

Comments and observations – EUROPUMP/EUSA	Date: 8 th of March 2019	Document: Ecodesign Pump Review Study of Commission Regulation (EU) No. 547/2012 [...] Extended report (final version), Dec. 2019	Project: ENER/C3/2015-619-LOT 3 & ENER/C3/SER/FV2017-438/07/FWC 2015-619 LOT3/06/SI2.758883
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/EU SA EP	All doc			general	Throughout the document the term “efficiency” is sometimes used inconsistently when speaking about the extended product approach and especially about attaching frequency converter to a pump unit. Attaching a frequency converter does not “increase efficiency” of a pump unit. The opposite is the truth. What it does is it allows a less power consuming operation closer to the demand of the system. For a given duty point the VSD often enables to select a pump unit with a better overall efficiency.
EP	page011		1 st paragr.		Europump in principle agrees with the statement “ECO1 appears the most viable so sufficient time is given to adopt EPA calculation methods,...” for ESOB, ESCC and ESCCi pumps regarding threshold values.
EP	page007	Table 1			The increased ambition levels are very undefined at the moment. The timeframe is short. Without a reasonable indication this will be very challenging (or impossible) for pump manufacturers.
EP	page264	& 14.3	Second paragraph and all document	general	Considering that the discussion on the new water pump regulation is still rolling, it will be impossible to consider implementing it within 2020/2021. A longer time frame has to be considered. In general it can be stated that the suggested timeline for the scenarios is unrealistic. All standards for pumps in a legislative scope need to be ready. They need to be revised for harmonisation (Annex ZA). For this a draft legislative text must be available. Earliest realistic timeframe is 2024.
EP	page157 & exec. summary				Europump still sticks to the position that a benchmark MEI 0.7 cut-off is unrealistic and technically not feasible throughout the complete scope in discussion. It will leave white spots in the clouds of the pump population.
EP	page158	9.1.2	Table 32	Technical	It is not clarified how the energy savings are calculated → to be clarified
EP	page168	9.3		te	The definition of “designed for pressures” for multistage pumps up to 40bar is not explained ⇒ EUROPUMP understands that the maximum design pressure of a multistage pump is the rated pressure of the discharge casing. It does not matter what pressure the hydraulic is actually generating (for example, the same rated pressure value might be used for a 6 an and 12 stage Multistage pump – EN12162 Liquid pumps safety requirements Procedure for hydrostatic testing). ⇒ The problem appears (only) when extending the scope to 40bar.
EP	page173	10.1.2		te	The prEN17038-1 and-2 cover Multistage single pump units up to 25Bar and therefore could be used for EEI on MS-V and MS-H.

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					This is much better than “Average efficiency”.
GE	page173	10.1.2	Footnote 285	te	There’s no C value available for multistage pumps above 25 bars as data collection covered only MS-V up to 25 bars. It is not possible to calculate an MEI for MS-V or MS-H above 25 bars. Therefore work on EN 17038 cannot include EEI calculations for MS-V and MS-H 25 – 40 bars. The assumption to use the C value from the pumps below 25bar may be inappropriate.
EP	page179	10.1.5	Table 39	te	The additional weight of a frequency converter for a 5kW pump is 0,2kg and for a 17kW pump it is 1kg. Europump believe this is too low.
EP	page182	10.2.1	5 th paragr.	te	<p><i>“The reason why all the clean water end suction pump units for variable flow applications present higher total energy is because they consume more electricity as they have lower efficiencies (see Table 38). This is because these pump units operate at lower levels from their BEP compared to pump units for constant flow applications.”</i></p> <p>← The reason are the running hours assumed for variable flow which are twice the running hours of constant flow in table 38 !!! (applies with peaches when comparing two different total energies over lifetime)</p>
EP	Page203	11.1.1	4 th Paragr.		The given values are based on the assumption to go from MEI 0.4 to MEI 0.7 which is the excluded policy option from the study writers. Please state somewhere or delete paragraph.
EP	page204	11.1.2		te	If a VSD is used there’s no trimming required. This might give more potential to improve efficiency than other options listed in the chapter. (See also annex 13 – available now).
EP	page213	12.1.1	Bullet 6	General	Europump’s further investigation has showed that it is too early to regulate submersible wastewater pump.
EP	page213	12.1.1	Bullet 4	General	Europump suggests to include MS-horizontal below 25bar only..
EP	page216	12.1.2	1 st Paragr.		Increasing the number of volutes is a possible direction from an energy consumption stand point. But the EPA exactly tackles this problem by not to have more volutes but to use a full impeller instead and use the speed setting / control of the motor to reach the demanded duty point even in constant flow. The factor for trimming is included in prEN17038 -2.
EP	page 216 and others	12.1.2			<p>MEI 0.7 is mentioned several times. Although it is stated that the EPA approach is more reasonable and will bring much higher savings, we see the risk that an untechnical politician may come to the conclusion, that a combined approach of an EPA and increased MEI will bring better savings – likely if he got lost in the 433 pages.</p> <p>The technical development of pumps with MEI 0,7 needs many man-years of engineering and testing of prototypes and afterwards a huge amount of patterns (more than 60% of the existing installation) needs to be built newly. Normally patterns are in use more than</p>

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					<p>ten years and then they are re-furbished. But the demand of MEI 0,7 would mean that they are completely replaced. So such a solution would be economically a severe burden or even unsolvable for many enterprises in the pump industry especially since a redesign was needed to come to MEI 0.4 recently (2015).</p> <p>We would prefer one clear statement, that MEI 0.7 is a benchmark value for the best available technology and should not come into force as a threshold value. MEI 0.7 should then be eliminated in the other chapters as: page 73, page 156, page 147, page 163, page 217, page 349, page 350 ...</p>
EP	page220	12.1.4	Table 55	te	There is an EEI for MS-V defined in EN 17038. Why has it not been used?
EP	page221	12.1.4	Table 55	te	Why is “average efficiency” constant flow for MS-V around 20 %-points higher than efficiency for MS-H? Europump doubts this market data analysis. 20%-points difference in efficiency raises the energy saving potential for MS-H in unlikely high ranges. If market data includes the DIY-shop pumps it might be realistic. But the running hours may be very low.
EP	page221	12.1.4	Table 55	te	<p>Why are “average efficiencies” for pumps between 25 and 40 bars around 10 %-points higher than for pumps up to 25 bars? Usually pumps for higher pressure need provision to compensate axial thrust (stronger bearings, balancing drum ...) having a negative impact on efficiency. Europump questions the validity of the data.</p> <p>Would this mean different EEI values for the different kind of pump pressure ranges ? This is not acceptable.</p>
EP	page220 ff	12.1.4	Table 55	te	<p>Footnote on the table: “Avg. eff. = estimated average efficiency of pumps on the market after future introduction of an EEI requirement, for the extended product including the whole pump unit.”</p> <p>Footnote 327 on page 220: “Based on limited data received from industry on efficiency levels, only hydraulic efficiency was considered and an average level was defined.”</p> <p>There is a contradiction. Any regulation shall rely on EEI. Average efficiency shall not be part of the final scenarios. This is stated somewhere in the report but the decisions and recommendations do rely on this average efficiency.</p>
EP	page220 ff	12.1.4	Table 55	te	There is no explanation how “average efficiency” is defined. Is it the “average efficiency” of all pumps, independent of the power? Or is it the total hydraulic power of all pumps divided by the energy consumption of all pumps? How is it linked to the number of different pumps in the field?

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EP	page220ff	12.1.4	Table 55	te	How can the “average efficiency” get transformed into thresholds? ⇒ EUROPUMP understands that a regulation can come into force only once standards for EEI calculations for the different pump types are available.
EP	page223	12.1.1		GE/TE	12.1.1, Page 223. It is proposed that the Regulation EEI values introduce further hydraulic efficiency cut-offs, It has always been unacceptable for MEI to go beyond 0.4 and it is not acceptable to introduce further cut off by stealth in EPA.
EP	page260	13.3	Paragr 3	ge	Europump supports to investigate further the Annex 13 proposal. Apparent Inconsistencies may be clarified in an Impact Assessment. By reducing the scope of the EPA to pumps where such an approach is reasonable the majority of savings will be achieved without making too many problems to check and control by Market Surveillance Authorities.
EP	page262	14.1	5 th & 7 th bullets	ge/te	According to Europump’s position, only MS-V and MS-H up to 25 bars should be in scope of a possible regulation. Multistage pumps above 25Bar rated pressure are usually industry specific pumps. Mostly individually engineered they are not mass produced in the meaning of eco-design. Europump suggests to remain with the definition of Multistage Pump Units in scope inside the range of 25Bar and below. Europump never delivered data for MS-H above 25 bar. Europump gave market figures for MS-V above 25bar which is only 1,2% in sold pumps compared to MS-V below 25bar. In table 108 on page 393 in Annex 9 the numbers of sold products is shown. The vast majority of MS pumps not yet in scope comes from the MS-H below 25bar. This does not give an argument to include MS pumps above 25bar. Figure 64 shows the same share in Output load for the specific pump types. MS pumps above 25bar are irrelevant for Ecodesign.
EP	page263	14.3	Phrase starting in 4 th row of last paragraph	ge/te	[...] “Each pump will have to comply with both (except when one of them is not relevant)” [...] Compliance means that a product follows thresholds. Not all scenarios drawn in this report request threshold values (e.g. but product information only in figure 56). The sentence cited above is valid only for Scenario in Figure 55. For example a fixed speed pump unit sold including with a motor (fixed speed) will never comply to an EEIv due to its fixed speed construction. But it could give the value even if it was above the threshold. This does not make sense as the product looks compliant though it was not. Unless a single EEI level for a specific pump type will be defined, it will be unreasonable to comply to a MEPS requirement for EEIc and EEIv simultaneously. For VFD equipped pump it could be possible (maybe) , but for sure for constant speed pump it would be impossible to comply to an EEIv limit.

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EP	page267	14.3	“Multistage clean water pumps”	ge/te	The evaluation of all pump types must be through EEI methodology and not with “averaged efficiency”. There is no reason to change the methodology, considering that all the technical standards are going to define reliable solutions. Average efficiency is unclear how it is defined (average wire to water ? average hydraulic efficiency ?), developed and based on which data.
EP	page267-268	14.3	Saving calculation	ge/te	It is very difficult to understand how savings are estimated, but the good thing is that the greater portion is from ESOB/ESCC/ESCCi pump type (which are good candidate to apply an extended product approach)
EP	page270	14.4 & Page 10 Executive Summary	2 nd bullet	ge/te	Europump suggests not to aggregate all Multistage Pumps not yet in scope into one evaluation. It is unclear if Multistage Submersible (others than 4” and 6”) Pumps fall into this bullet point also ? The 11% of potential savings are by far from Multistage Horizontal below 25 bar. The 11% should not be used to argue that MS pumps above 25bar make sense to include in a regulation. Compared to actual regulation in addition here are considered: <ul style="list-style-type: none"> • MS-V from 25bar up to 40 bar → not reasonable to be included • MS-H up to 25 → reasonable to be included • MS-H from 25bar up to 40 bar → not reasonable to be included • MSSB ≤ 6” (other than 4” and 6”) → reasonable to be included
EP	page270	14.4	3 rd bullet	General	Europump agrees on that wastewater pumps shall be excluded from the scope of the revision due to the absence of a developed methodology for how to regulate the energy efficiency. The complexity related to handle different solids has proven to make it difficult to define requirements on energy efficiency that can be used in a regulation.
EP	page270	14.4 & exec. summary		General	Europump’s understanding from the executive summary and Chapter 14.4 of the report is, that when excluding waster water pumps (vortex and channel) form the scope of the suggested revision, this applies to all solids handling pumps such as (see chapter 9.3): <ul style="list-style-type: none"> • Sewage pumps • Grinder pumps • Chopper pumps • Pumps for activated sludge • Dewatering pumps • Drainage pumps

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					<ul style="list-style-type: none"> Slurry pumps
EU SA pool pum p WG		14.4 and complete document		General	<p>Concerning the swimming pool pumps, the EUSA Pool Pump working group strongly supports the recommendations of the study team in its final report of the study of the Commission Regulation (EU) N°. 547/2012 review (Ecodesign requirements for water pumps), considering:</p> <ul style="list-style-type: none"> not to include swimming pool pumps (up to 2,2kW) within the scope of the next revision of the regulation, and, for possible upcoming and future revisions (after the pending revision), to establish harmonised requirements for testing the performance of the swimming pool pumps at established hygienic requirements, and, to confirm that swimming pool pumps above 2,2kW are excluded.
GE	page271	14.4		general	<p>There could be other exemptions to argue products not being in scope of the regulation. Not only [...] “pump’s intended use is not to pump clean water.” [...]</p> <p>The legislative text shall clearly define the scope and what has to be done.</p> <p>The legislative text has to mention what exemptions are valid exemptions from scope. Any “technical” argumentation between MSA and Manufacturers whether a pump is very similar but exempted can be endless and clueless.</p>
EP	page273		Table73		<p>It makes sense to also list prEN17038-1 and 2 which are published since end of 2017 as it is mentioned on page 43 of this report. These standards are meant to be the standards for EEI and become the harmonised standards for the revision of EU547/2012 as soon as a new legislative text is available.</p>
EP	page277		1 st Paragr.		<p>The actual LVD is the 2014/35/EU, it is Lisbonized and according to the New Approach, please correct.</p>
EP	page284				<p>The EMC directive is the 2014/30/EU.</p>
EP	page288				<p>Unites States have the DOE Rulemaking finished and the regulation is in force as of 26th January 2020.</p>
UK	page XX	x.y.z		GE / TE	<p>A major concern in the report conclusions is that Multistage pumps between 25 and 40 bars remain in the final scope</p> <p>a. The consultants present all the arguments put forward by Europump for excluding vertical and horizontal multistage pumps of 25 - 40 bars (MS-V, 25-40 and MS-H 25-40). Yet they are still in the final scope</p>

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					<p>b. Regulation 547/2012 excluded all MS H pumps, and Europump have supported the introduction of MS H <25bars, but not the higher head 'Engineered' pumps</p> <p>c. Through the report the 4 categories of multistage have been presented separately so their relative energy saving can be seen. It is misleading that in the Executive Summary page 9, the 3 categories (MS H <25bar, MS V 25-40bar and MS H 25-40bar) which are additional products to those in 547/2012, are all listed together at 11% of the total potential energy savings, when separately in table 33, page 161, the savings are predominantly MS H<25bar which it is correct to include ie: MS H <25bar 9.4% MS V 25-40bar 1.1% MS H 25-40bar 3.3 % (The values do not add to 11% because they are percentages of a different energy total for the preliminary scope)</p> <p>d. Page 235 states that 92% of the 2030 savings come from ESOB, ESCC, ESCCi, MSSB, MSV <25bar and MSH<25 bar. The remaining 8% is Swimming pool, Wastewater, Boosters, and MSH and V >25 bar</p> <p>e. Page 164, 7 lines from bottom, gives the relatively low adoption of VFDs of 29% as a reason for the inclusion in scope, yet Table 18, Page 104 gives a class leading 70% and 43% adoption for the high pressure MSV and MSH pumps respectively, which leaves less scope for energy saving</p> <p>f. The small additional energy saving for the 25-40 bar MS pumps does not justify the difficulties of regulation</p> <p>g. The 'engineered' multistage pumps bought into scope by introducing MSH, <25bars should be excluded because of Regulation problems. Europump has provided a definition which does this effectively.</p>

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