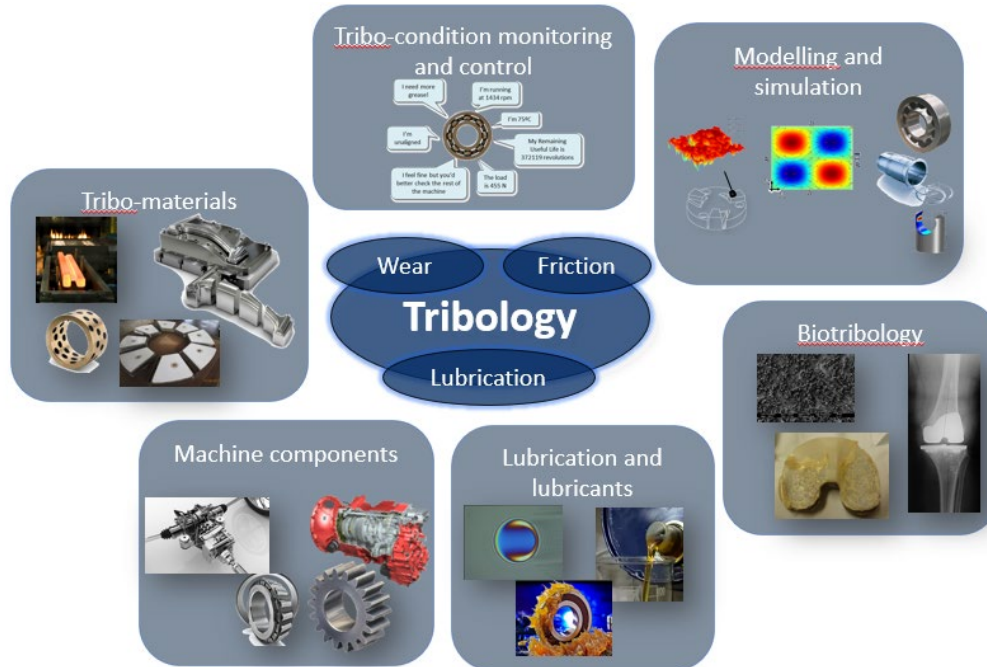


MILJÖANPASSADE SMÖRJMEDEL INOM VATTENKRAFTEN

Kim Berglund
Seniorforskare Maskinelement

Avdelningen för maskinelement

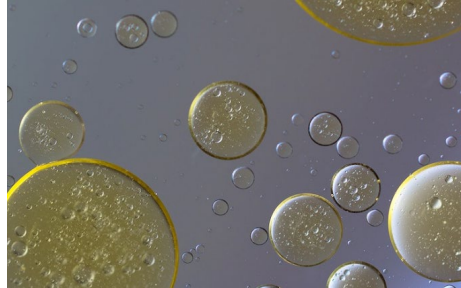


Miljöanpassat smörjmedel – vad menas?

Toxicitet

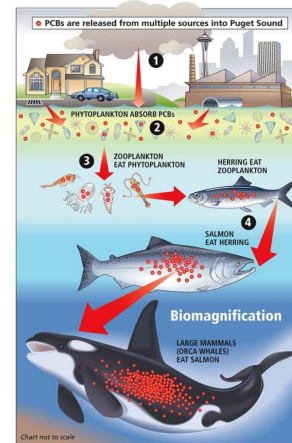


Biologisk nedbrytbarhet



CO₂ + biomassa

Bioackumulering

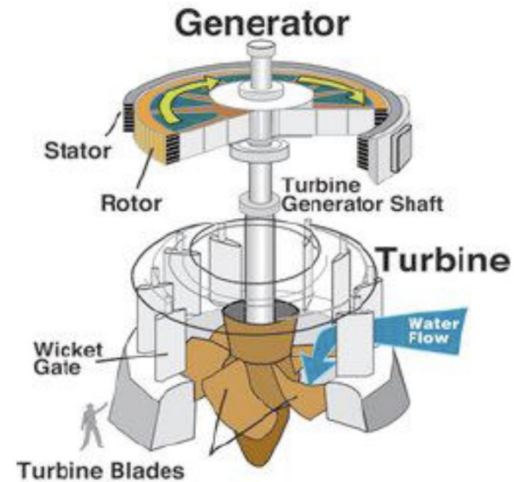


Miljöanpassat smörjmedel – vad menas?

Allergi



(Teknisk prestanda)

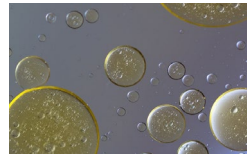


Miljöanpassat smörjmedel – märkningsprogram

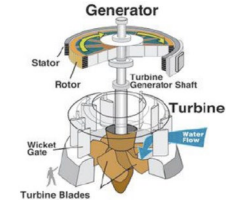
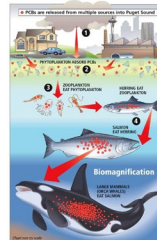


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Hydraulvätskor - Tekniska krav, miljöegenskaper och provningsmetoder



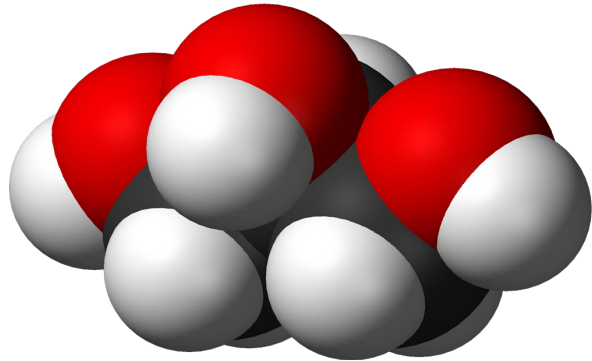
CO₂ +biomassa



Förnybara smörjmedel – Bio

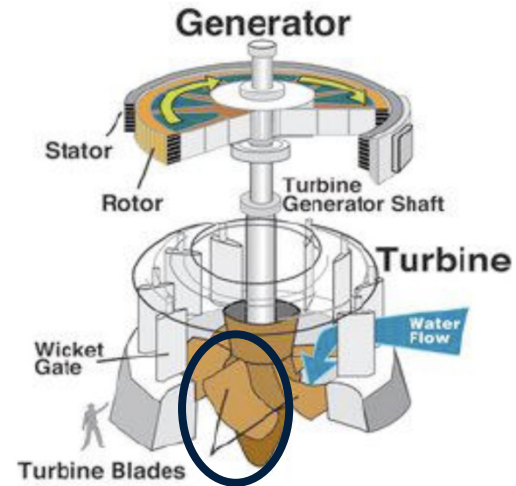
Glycerol – nytt miljöanpassat biosmörjmedel?

- Biprodukt från biodieselproduktion
- E422 – tandkräm, hudkräm...
- Ej giftigt.
- Visköst.
- Vattenlösligt

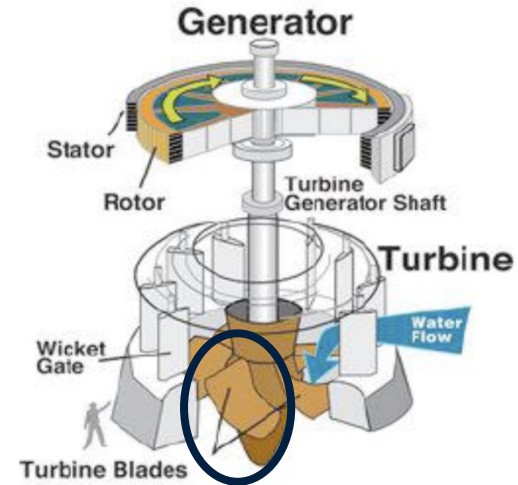
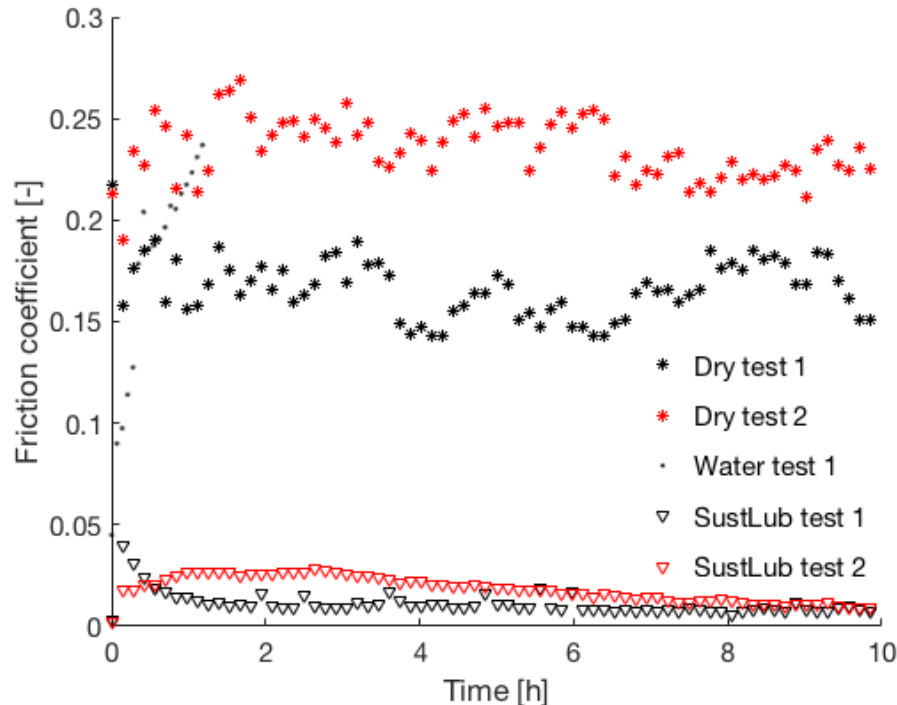


Ökade reglerkrafter över tid

- Bronsbaserade lagermaterial
- Ofta vattenfyllda löphjul
- Låga glidhastigheter
- Höga yttryck

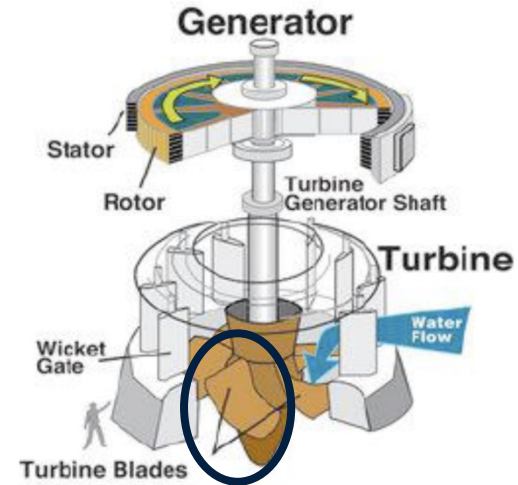
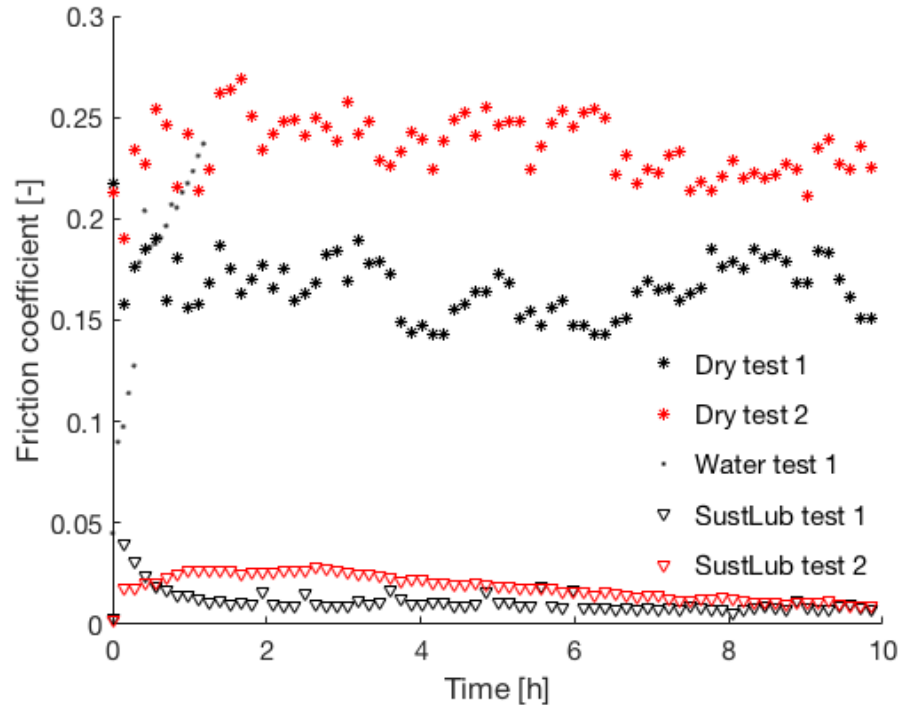


Ökade reglerkrafter över tid - resultat



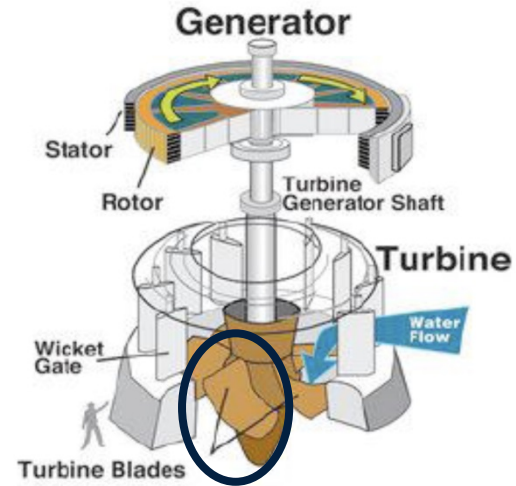
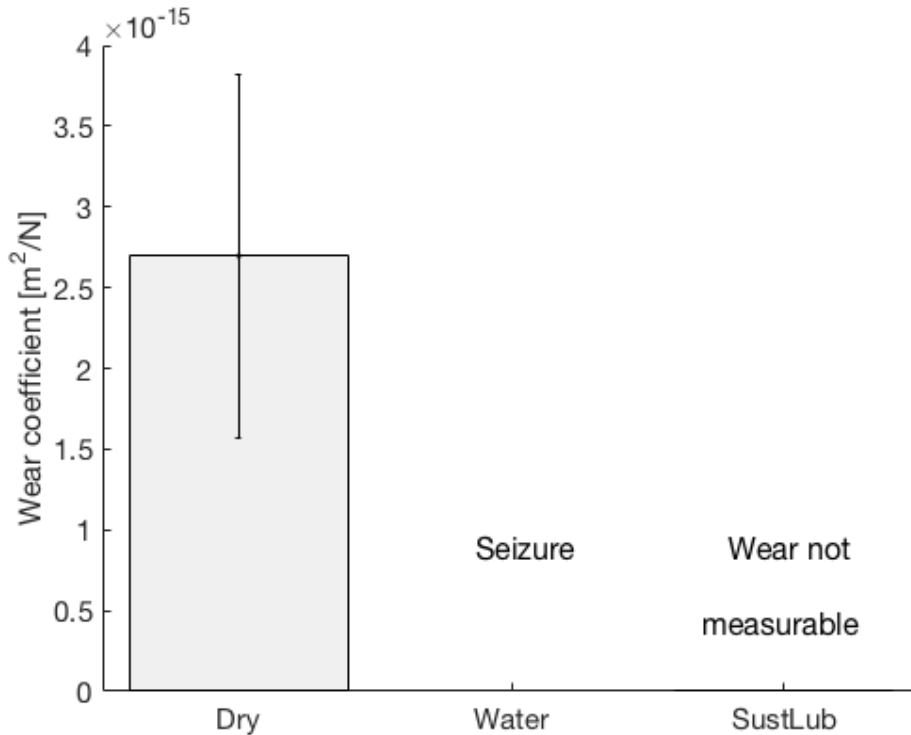
*Berglund, K.; Shi, Y. Friction and Wear of Self-Lubricating Materials for Hydropower Applications under Different Lubricating Conditions. *Lubricants* 2017, 5, 24.
<https://doi.org/10.3390/lubricants5030024>

Ökade reglerkrafter över tid - resultat

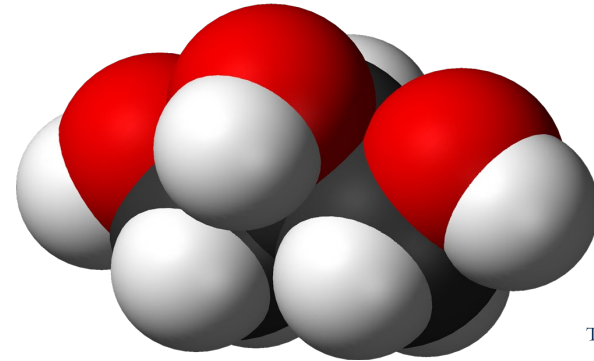


*Berglund, K.; Shi, Y. Friction and Wear of Self-Lubricating Materials for Hydropower Applications under Different Lubricating Conditions. *Lubricants* 2017, 5, 24.
<https://doi.org/10.3390/lubricants5030024>

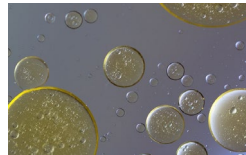
Ökade reglerkrafter över tid - resultat



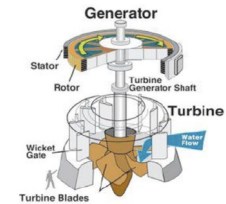
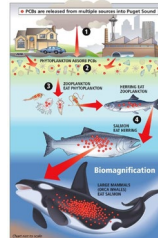
Framtida forskning



Framtida forskning



CO₂ +biomassa



Tack för att ni lyssnat!