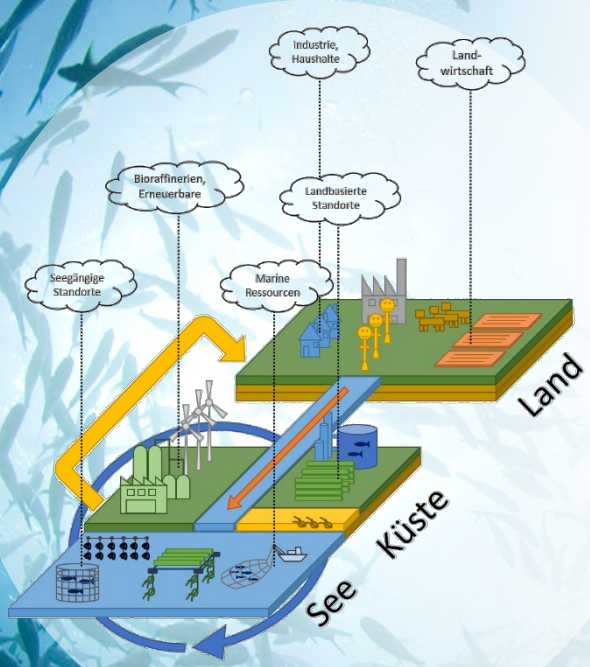

State of play in German aquaculture

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17.11.2020
@ BluePlatform "Innovative technologies in aquaculture" workshop

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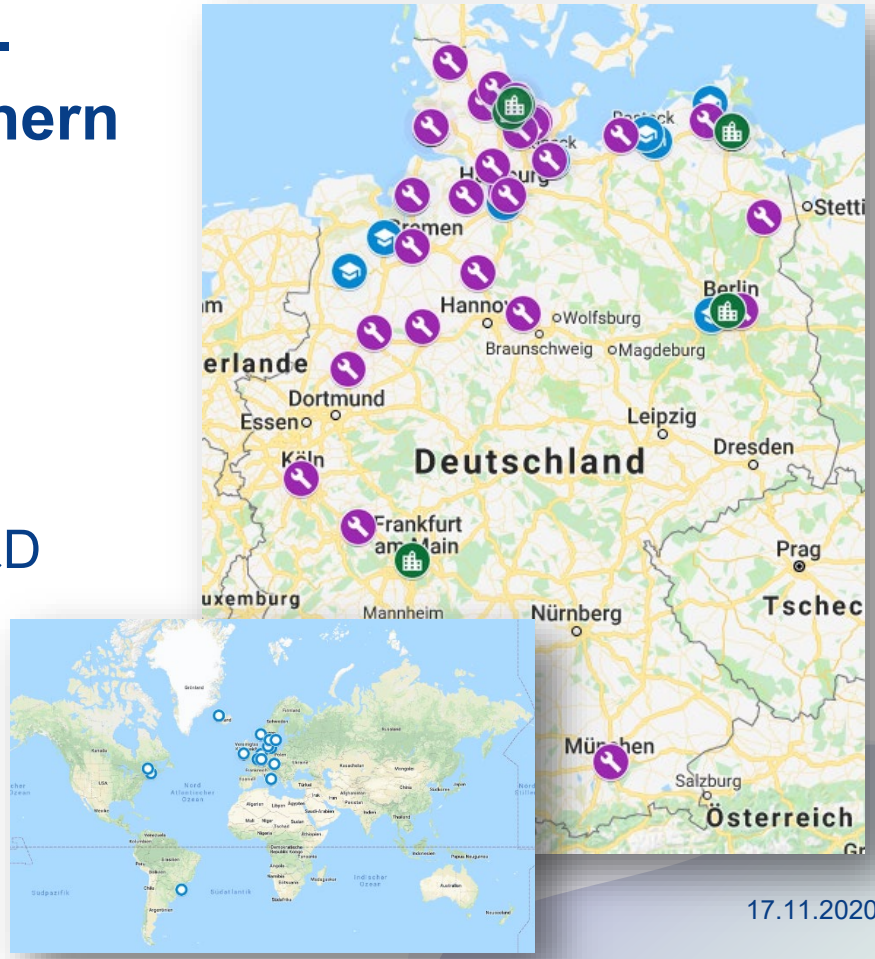
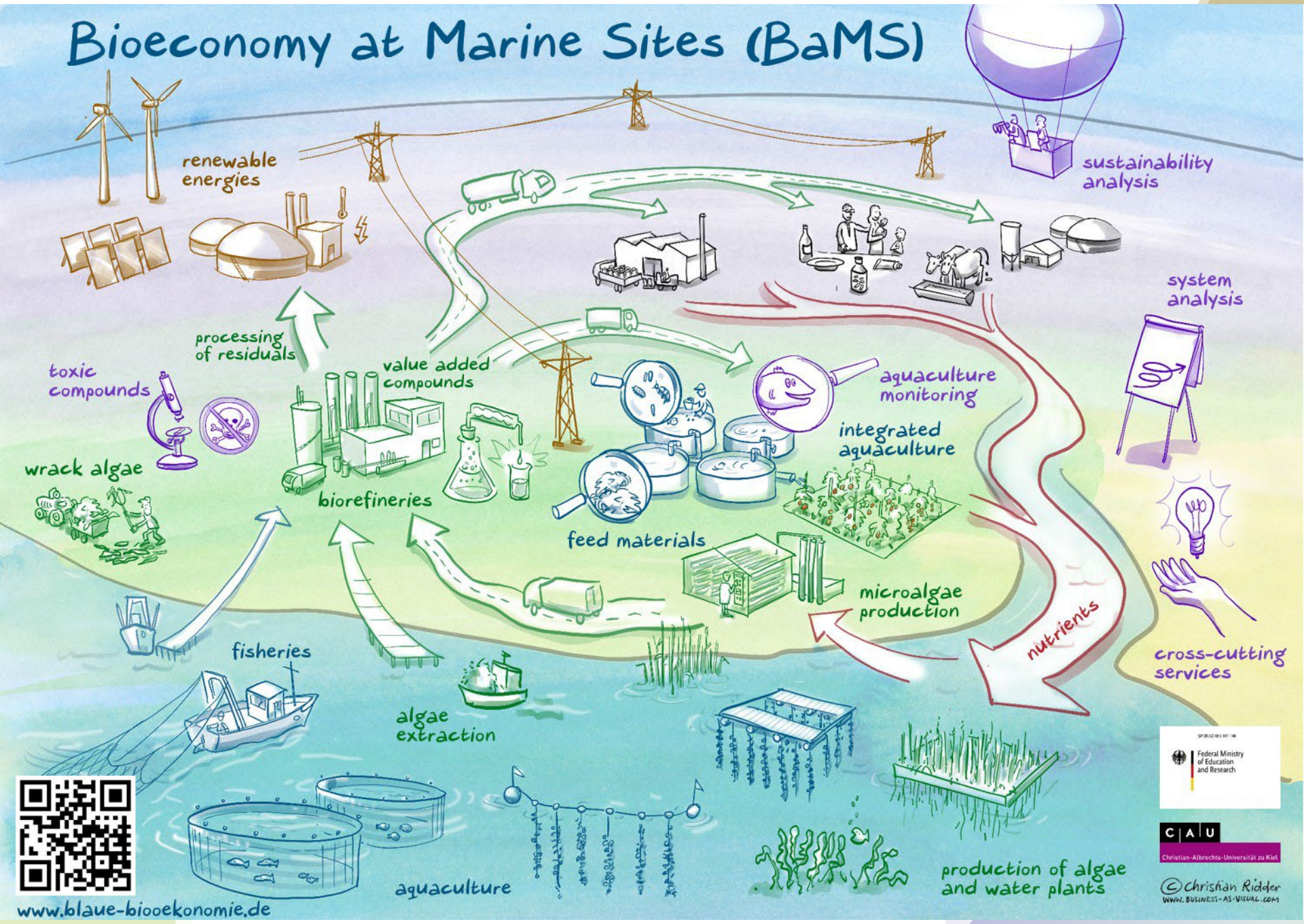
Key facts

BaMS is the new blue bio-economy cluster for Northern Germany

- 79 partners
  - DE: 34 industry, 20 research, 8 other
  - 16 international partners
- 35 partners in first round of R&D projects
- 30 mio € total volume
- 5 years funding from BMBF




Bioeconomy at Marine Sites (BaMS)
renewable energies
sustainability analysis
system analysis
processing of residuals
toxic compounds
value added compounds
aquaculture monitoring
integrated aquaculture
wrack algae
biorefineries
feed materials
microalgae production
nutrients
cross-cutting services
fisheries
algae extraction
aquaculture
production of algae and water plants
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Federal Ministry of Education and Research
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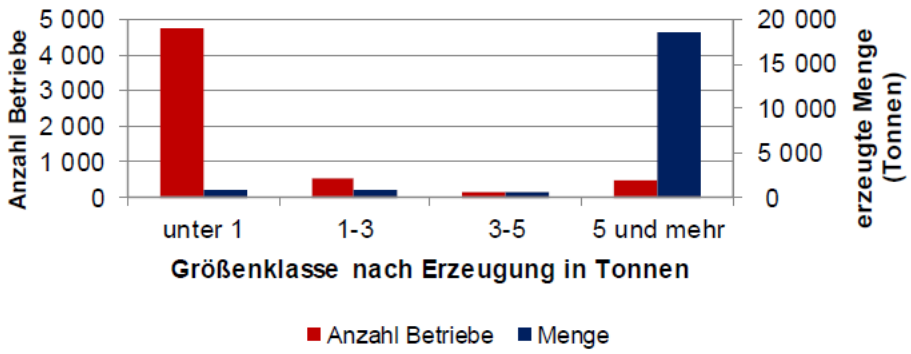
- 32.417 to annual production (2016)
  - 19.237 to fish
  - 13.077 to mussels

  Thereof:
  - 19.282 to fresh water
  - 13.134 to marine
- 105 mio € estimated value (2016)
- ~ 5% organic production, 1.758 to (2016)

State of play in Germany

- 2.957 primary producers (2016)
  - >0.3 ha or 200 m³ volume
- 5.977 very small producers (2014)
- ~20.000 extra income (2011)
- 1.158 FTE employees (2016)

Abbildung 2: Anzahl Betriebe und erzeugte Mengen 2014 (nur Produktion von Fischen)



Quelle: DESTATIS

AFC & COFAD (2017)

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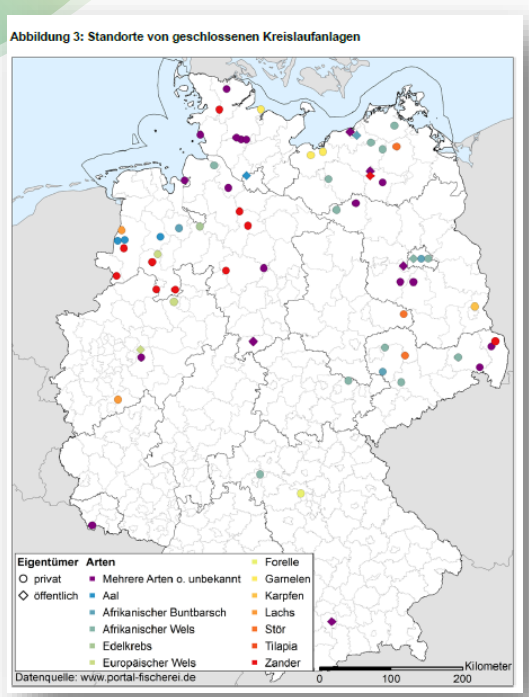
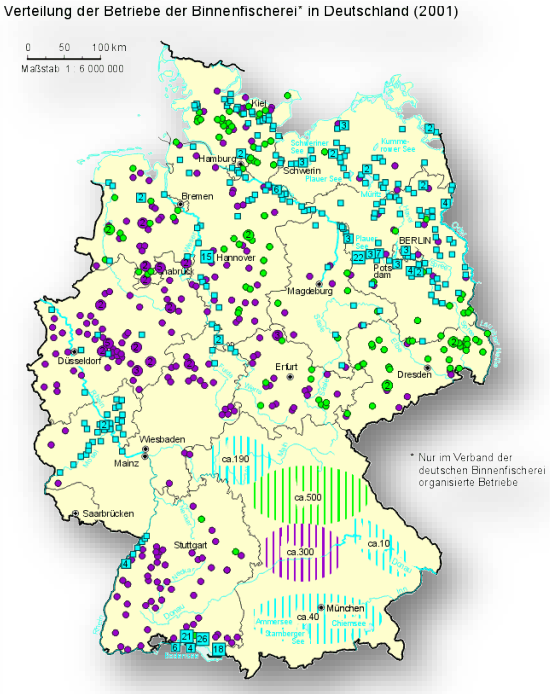
RAS systems



AFC & COFAD (2017)

Primary producers and direct marketing



VDBA (2001)

VDBA (2018)

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German Multiannual National Plan (NASTAQ):

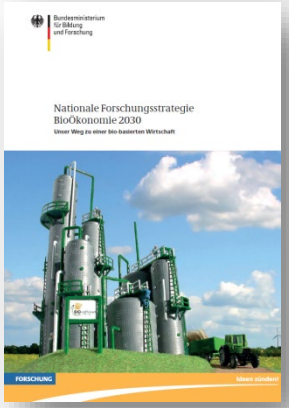
Growth target for 2020:

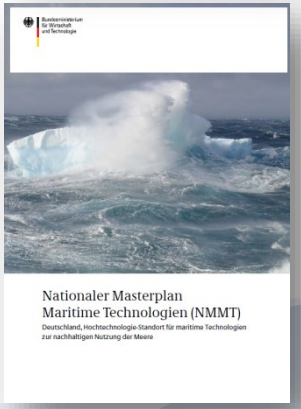
* RAS: +20.000 t/a
* North sea: nope!
* Baltic sea:
  mussels: +10.000 t/a
  fish: +1.000 t/a (IMTA-Pilot)
* (Micro-) algae: „significant increase“

…and many more policy documents.

Outcome:

- Stagnation
- Only very few new businesses





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PROs

- Flow-through **trout farming** is viable
- Blue **mussel farming** is viable at commodity scale in North Sea
- **Direct marketing** provides high premium for small producers
- **Innovative production methods** on the rise

CONs

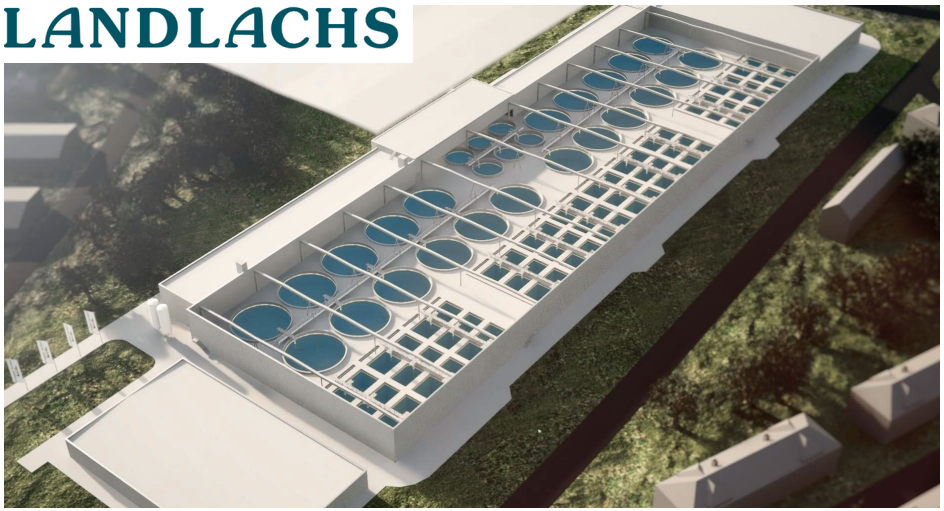
- **Climate change**, dry and warm summers, and **predators** are a big threat to pond and flow-through
- **Legal restrictions** and documentation are a huge burden for producers
- **Lack of planning security** and stability hampers access to finance and growth

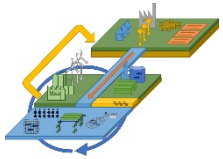
State of play in Germany

RAS production

- Salmon
- Berliner Landlachs
  - 5.000 to/a in RAS, full growout
  - Tech by AquaMaof
  - Near Berlin
  - 32 mio € total invest
  - Crowd-funding campaign: 2.5 mio € with 6 % pa

LANDLACHS





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RAS production

- Shrimp, (*L. vannamei)*
  - 8 producers
  - Broodstock & grow-out
  - Total volume: ~100 to/a
  - High production costs, high market price
  - great risk, interesting investment case

https://www.die-landgarnele.de/
https://www.foerde-garnelen.de/
https://neuemeere.de/
https://suburban-seafood.com/
https://www.cara-royal.de/
https://www.vitashrimp.com/
https://www.crustanova.com/
https://www.rheingarnelen.de/

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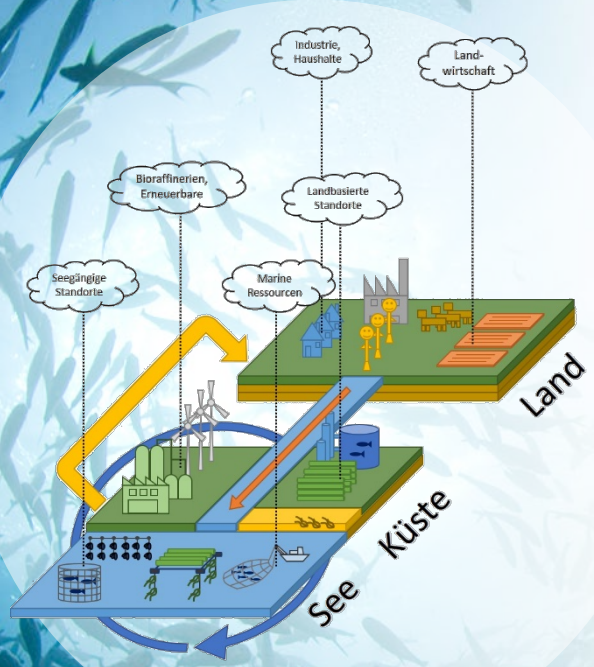
Feed material production

- Insects
  - FARMINSECT
  - Near Munich
  - De-centralized BSF production based on regional side-streams
  - esp. live insects for aquaculture
  - 500 kg/wk pilot plant in operation

Pictures from BR, https://www.br.de/mediathek/video/gut-zu-wissen-wissensmagazin-fliegenlarven-als-fischfutter-eichhoernchen-im-wettstreit-gruener-oekostrom-av:5f58c4e3cba8a8001402d5a9?platform=hootsuite&oct_20=HSCampaign



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