REGULATING APPLIANCES OF THE FUTURE

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With the support of APPLiA Home Appliance Europe
Over the past ten years, a raft of EU legislation has been passed making white goods like fridges, dishwashers and washing machines more efficient, recyclable and connected.

In this Special Report, EURACTIV dives into the changes that have already taken place and the new rules that are about to take effect. There will be difficulties in store in the years ahead in implementing the legislation and getting consumers on board.
As EU tries to make household appliances more efficient, consumers remain to be convinced

EU official: Households will save €500 a year from existing EU energy-saving laws

The #BetterLifestyles Manifesto explained by our children
European legislation has made appliances like washing machines and dishwashers even more water and energy efficient than washing clothes and dishes by hand. The next step is to connect these appliances to the web and allow them to act independently.

Appliances, or ‘white goods’ as they are known in the industry, are a big part of our daily lives. We wake up with a fresh brew from our coffee maker, make breakfast from food kept cold in our fridge, and get dressed with clothes from the washing machine.

We appreciate the conveniences, but we’re also aware that historically these appliances have guzzled electricity. For our pocketbooks, that has meant hesitation when purchasing them. Do I really need that dryer, or can I hang clothes on the line? Do I really need that washer, or can I scrub my dishes by hand?

But legislation passed in the European Union over the past decade means that this dilemma might not have to be so intense these days.

“Today using a dishwasher uses 10 times less water than cleaning dishes by hand, and uses less than one-third of the energy,” says Paolo Falcioni, director-general of the European

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appliance industry association APPLIA.

“The EU has been through a number of legislative iterations of energy labelling and eco-design, and today consumers can enjoy the best possible ovens, washing machines, dishwashers, refrigerators and air conditioners,” he says. “Thanks to a number of legislations designed to make the sales of products as transparent as possible through energy labelling, the worst performing products have been removed from the market.”

Legislators in the European Parliament are about to approve a raft of new energy labelling requirements for five major appliances, and these changes are expected to take effect in the next two years. MEPs are hoping that these changes will be a positive piece of news to take home to their voters in the European election campaign in May.

PUBLIC HOSTILITY

But in fact, these efficiency improvements have had a complicated relationship with public opinion in the past decade. Public backlash has been one of the biggest impediments to passing these EU laws.

Efficiency improvements for things like toilets and lightbulbs, passed by the Commission of Jose Manuel Barroso which ended in 2014, prompted negative press, particularly in the United Kingdom.

Newspapers accused the European Union of meddling in the most minute details of daily life and demanded the freedom for consumers to use too much electricity and too much water if they so choose.

This spooked Barroso’s successor Jean-Claude Juncker, and his Commission engaged in a “better regulation” fitness check exercise led by his First Vice-President Frans Timmermans.

Promising to be “big on the big things and small on the small things”, Timmermans drew up a list of pending and in-force legislation on the chopping block. Much of the list were environmental laws, including efficiency and eco-design. The result has been a slow-down in efficiency legislation.

“In 2013, under the Barroso commission, we had 15 measures in one year,” says Stéphane Arditi, a policy manager for the European Environmental Bureau, an NGO, and coordinator of the CoolProducts campaign. “Under this Commission, we’ve had one measure passed between 2014 and 2019. Now, at the end, we have a package with 17 measures in a row.”

“If they pass, it means it’s not bad compared to what we feared. We were very worried up to the last moment that the eco-design package had been put into question by the Juncker commission, which has slowed down the process at the expense of the consumer and European businesses.”

The Juncker Commission saw the light at the last moment, Arditi said, realising the better regulation exercise was not actually achieving anything in terms of increased public support.

“At the end, it looks like they’ve understood that it’s completely pointless to block this kind of legislation, which is delivering both for the environment and for the consumer. According to the international energy agency, eco-design and ecolabel are the third best policy of all time concerning energy efficiency, after car emission limits and industrial savings in China.”

Arditi says he’s also seen a change of heart from the appliance industry. “EU policy-makers have strengthened efficiency legislation but sometimes in spite of resistance from industry. But now, certain industries have understood this is the way forward and they are innovating.”

But Arditi also cautions that though the efficiency of appliances has improved greatly in recent years, that doesn’t always translate to less energy use. For instance, if fridges are getting larger at the same time that they are getting more efficient, the savings can be cancelled out.

“Energy efficiency is not the same as energy consumption. If you have a non-efficient fridge which is small volume, the efficiency is less, but the consumption is low.”

CONSUMERS IN A CIRCULAR CULTURE

Falcioni says the industry in Europe has embraced the EU's efficiency changes and see them as a way to gain a competitive edge over global competitors. He points out that unlike smaller goods, the production process for large appliances tends to be entirely within Europe.

But he agrees that consumer acceptance, and consumer involvement, has been a problem. New legislation can’t do any good if consumers aren’t aware of how to benefit from it and engage in the process. This especially applies to EU legislation that has sought to increase the repair, re-use and recycling of appliances.

Anecdotally, consumers often say that their appliances don’t last as long as they used to. And when they break, they are unsure how to fix them. Often times, it is easier and cheaper to just buy a new machine. But then they don’t know how to properly dispose of the appliance. And even when it is disposed of correctly, most of it may not be recycled.

EU legislation has set out new parameters for how to make appliances easier to take apart for recycling. The Commission is also working on legislation to make it easier to repair. And recent revisions to the EU's

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WEEE directive on waste sets strict new requirements for recycling, and endeavours to improve the tracing of recycled material.

But Falcioni says consumers need to be more involved. That’s why APPLiA uses the term “circular culture” rather than the “circular economy” used by the Commission for these pieces of legislation.

“If we want to go the next step, then it’s not just the economic actors who have to adopt the circular model, it’s a cultural change that we all have to do to adopt this new model.”

Today only one-third of the waste electric equipment is properly traced. That means that two-thirds are somehow recycled but it’s unknown how, which may mean it wasn’t done under proper environmental standards.

“I think that we have followed all the regulation could deliver, but now to make the next step it needs to be a joint effort of overall society, through a change in our culture. It’s not that we are trying to pass the buck, that we’re saying we’ve done all we could. We are striving continuously to improve the situation.”

“The repair of products has been often challenged as one of the weak points of later generation products. We wanted to analyse to what extent our products are not only reparable, but how many requests for repair they are getting. We agree with the Commission proposal to enlarge the possibility of repairing products through a network of professional repairers”.

SMART APPLIANCES

Another way to get consumers more involved in the circular culture is giving them the power to use their appliances in the most efficient way at the most efficient time. Appliances now on the market can interact with smart meters in the home and be controlled remotely, or timed to run when electricity is cheapest.

For instance, an air conditioner can today automatically adjust when it receives a signal from the grid that energy cost is at its lowest level.

Energy consumption can be optimised when renewable energy becomes available, thereby increasing the penetration of renewable energy sources. A heater can get a signal from the electric grid that there is a peak in demand, and can delay its cycle slightly in response to adapt to the needs of the grid. All this can be done so the user doesn’t even notice the change in temperature.

But this is another area where the entire culture needs to change. Even if consumers are made fully aware of the possibilities of their new smart appliances, it will no good if the energy utilities aren’t equipped to accommodate them. Europe’s ageing and disconnected energy grids just aren’t up to the challenge at the moment.

“The electricity market is not at a level of maturity where it is able to always offer a dynamic tariff that could enable some savings to the smart usage of electricity,” says Falcioni. “So far we are at the very start of this.”

“What we would like to see happening is a more dynamic energy market that would allow aggregators of demand-side flexibility to work better than they are today. The management is still divided across Europe. The realisation of this smart energy market should be the first priority of the next energy commissioner. It’s been started but it needs to be finalised.”

Surveys have found that 80% of Europeans find the idea of living in a smart home appealing. But there are significant concerns about the data privacy issues involved. Some EU lawmakers have expressed concern that the industry is plowing ahead with smart appliances without a sufficient regulatory structure in place to control how data on people’s appliance use is collected and used.

And some consumers say that they’d rather pay more for electricity than have their refrigerator spying on them.

Falcioni says the industry wants this regulation in place just as much as anyone else. “We believe this is an area where Europe should lead – addressing e-privacy, cyber security and data ownership issues,” he says.

“It’s important to establish clear guidelines about who is actually the owner of the data. If I’m doing the washing, then it’s me who is the owner of the wash data. If I give consent to the manufacturers to develop a better machine, I can do so.”

These will be issues for the new Commission which takes office at the end of this year. Stakeholders say the most important things the new regime can do to help appliances become more efficient and generate less waste will be to complete the integration of Europe’s energy networks and develop a framework for regulating smart appliances.

As the new commission nominees are put forward, this will be one of the questions facing potential new environment and energy chiefs.
The European Union has seen significant changes in recent years to requirements for household appliances. But the most important steps may be yet to come, says Gwenole Cozigou.

Gwenole Cozigou is director of industrial transformation and advanced value chains in the European Commission’s directorate for the internal market, industry, entrepreneurship and SMEs (DG GROW). He respondent in writing to questions by EURACTIV correspondent Dave Keating.

The EU has made a big effort over the past years to improve the energy efficiency of white goods such as fridges and dishwashers. What have been the main changes, and are the results already evident?

The Commission has played a key role in achieving significant savings in energy and resource use, particularly through energy labels and Ecodesign requirements. These are empowering consumers to choose more energy efficient and eco-friendly products that allow them to make savings while contributing to our climate ambitions. At the same time, these measures are supporting our industry’s competitiveness by eliminating the least efficient products from the market.

This Commission is continuing to prepare new measures while aiming to limit their intrusiveness and focus on the products that can deliver the biggest energy and resource efficiency savings.

We estimate that thanks to existing...
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eco-design and energy labelling requirements, the EU will have saved 15% of energy by 2020, while reducing the energy bills of European households by almost €500 each year.

Energy efficiency improvements show in concrete examples. Take refrigerators for instance, which were the first product group subject to a mandatory energy label and where we can observe a 60% energy efficiency improvement between 1995 and 2016. Similarly, thanks to EU measures, the consumption of water by dishwashers in any cycle has halved in the period from 1997 to 2015, with further savings expected by 2030.

The other big concern for these types of appliances is what happens to them at the end of their lives. A lot of attention has been paid to them in the EU’s circular economy strategy. What is the vision of the Commission on how to improve their recyclability, repairability and re-use?

Ecodesign plays a key role in building a more resource efficient and circular economy. The Commission is currently implementing a very comprehensive Eco-design Working Plan for 2016 to 2019 which has a strong focus on durability, repairability, reuse and recycling.

These aspects will play a particularly important role in the revised eco-design measures for five product groups foreseen to be presented in the forthcoming months that will include lighting, refrigerating appliances, electronic displays, dishwashers and washing machines & dryers.

The industry needs to increase its efforts. The Commission is strongly encouraging manufacturers to develop more durable, repairable and better performing products that satisfy world-wide demand while helping reduce energy and resource consumption. This should go hand in hand with the development of new and better performing products.

**A big focus in the industry now is demand-side flexibility – using digital tools and connectivity to reduce energy use and ease pressure on the grid. What is the EU doing to help improve this connectivity and the availability of smart appliances?**

The Commission is currently working on different aspects to incentivise the use of ‘energy smart’ appliances. In particular, we are examining ways of harmonising the energy smart features of various categories of appliances and working on expanding a standardised reference language for energy related data. In addition, a study assessing how to improve energy consumption by energy smart appliances and control systems is currently ongoing.

As regards the use of smart appliances to improve energy efficiency in buildings, we are developing a Smart Readiness Indicator (SRI) under the Energy Performance of Buildings Directive (EPBD), to assess the buildings’ capabilities to improve energy efficiency by adapting to the needs of occupants and the grid.

There are also various sources of funding available that support further improvements in connectivity and availability of Smart Appliances, as foreseen by the Clean Energy for all Europeans package. For instance, through the Horizon 2020 research and innovation programme, the EU funds projects to demonstrate the role of smart homes & smart appliances in demand-response schemes.

**There are also privacy concerns about the data generated by these smart appliances. Does the Commission share these concerns?**

The Commission shares the concerns about the collection and potential for misuse of personal information and data by smart appliances. We are assessing whether additional EU measures are required to ensure that personal data and privacy are protected before a product can be placed on the market.

**The Juncker Commission is coming to a close, and a new political mandate will begin in late 2019. What are the possibilities for new regulation for the white goods industry over the next five years? What would you say are the challenges and opportunities for the sector over the coming years?**

The Ecodesign and Energy Labelling Regulations, together with the Low Voltage Directive, which covers most household appliances, are extremely effective policy instruments which support the deployment of energy efficient appliances on the single market.

Household appliances will continue to be regulated under this policy framework. The applicable requirements may need to be regularly updated, to align with technological progress and well as to continuously improve product performance.

In addition, digitisation and the circular economy will also bring new opportunities and challenges. Intelligent appliances increase convenience for consumers but require us to ensure the safety and cyber-security of such products when deployed on the market and throughout their lifecycle.

In line with our circular economy objectives, the need for products to be more durable, repairable and recycleable, should also be better reflected in our legislation to continue to reduce their impact on the environment.
The #BetterLifestyles Manifesto explained by our children

By APPLiA

There are a few stepping stones on the journey to better lifestyles and a memorable five-year mandate.

Europeans want to know that by bringing their small appliances to an authorised collection point, they do a favour to the environment and to themselves.

Europeans want to know that they could use 10 times less water by using a dishwasher.

Europeans want to know that smart homes are not science fiction and that future-oriented reforms of the energy system could lower their bills.

Find out the clear vision of APPLiA, Home Appliance Europe on how the 2019-2024 EU term could make a true difference to Europeans.

Follow the #BetterLifestyles and #EuropeansWantToKnow hashtags or send them to your children, they will understand.

Watch our videos at http://eurac.tv/9Q2R