Undersøg andre måder at fremstille SAF på og diskuter kort fordele og ulemper ved den proces der arbejdes med her og andre muligheder.

Diskuter om denne proces til fremstilling af SAF virkelig er bæredygtig? Evt. hvilke forudsætninger der skal være opfyldt for at fremstilling og anvendelse af jet-fuel produktet er bæredygtig

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List of various different technologies which can be used to produce SAF:

<https://skynrg.com/sustainable-aviation-fuel/technology-basics/>

Genial article der sammenligner forskellige processer

https://pdf.sciencedirectassets.com/271477/1-s2.0-S0961953420X00134/1-s2.0-S0961953420304748/am.pdf?X-Amz-Security-Token=IQoJb3JpZ2luX2VjEPb%2F%2F%2F%2F%2F%2F%2F%2F%2F%2FwEaCXVzLWVhc3QtMSJGMEQCIBbScp8%2B21McKaz1WkYiu7abWypNAjyXloCS2PsQbL5iAiBiXCPhVgAwQjJgnrx8Ro9FgghAAC8Xz8wIL81aHZ3XrSqzBQguEAUaDDA1OTAwMzU0Njg2NSIMIGlsYQQ7%2Bsxo78YgKpAFqur6mde1yCwy2qoHsbyVoD0rBkAzI3EzwbZY51pf%2FojyK%2F4LOC7iqZBZ0OWoUc3EIpvG24E1nYcOEEf6EUbW4fl11Xs4iy7Lz16VociC%2BzZ1lxkmguPMWUEO921Npipts5NNQ4DQdjephlX80T3tY%2BKPfbuyKV%2Be4JxdcGKGYThKhUZw8weqrWOdpSwG4hMhNdOFUE%2FgY2fT22igY7L7pRigWutfHv5%2FkiDQWeTPEWK7Qp8Rmjac2gYHtH2VkRereujqJ8%2BoNViTp2Ah%2FcvphZ1LTj6izVGq1rpKiD3pGByY1k57%2BBMi2EVFPBqiT8wgGCs7dO0mA0xFaTq3sRlqW05BXwK2915e1hXkaBn%2BG9hHG5qKFveES6XfS3mzAdVj1rVNFFNZrVw8qVbJ941iz%2BNKed89JdQVYpp9z3kSGOlI%2BvHUaq6LtKeHiLdaUlUc2hpEt3aiHtBC5b7kMR22Pxpl2EmatNgXzx0pY%2BUwvmvRQ0OEotjAgqHlsm4GR8coIPsDXpFbsceOITBe0gJL695zMlv%2F1ynU4eWuwZ8B%2Fhp0BwvnUX5qKt9feHX18k%2FFGtriLCMiyt2HSBeQwqad6k%2FCNx%2BSe6o20aTYq0oV44ZL1PDiz8sqslKv8oeRhI%2F%2Fn5G3%2F%2B%2FNVnFlYa6Gw3YG3MbPmCaWbbaG0E2tYrJKjq41T8VQc2e2y%2BvXk1tWJdkxGR%2FcK%2BlDl7X6%2Bf1WRCP2lRV140qmxHyEy%2FSil8sK%2FIP4DYt%2BztTtRvp3ao4sjgC8DpCoj1Ik5jTfIej9fQlQ7G4UgOu9wi4OyTA0%2Bn9xaITmsdoiKn5pfyz45AJ6x6l8%2F1CE5HgT8zC95TGQ3xKtS9mQDc5m3LVPva%2BxO5qqeuEwv6DasAY6sgFHxdcYkWoBp9BSZS0HF%2BfTNqQjnglglQn7VAwK64xUlMGlgG0FGw9jk4OAJVqgdhfJBkutsgPgr0NJF4BWII1CP8fHlcTjQqCJVT6w70TSQkyuF19qiKz%2FO%2FaL%2FSHy54EhUBXaPEOoI6sp%2BjrvJ8oFg9kLC%2BQaI0BUCVeltaQTOLvz%2FlpvqxFJb1czZmSxa5EK25Y1%2Bhv%2FRDcR0nY51I8CR%2BFaeIwFVrlIHwbY4nvM%2F06m&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20240410T140330Z&X-Amz-SignedHeaders=host&X-Amz-Expires=300&X-Amz-Credential=ASIAQ3PHCVTY5LMIVEEV%2F20240410%2Fus-east-1%2Fs3%2Faws4\_request&X-Amz-Signature=bfff0ce7822383f61c01b60212244dd3afedfa3994d43350f16d1fe5590e2bf7&hash=d379b3ef4ee7fed08913e9283eb75fe2d1529dd320c5ec3f735b1983c5467d68&host=68042c943591013ac2b2430a89b270f6af2c76d8dfd086a07176afe7c76c2c61&pii=S0961953420304748&tid=pdf-bcfa1b2b-f469-4345-8cc4-a1e2849b7390&sid=064ac1c68263894ca81a07c4c65182967ebegxrqb&type=client

**Fischer-Tropsch (FT) (Det er det vi burger I starten af vores produktion):**

Artikel som diskuterer lidt hvordan FT er sammenlignet med andre metoder (se tavler i artiklen):

<https://onlinelibrary.wiley.com/doi/full/10.1002/ese3.1379>

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Pro: One of the major advantages of indirect liquefaction processes is the wide selection of feed materials that can be used for syngas generation. In principle, any carbon-containing material can be employed as feed. ((INDIRECT LIQUIFICATION))

<https://onlinelibrary.wiley.com/doi/10.1002/ese3.1072>

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**Hydrotreated Esters and Fatty acids (HEFA):**

Percentagewise higher yield of fuel than with lignocellulose based fuel. Liignocellulase based fuel is more readily available, however.

Commercially immediately available

<https://www.europarl.europa.eu/cmsdata/232175/Presentation_Thorsten-Lange_2021-04-14_Neste-SAF.pdf>

Den geniale artikel

**Alcohol to jet (AtJ):**

Smuk bog:

<https://books.google.dk/books?hl=en&lr=&id=SfEQCgAAQBAJ&oi=fnd&pg=PP1&dq=Biofuels+for+aviation.+Feedstocks,+technology+and+implementation,+Chuck+CJ,+ed.+Academic+Press%3B+2016.&ots=v2ZpyyP8_e&sig=j2s8yCtGK3fXTxYwPK1Wb_LxSrM&redir_esc=y#v=onepage&q=Biofuels%20for%20aviation.%20Feedstocks%2C%20technology%20and%20implementation%2C%20Chuck%20CJ%2C%20ed.%20Academic%20Press%3B%202016.&f=false>

Vores process er meget simplificeret og vi danner ingen cykliske alkaner og dermed også ingen aromatiske forbindelser, som der er krav for at aviation fuel indeholder i en vis mængde.

Ulemper med Fischer-Tropsch (i forhold til aviation fuel), eller det fuel vi ender med at danne:

* Inspired by this sweet individual on quora men vi kunne sagtens have fundet ud af det her selv på andre måder: <https://www.quora.com/What-are-the-benefits-and-drawbacks-of-coal-liquefaction>
* Mega dyrt at producere
* Bruger meget vand og energi, imens fossil fuels er comparatively ready to use med det samme (ikke helt men i forhold til)

We need to oligomerise the fuel to increase its boiling point.

Vi burger carbon som allerede er en del af vores ecosystem i stedet for at ”release” carbon som ikke har (som sker når fossil fuels bliver brændt).