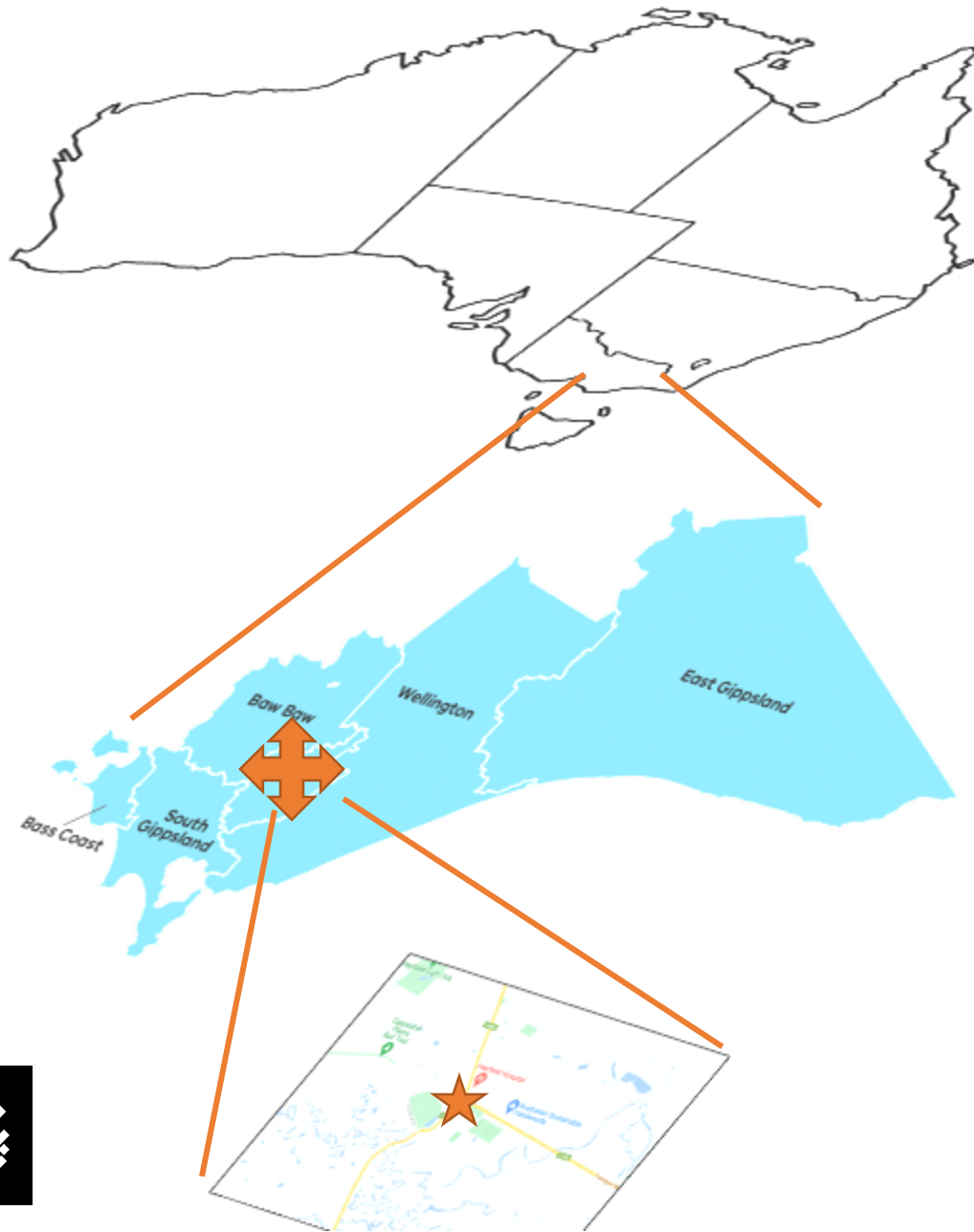
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Thank you

Scaling place-based engagement nationally for electrification



Scale

Example Functions

National

- Finance facilitation
- Auditing platform

Regional

- Grant coordination
- Training & installer QA
- Product bundling
- Wholesale purchasing

Local

- Community liaison & promotion
- Auditing support
- Vet & coordinate trades

Costs & Payback: Basic vs Advanced Portfolios

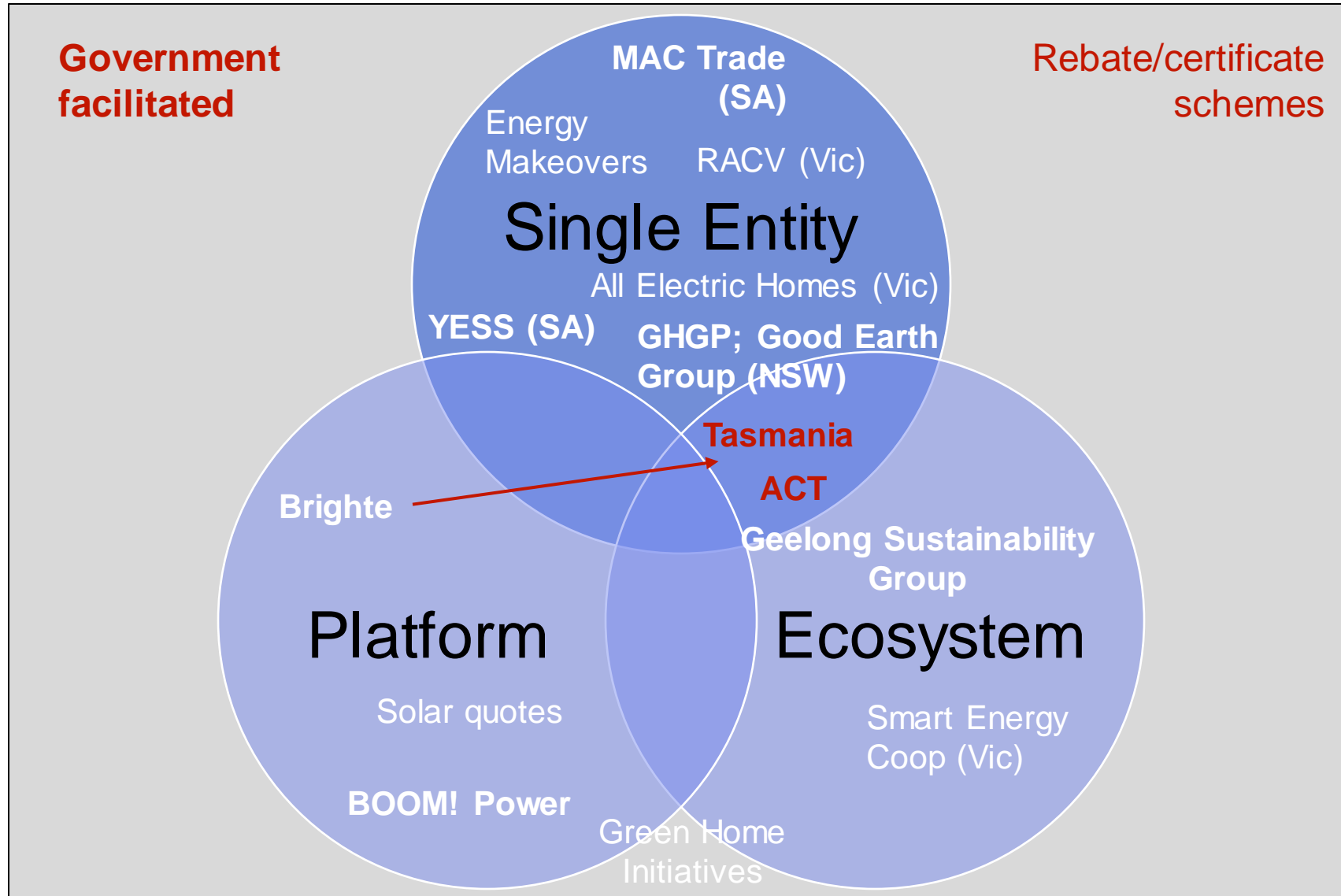
	Net capital cost /HH	Annual Savings/HH	Portfolio Avg payback (yrs)	
TOTAL COST (Basic portfolio)	\$ 2,735	\$ 902	3.0	Hot water, handyman, electrician, plumber
TOTAL COST (Advanced portfolio)	\$ 19,129	\$ 1,841	10.4	Above + solar installer, insulation/ESC provider

The plan is to test local appetite for these portfolios of measures with 3-5 ‘friendly’ households first – those who have an Ecologic audit & Wattwatcher installed

Costs & Potential: Basic vs Advanced Portfolios

Measure	Net cost per HH (\$)	Approx payback period (yrs; range)	Key trade/s required	In basic portfolio	In advanced portfolio
Elec heat pump HW (res) from resistance	\$1,840	4.7	HW specialist (Plumbing+Electrical)	Yes	Yes
Draught proofing	\$480	3.3	Handyman/ESC provider	Yes	Yes
LED lighting (Halogen>LED downlight)	\$275	0.9	Electrician	Yes	Yes
Efficient showerhead	\$140	2.2	Plumber	Yes	Yes
Rooftop PV (5kW)	\$5,000	3-10	Solar installer	No	Yes
Reverse cycle AC	\$1,580	9.7	Electrician	No	Yes
Roof/Ceiling Insulation	\$4,800	111.6	ESC provider	No	Yes
Cavity Wall Insulation	\$3,959	29.8	ESC provider	No	Yes
Floor Insulation	\$785	18.6	ESC provider	No	Maybe
External shading	\$464	Highly variable	Builder?	No	Maybe
Elec heat pump HW (res) from LPG instant	\$3,100	7.0	HW specialist (Plumbing+Electrical)	No	No
Elec heat pump HW (res) from solar LPG	\$3,100	15.5	HW specialist (Plumbing+Electrical)	No	No
LED lighting (from incan)	\$0	0	None	No	No
Pool pump	\$0	0	None?		
TV	\$0	15	None		
Battery storage (8kWh)	\$11,280	12-18	Solar installer	No	No

Types of One-Stop-Shops



Dutch Experience

Energiesprong (Energy leap) began in the Netherlands to retrofit houses to zero energy building standard.

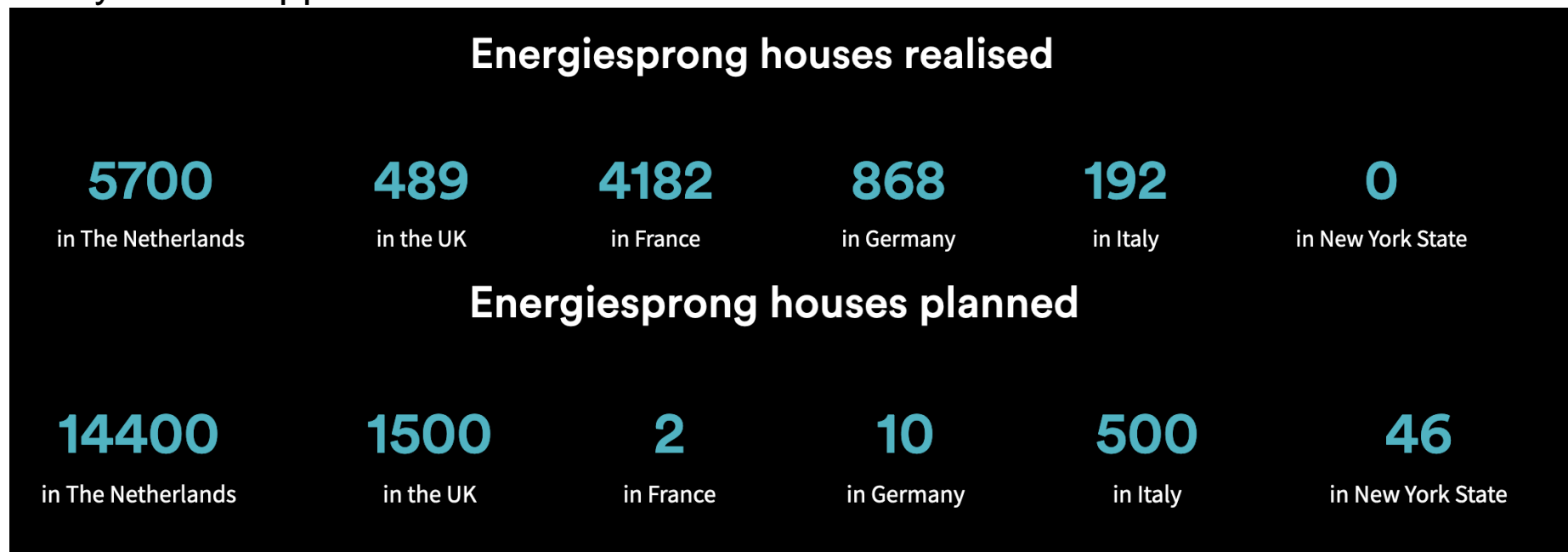
Snapping pre-fabricated panels to the exterior of a building to improve thermal efficiency 'house around a house'.

United Kingdom, the United States, France, and Canada.

Genuine "deep retrofit"

Home owner pays a monthly fee (< previous utility bills) with guaranteed free hot water & electricity.

Relatively limited application in total numbers



German Experience

Homeowners are supported throughout the entire renovation process, which simplifies the often complex process with its many individual steps and interplays. For example, owners are supported with energy advice, financing and subsidies, commissioning various trades and coordinating work steps. But contractors and planners can also benefit from one-stop-shops, as they save time on consultation and acquisition if they already have informed and decided customers. Tested the following models:

- Support for homeowners' associations (strata scheme?) to support decision-making and provide advice on the journey.
- Database of skilled craft companies in the district established (reduce search time).
- Expanded advisory service that can be used at different renovation stages.
- Cooperation with the Modernisation Partner Network, in which numerous providers from the field of energy building renovation have joined forces and thus able to implement energy renovations.

- – Raumfabrik from Wuppertal brings together companies from various construction trades. Thanks to ProRetro, energy efficiency can now be given greater consideration in all of their renovation projects and energy advice is now an important part of many initial on-site visits, too.

Inclusivity of finance for renter upgrades (USA)

Community shared solar

Target sectors: **Commercial, Residential: Renters, Residential: Multifamily, Residential: Homeowners, Nonprofit, Public**

Typically funded by: **Private funds**

Enabling legislation needed: **Not required**

Sponsor's level of funding needed: **Low level of funding**

Energy efficient mortgages

Target sectors: **Residential: Homeowners**

Typically funded by: **Public funds, private funds**

Enabling legislation needed: **Not required**

Sponsor's level of funding needed: **Moderate level of funding**

Energy loans and credit enhancements

Target sectors: **Commercial, Industrial, Residential: Homeowners, Residential: Multifamily, Public, Nonprofit**

Typically funded by: **Public funds, private funds, ratepayer funds**

Enabling legislation needed: **May be required**

Sponsor's level of funding needed: **High level of funding**

Energy equipment leases

Target sectors: **Commercial, Industrial, Residential: Homeowners, Residential: Multifamily, Public, Nonprofit**

Typically funded by: **Public funds, private funds, ratepayer funds**

Enabling legislation needed: **May be required**

Sponsor's level of funding needed: **High level of funding**

Green banks

Target sectors: **Commercial, Public, Residential: Homeowners, Residential: Renters, Residential: Multifamily, Transportation**

Typically funded by: **Public funds, private funds, ratepayer funds**

Enabling legislation needed: **May be required**

Sponsor's level of funding needed: **High level of funding**

Municipal bonds and green bonds

Target sectors: **Public, Industrial, Nonprofit, Residential: Multifamily**

Typically funded by: **Public funds**

Enabling legislation needed: **Not required**

Sponsor's level of funding needed: **Moderate level of funding**

On-bill loan programs

Target sectors: **Commercial, Industrial, Residential: Homeowners, Public, Nonprofit**

Typically funded by: **Public funds, private funds, ratepayer funds**

Enabling legislation needed: **May be required**

Sponsor's level of funding needed: **High level of funding**

Performance contracting and energy service agreements

Target sectors: **Commercial, Industrial, Public, Nonprofit, Residential: Multifamily**

Typically funded by: **Private funds**

Enabling legislation needed: **May be required**

Sponsor's level of funding needed: **Low level of funding**

Customer power purchase agreements

Target sectors: **Commercial, Industrial, Residential: Homeowners, Residential: Multifamily, Public, Nonprofit**

Typically funded by: **Private funds**

Enabling legislation needed: **Required**

Sponsor's level of funding needed: **Low level of funding**

Commercial property assessed clean energy (C-PACE)

Target sectors: **Commercial, Nonprofit, Industrial, Residential: Multifamily, Residential: Homeowners**

Typically funded by: **Public funds, private funds, ratepayer funds**

Enabling legislation needed: **Required**

Sponsor's level of funding needed: **Moderate level of funding**

Revolving loan funds

Target sectors: **Commercial, Industrial, Residential: Homeowners, Public, Nonprofit**

Typically funded by: **Public funds**

Enabling legislation needed: **Not required**

Sponsor's level of funding needed: **Low level of funding**

Inclusive utility investments: tariffed on-bill programs

Target sectors: **Commercial, Industrial, Residential: Homeowners, Residential: Multifamily, Residential: Renters, Public, Nonprofit, Transportation**

Typically funded by: **Public funds, private funds, ratepayer funds**

Enabling legislation needed: **May be required**

Sponsor's level of funding needed: **Moderate level of funding**