

June 1st-3rd, 2022, Toulouse, France

Environmental Dumping of comfort fans in Europe

HÉLÈNE ROCHAT, TOPTEN.EU

Presenter's Short Biography

- Project Manager for energy efficiency at Topten since 2016.
- Topten is a platform for energy efficiency appliances showing the best products that are available on the market.
- Master in Environmental Sciences at ETH Zürich.
- Helene.rochat@topten.ch



Topten: Product lists of top products

- Topten is a platform showing the most efficient products on the market.
- In preparation for the summer: product list for comfort fans.
- Comfort fans serve as an alternative for air conditioners.



Pedestal fan



Ceiling fan



Floor standing fan

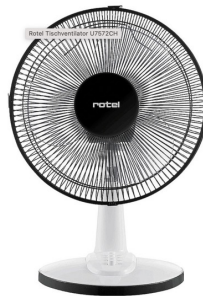
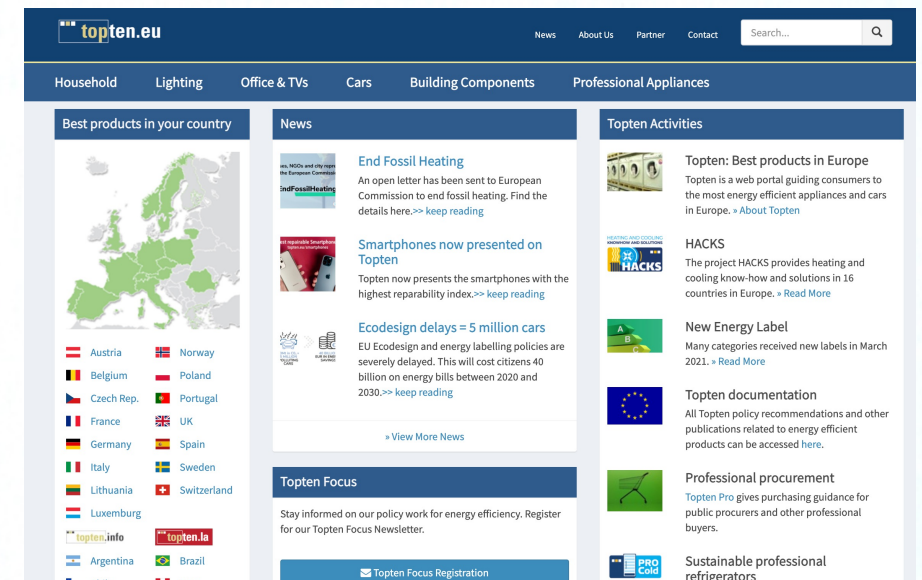


Table fan



Tower fan



Product research

What is an efficient fan?

- Appliances that are designed to create air movement around or on part of a human body for personal cooling comfort.
- Over 52 million units sold in the European Union in 2020. High correlation with heat waves.
- Fan efficiency is measured with the Service Value
 - $Service\ Value = \frac{\frac{m^3}{min}}{W}$
- The higher the value, the more air is displaced with less energy.
- Existing measurement method IEC 60879:2019 for all types of fans. Tower fans and bladeless fans were added to the latest version of the standard.

Regulatory requirements

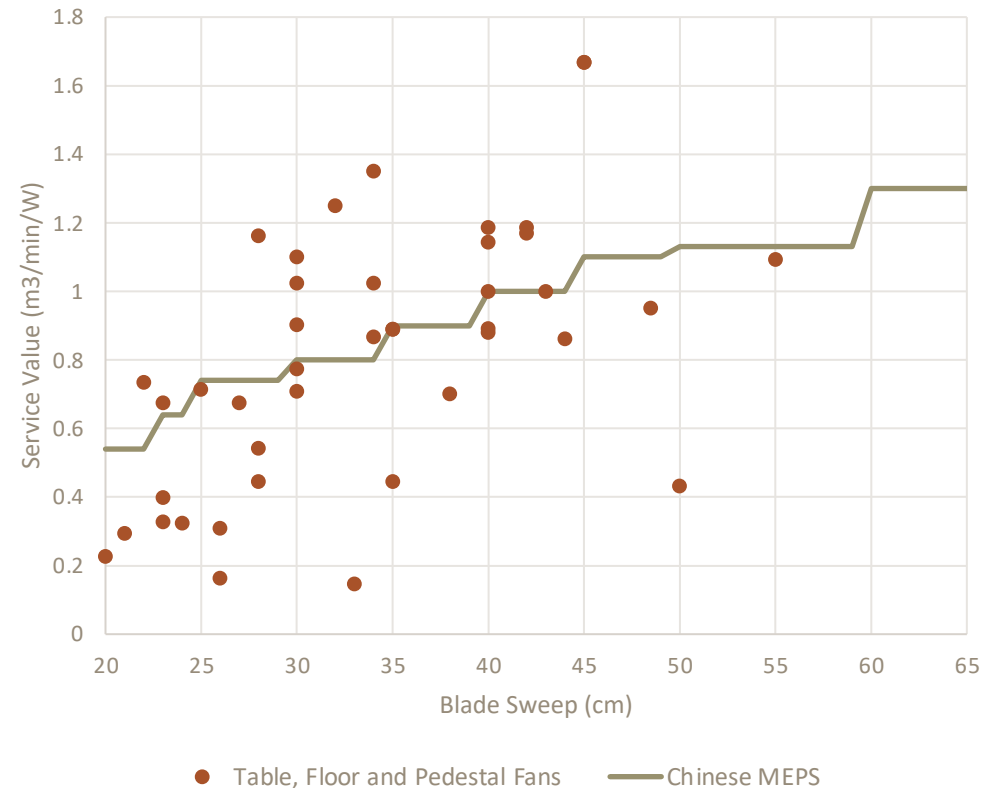
- Commission Regulation (EU) No 206/2012 for air conditioners and comfort fans set information requirements for comfort fans.
 - Gathering of product information for the next revision.
- No other requirements in terms of energy efficiency are included.
- The revision of Commission Regulation (EU) No 206/2012 is ongoing.
 - The Commission has made a proposal to regulate MEPS.
- MEPS for these products exist already in many countries (China since 2008 and new MEPS in 2022, Malaysia, Vietnam, soon in Indonesia)
- 95% of all products sold in Europe are imported from China.

Market assessment of products on the market

- Findings from the market assessment:
 - Products evaluated: **158**
 - Products with complete information requirements: **8**
 - Information requirements received upon request to the manufacturer or importer: **67**
 - Total number of products used in the market assessment for the Topten list: **75**
- 89% of products did not comply with the current regulation that is in force!

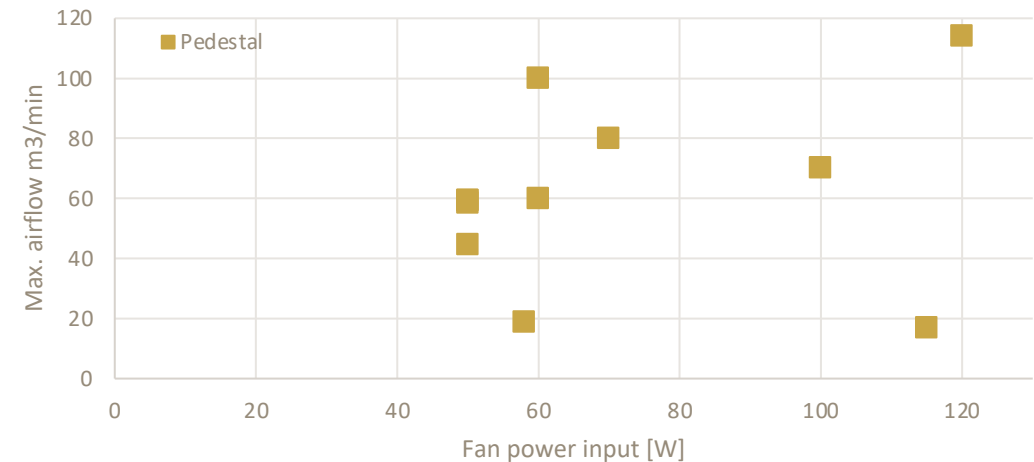
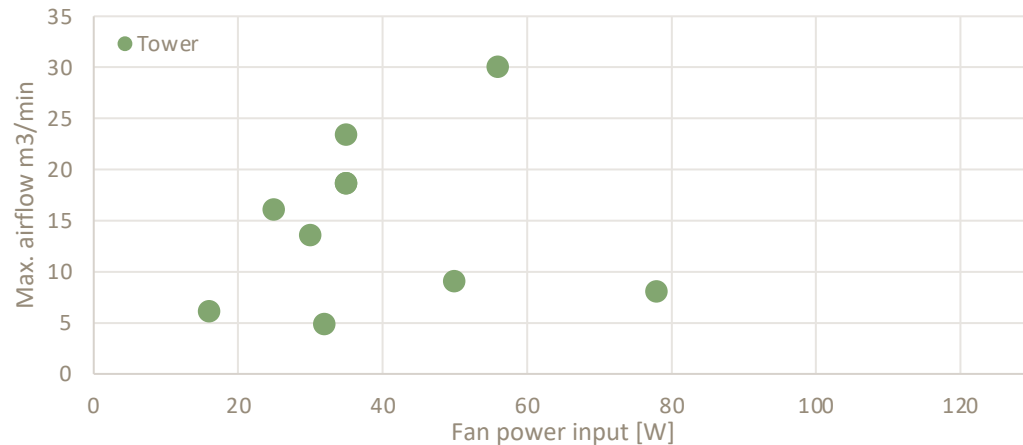
Comparison with Chinese MEPS (2018)

- Since 95% of products are imported from China, the energy efficiency of the fans in the sample were compared to the Chinese MEPS.
- Out of the 75 models evaluated, 32 models (42%) did not comply with the Chinese MEPS.
- It is expected that the amount is even higher as there is a reporting bias where good performers tend to report more than bad performers.
- The export of product that cannot be sold domestically because they do not comply with the local energy efficiency requirements is a case of environmental dumping (Andersen et al., 2018)



Final Topten product list

- The Topten product list went online in 2018 with 41 models.
- Topten defined selection criteria per fan type by selecting the 50% most efficient products according to their Service Value.



Comparison with the Chinese MEPS (2021)

- The product list grew to 120 models.
- The selection criteria for table fans and floor standing fans could be strengthened.
- In 2022 the Topten list still contained products that do not comply with the Chinese MEPS (9%, 12 models).
- The Topten product list shows the best performing products on the market!

| | Marke & Modell | Energie | Typ | Technische Daten | Kosten (CHF) | Preisvergleich |
|---|--|--|-------|--|------------------------|----------------|
|  | Stylis Lyra | Energie (kWh/Jahr): 1.6 Effizienz-Index: 1.00 Standby (W): 0.0 | Tisch | Geräuschpegel (dB): 35 Volumenstrom (m³/min): 5.0 | Strom in 15 J.: CHF 5 | CHF 44.05 |
|  | Sonnenkönig TENERO | Energie (kWh/Jahr): 4.0 Effizienz-Index: 0.51 Standby (W): 0.1 | Turm | Geräuschpegel (dB): 49 Volumenstrom (m³/min): 6.1 | Strom in 15 J.: CHF 12 | CHF 79.00 |
|  | TRISTAR Tischventilator, 15 cm, 15 Watt | Energie (kWh/Jahr): 4.8 Effizienz-Index: 0.80 | Tisch | Geräuschpegel (dB): 46 Volumenstrom (m³/min): 12.0 | Strom in 15 J.: CHF 14 | CHF 14.95 |
|  | CasaFan Eco Genuino 152 | Energie (kWh/Jahr): 4.9 Effizienz-Index: 13.73 | Decke | Geräuschpegel (dB): 50 Volumenstrom (m³/min): 211.5 | Strom in 15 J.: CHF 15 | CHF 687.75 |
|  | Sonnenkönig DOLMEN 3 | Energie (kWh/Jahr): 5.2 Effizienz-Index: 0.47 Standby (W): 0.5 | Turm | Geräuschpegel (dB): 58 Volumenstrom (m³/min): 7.0 | Strom in 15 J.: CHF 16 | CHF 110.70 |
|  | Coop FT-23A | Energie (kWh/Jahr): 5.6 Effizienz-Index: 0.90 | Tisch | Geräuschpegel (dB): 54 Volumenstrom (m³/min): 15.7 | Strom in 15 J.: CHF 17 | CHF 19.95 |
|  | Sonnenkönig DOLMEN 4 | Energie (kWh/Jahr): 6.5 Effizienz-Index: 0.51 Standby (W): 0.6 | Turm | Geräuschpegel (dB): 58 Volumenstrom (m³/min): 9.3 | Strom in 15 J.: CHF 19 | CHF 109.00 |
|  | Stadler Form Leo | Energie (kWh/Jahr): 6.2 Effizienz-Index: 0.80 Standby (W): 0.4 | Tisch | Geräuschpegel (dB): 57 Volumenstrom (m³/min): 15.0 | Strom in 15 J.: CHF 19 | CHF 99.00 |

Comparison of European and Chinese MEPS

| Type | Size (mm) | EU Proposal | China (2008) | China (2022) |
|--------------|----------------------|-------------|--------------|--------------|
| Table fans | 200 | 0.5 | 0.45 | 0.45 |
| Rotary fans | $200 < X \leq 230$ | 0.5 | 0.45 | 0.55 |
| Wall fans | $230 < X \leq 250$ | 0.5 | 0.5 | 0.65 |
| Box fans | $250 < X \leq 300$ | 0.65 | 0.54 | 0.78 |
| Stand fans | $300 < X \leq 350$ | 0.75 | 0.8 | 0.93 |
| | $350 < X \leq 400$ | 0.75 | 0.9 | 1.03 |
| | $400 < X \leq 450$ | 1.08 | 1.00 | 1.15 |
| | $450 < X \leq 500$ | 1.08 | 1.10 | 1.20 |
| | $500 < X \leq 600$ | 1 | 1.13 | 1.37 |
| Ceiling Fans | 900 | 3.1 | 2.75 | 2.75 |
| | $900 < X \leq 1050$ | 3.1 | 2.75 | 2.79 |
| | $1050 < X \leq 1200$ | 3.1 | 2.79 | 2.93 |
| | $1200 < X \leq 1400$ | 4.0 | 2.93 | 3.15 |
| | $1400 < X \leq 1500$ | 4.1 | 3.15 | 3.33 |
| | $1500 < X \leq 1800$ | 4.3 | 3.33 | 3.47 |

Recommendations for the European Union

- Environmental dumping can be easily avoided by aligning product requirements with the ones of exporting countries.
- The MEPS should be aligned with the Chinese MEPS that are entering into force in November 2022.
 - The EU should align their requirements or introduce more stringent requirements than the ones in China.
 - If the European Commission does not strengthen their proposal, more dumping will occur.
- Comfort fans were neglected in the review study
 - MEPS and an Energy Label should be included in the revision of Commission Regulation (EU) No 206/2012.
- With 52 million units sold in 2020, these products should be seriously address on their own.
 - This product group is large enough to warrant its own regulation.

June 1st-3rd, 2022, Toulouse, France



Thank you !