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Fisher & Paykel Appliances - Submission

EECA Green Paper: Unlocking the Potential of Demand Flexibility – A Residential Product Perspective

1. Introduction

Fisher & Paykel Appliances welcomes the opportunity to respond to EECA's Green Paper on demand flexibility. Over the past five years, we have sold thousands of connectable (WiFi-enabled) household appliances into the New Zealand market, with a growing proportion of these products becoming connected as consumers see utility and value.

In addition, we are see accelerating growth in users connecting their appliances, with a 45% increase in online appliances comparing Oct '24 to Oct '25 and increasing growth in connections each month.

This experience gives us practical insight into the opportunities and proven experience in deploying connected products at scale in New Zealand homes, and we see significant opportunity to leverage Wi-Fi connected household appliances to provide demand flexibility and support energy decarbonisation.

2. Purpose and Context

We support EECA's focus on unlocking demand flexibility through residential end-use products. Demand flexibility is essential for managing peak demand, integrating renewable energy, and empowering consumers to participate in New Zealand's energy transition. Our feedback is based on operational experience, stakeholder input, insights from our users, and a commitment to supporting a resilient, consumer-focused energy system.

3. Scope: Residential End-Use Products

We agree with the Green Paper's focus on residential end-use products, including bi-directional EV chargers, heat pumps, hot water systems, whiteware, and Home Energy Management Systems (HEMS), but also think household Solar and Battery systems should be clearly in-scope. We also encourage EECA to consider the role of cooking appliances, which contribute significantly to peak demand and offer potential for flexibility through user behaviour and smart notifications.

Additionally, we see value in low-capital solutions—such as using heat pumps and hot water systems as thermal energy stores—which can broaden participation beyond households with solar or batteries.

4. End-Use Product Level Components for Demand Flexible Capability

We support the Green Paper's identification of three key components for demand flexible capability:

- Communication Protocols
- Product Response
- Operational Information

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We recommend that these components be complemented by:

- Integration of qualitative and behavioural data (e.g., how users interact with appliances), which can enhance flexibility and enable more effective, tailored interventions.
- Use of connected appliance platforms (for example, SmartHQ https://www.fisherpaykelhomesolutions.com/nz/smarthq) that can capture insights and deliver timely, relevant notifications to users, supporting both energy efficiency and demand flexibility.
- Develop consumer-facing information or dashboards showing predicted or actual energy, cost, and carbon impact for different appliance functions to better engage and inform consumers

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5. Energy Efficiency Considerations

We agree that trade-offs between energy efficiency and demand flexibility must be managed carefully. For example, the timing of heat pump water heater operation can affect both efficiency and grid impact. Providing consumers and external parties with product-level energy efficiency information is an effective first step. Connected appliances and digital platforms can help provide such insights, supporting informed decision-making.

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6. Home, Building, and Community Energy Management

We see **Home Energy Management Systems** (HEMS) as a critical enabler of demand flexibility, offering automated orchestration of connected products while maintaining consumer control. Importantly, the principles and technologies underpinning HEMS can be extended to **Building Energy Management** in multi-residential developments, where energy use is coordinated across multiple dwellings. Furthermore, these concepts can scale to **Community Energy Management**, where groups of households or entire communities share and/or trade energy within their own virtual or microgrids. This broader approach can unlock additional flexibility, resilience, and value for both consumers and the wider electricity system.

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7. The Importance of Open and Ubiquitous Standards & Protocols

Open and ubiquitous standards and protocols are foundational to unlocking the full potential of demand flexibility. They enable:

- Interoperability between products from different manufacturers, reducing barriers for consumers and service providers.
- Innovation in business models and product offerings, as companies can build on shared frameworks rather than proprietary silos.
- Scalability of demand flexibility solutions, benefiting the grid, the country, and consumers alike.

We urge alignment with international best practices—especially Australian standards—to avoid market fragmentation and ensure that New Zealand consumers and businesses can benefit from global advances in technology and service models.

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8. Consultation Questions – Fisher & Paykel Responses

Q1: Main Use Cases for Demand Flexibility

We agree with the focus on managing peak demand, optimizing renewable energy use, and improving home energy management. It is important to clarify what "optimising" means from a user perspective—whether the goal is to minimise energy use, cost, carbon emissions, or a combination. Consumer-facing outcomes should be explicit.

Q2: Key Residential End-Use Products

The identified products are appropriate. We recommend some attention is paid to cooking appliances, and low-capital solutions, as well as ongoing review as technology and consumer behaviour evolve.

Q3–Q6: Commercial and Industrial Sectors

While our primary focus is residential, we support a standardised approach where possible, with flexibility for bespoke solutions in more complex settings.

We would like to specifically call out that there is overlap between residential and commercial applications of some HVAC products.

Q7: Barriers to Uptake

- Trust, user control, and clear user outcomes are critical for consumer adoption. Solutions must be simple, reliable, and respect user preferences.
- Tariffs and incentives are essential to make participation attractive and worthwhile for households.
- Equity and accessibility must be central — programs should avoid disproportionately benefiting high-income households and instead support broad, inclusive participation.
- Education and engagement are needed to build understanding and encourage behaviour change.

Q8: Product-Level Components

We support the focus on communication protocols, product response, and operational information, and recommend integrating behavioural data and consumer insights.

Q9: Standardisation

Minimum standardisation at the product level is essential and should align with international best practices. Open, interoperable ecosystems are critical for scaling demand flexibility and ensuring consumer choice.

Q10–Q12: Voluntary Specifications and Working Groups

We support the creation of voluntary approved lists and are willing to participate in working groups to develop demand flexibility requirements. Fisher & Paykel are happy to contribute deep product knowledge, technical expertise, and consumer insights to these efforts.

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9. Recommendations & Next Steps

- Develop predictive models for capacity, cost, and carbon to help consumers make informed choices.
- Expand the focus to include behavioural nudges and smart notifications, leveraging connected appliance platforms.
- Foster collaboration across industry, government, and consumers to develop incentives and tariffs that accelerate adoption and innovation, avoiding arbitrary blockers or barriers.
- Continue research and pilots to quantify the potential and refine approaches.
- Prioritise the development and adoption of open standards and protocols to enable innovation and system-wide benefit.

10. Conclusion

Fisher & Paykel is committed to supporting New Zealand's energy transition through innovation, open platforms, and consumer-centric solutions. We look forward to ongoing engagement with EECA and other stakeholders to unlock the full potential of demand flexibility in the residential sector.

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