

Workshop on water reuse in the dairy industry

29 February 2016

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19 partners – DKK 98m – 5 years

Positive contribution from authorities

Technology



Food



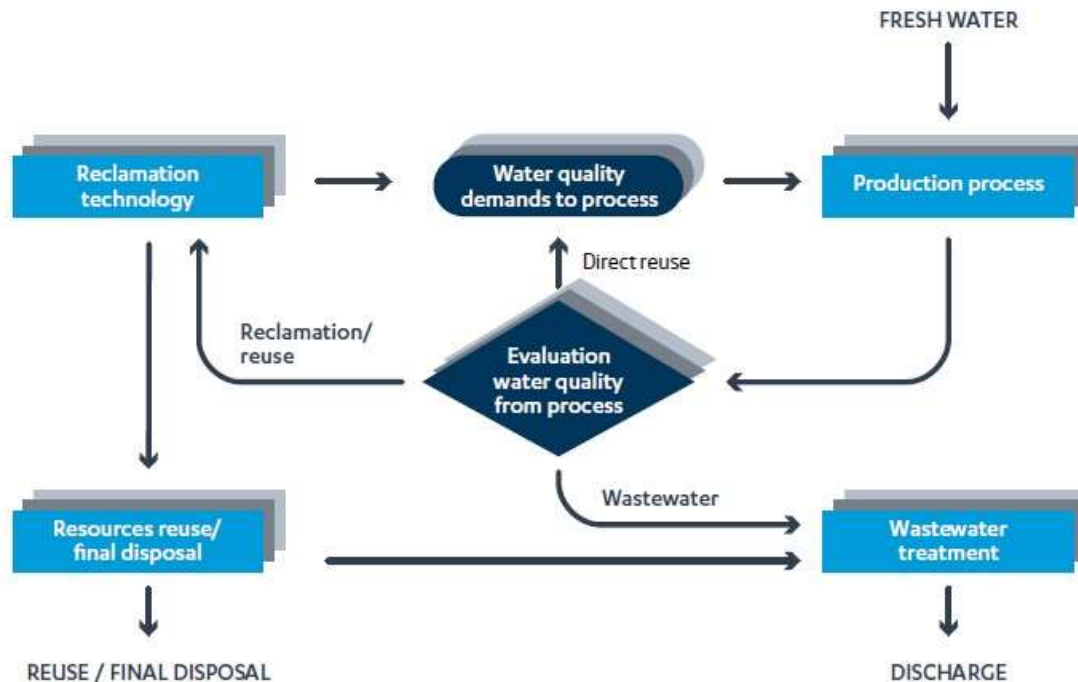
9 factories

Knowledge



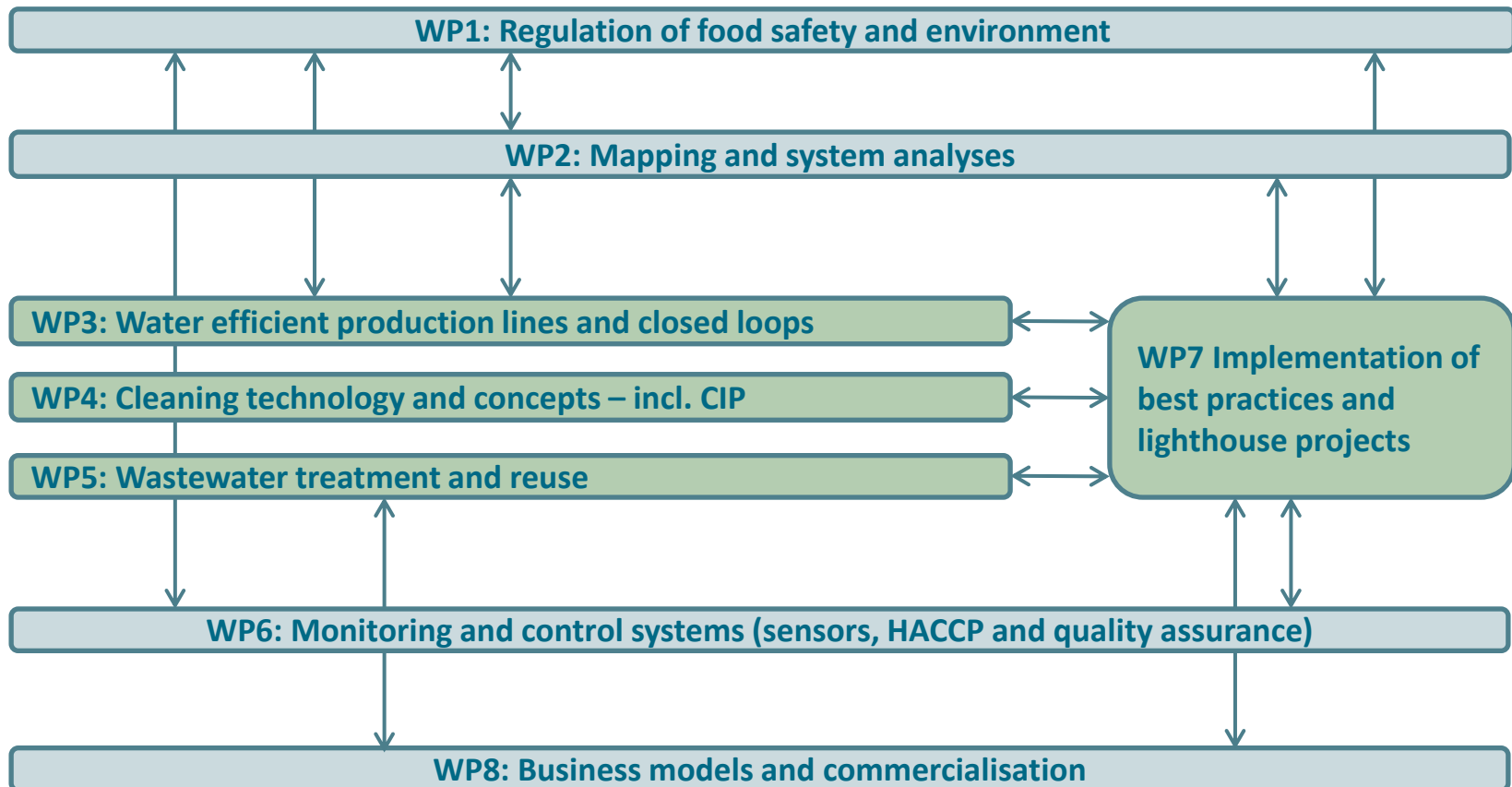
‘Water fit for purpose’

Safely from drinking water quality to upgraded water sources

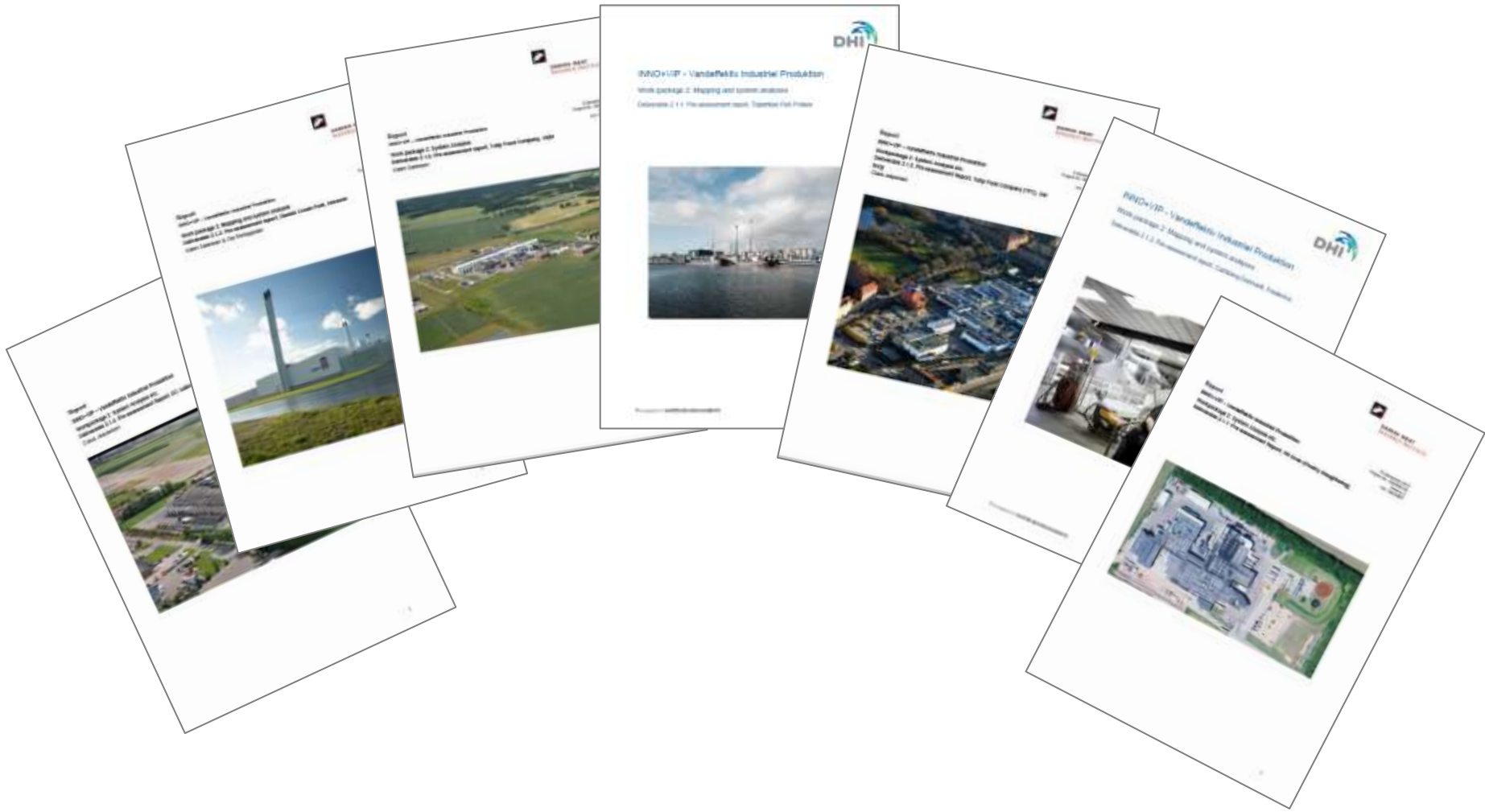


Close collaboration and interaction

Eight work packages



Pre-assessments



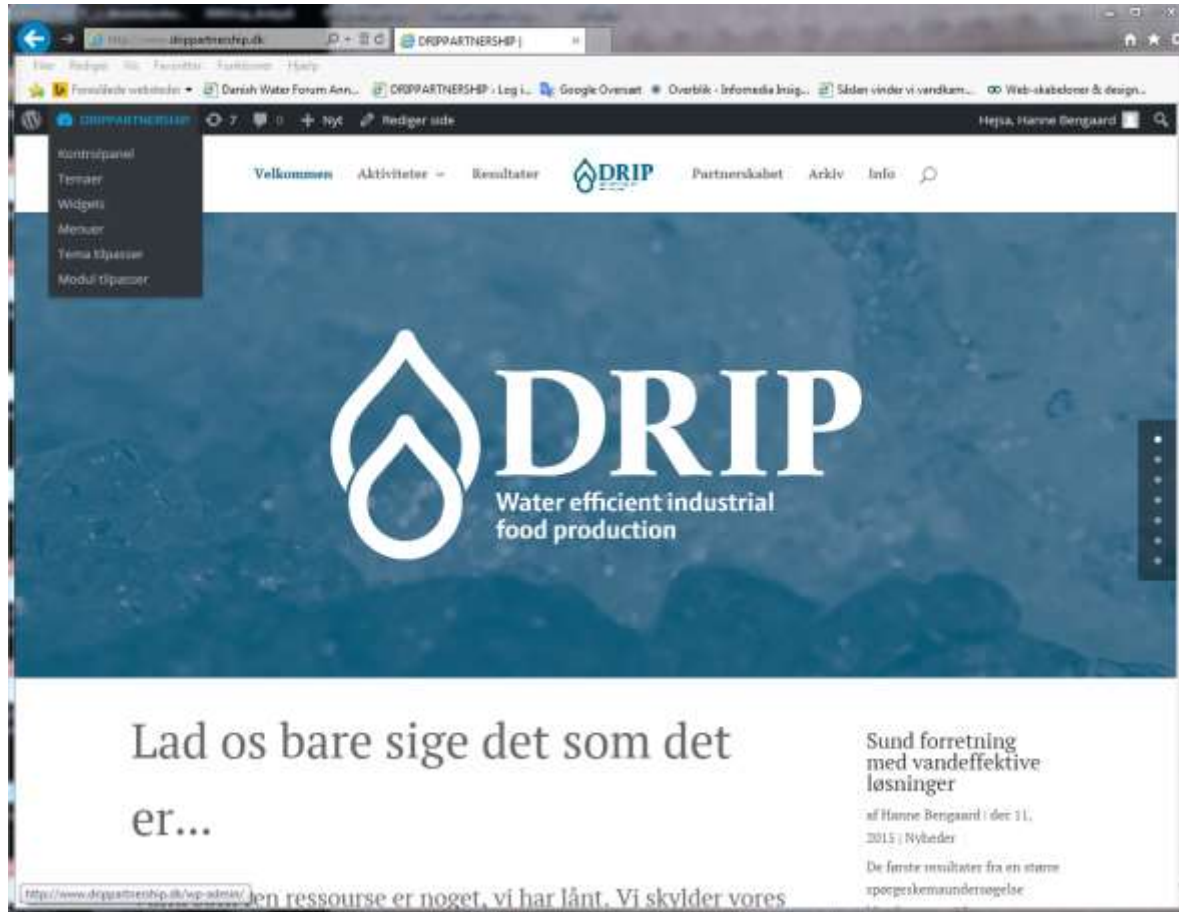
DRIP – Water efficient industrial food production

Vision:

‘By 2025 the most **competitive** water consuming industries are those that apply a **“water-fit-for-purpose”** concept and are heading towards **highly efficient use of water**, e.g. closed loop solutions, supported by front-runner technology providers, with the required level of **food quality and safety** and in accordance with **environmental regulations.**’



Thank you!



www.drippartnership.dk
www.drippartnership.com

Back-up

Four years from now...

Goals...

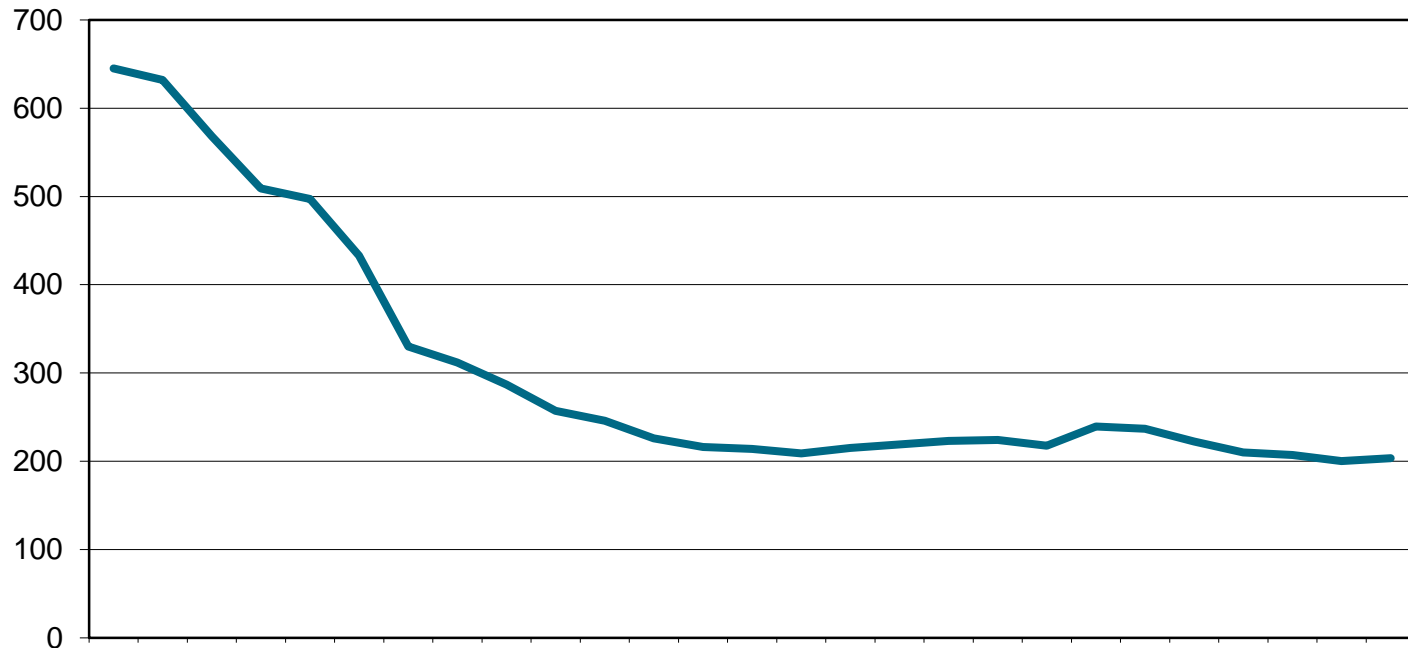
- 'Water-fit-for-purpose' successfully applied
- Best practices and new solutions demonstrated in the food industry
- Water consumption reduced by 15-30 %
- Attractive business cases and new business models
- Safe reuse through new national guidelines and standards
- Springboard for export of technology, food and knowhow



Danish Crown is reducing water

**Consumption of water in the period 1988 - 2014
Pork Slaughterhouses**

litre/pig



Slaughterhouse consumption incl. cleaning of casings excl. other activities

From prioritisation framework to reality

Danish Partnership for Ressource and Water Efficient Industrial Food Production

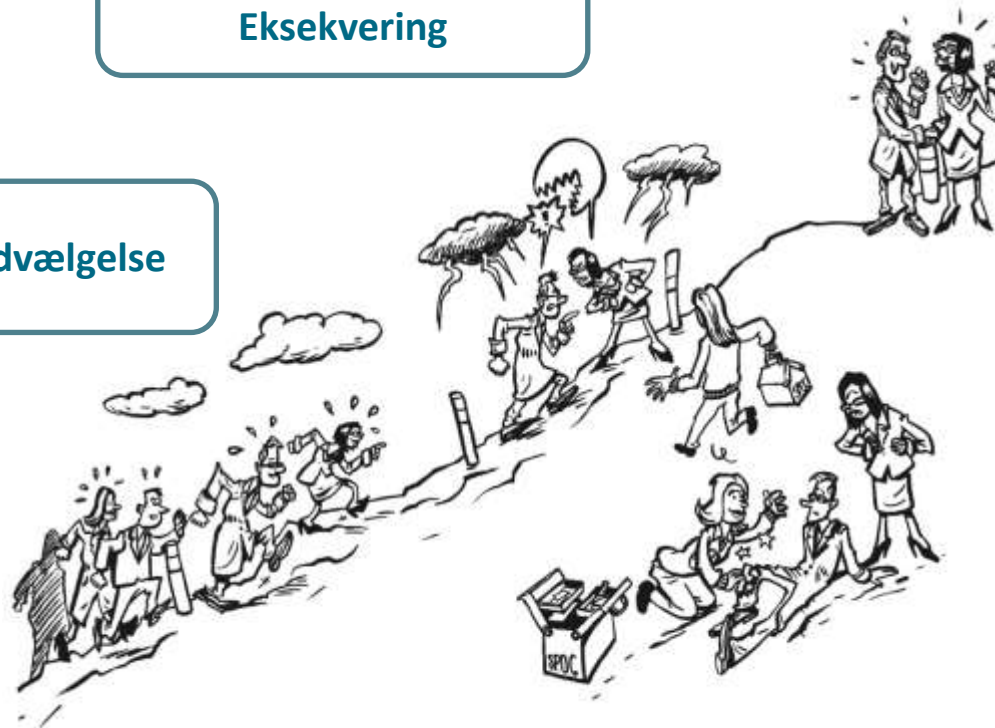
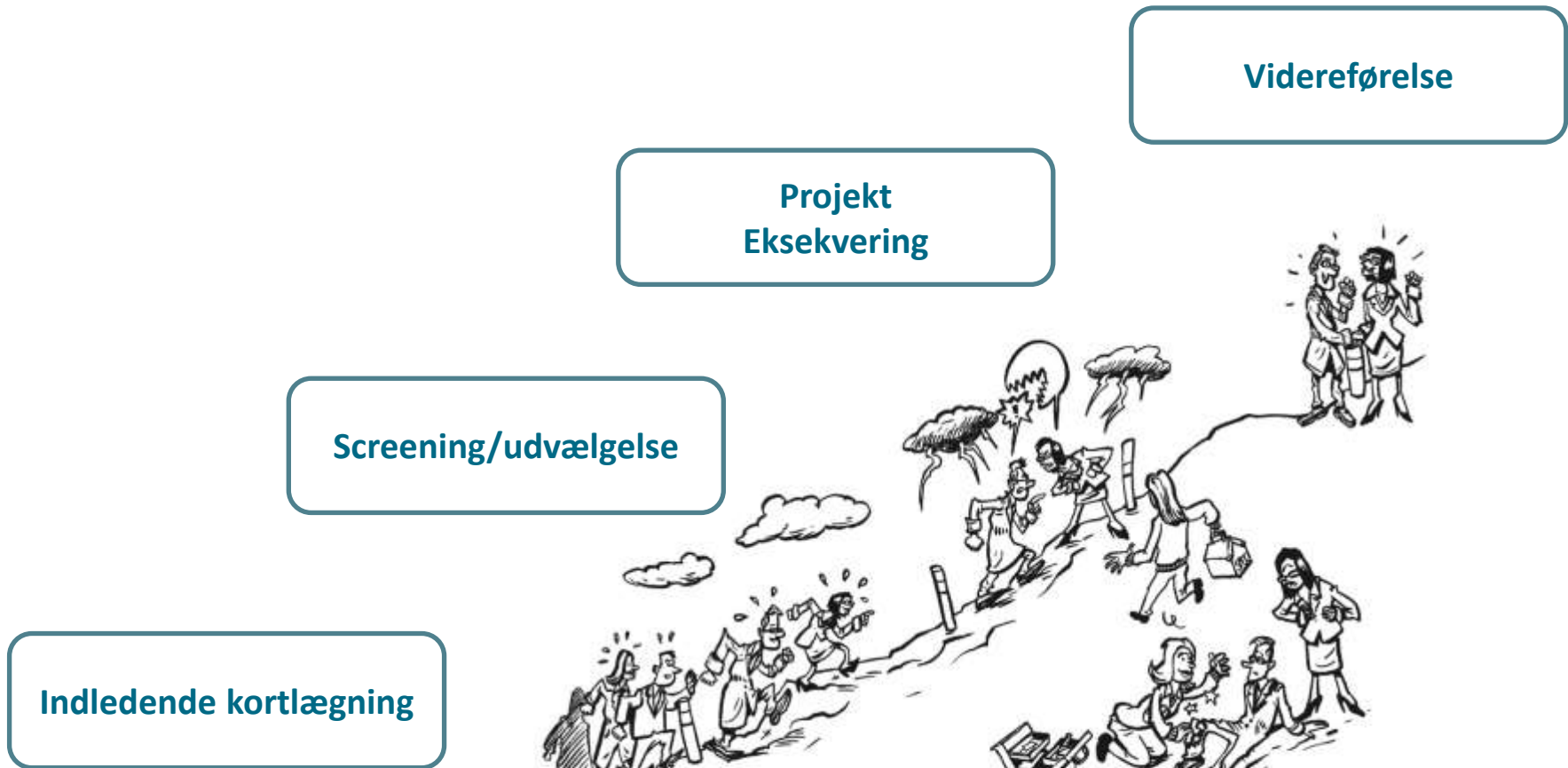


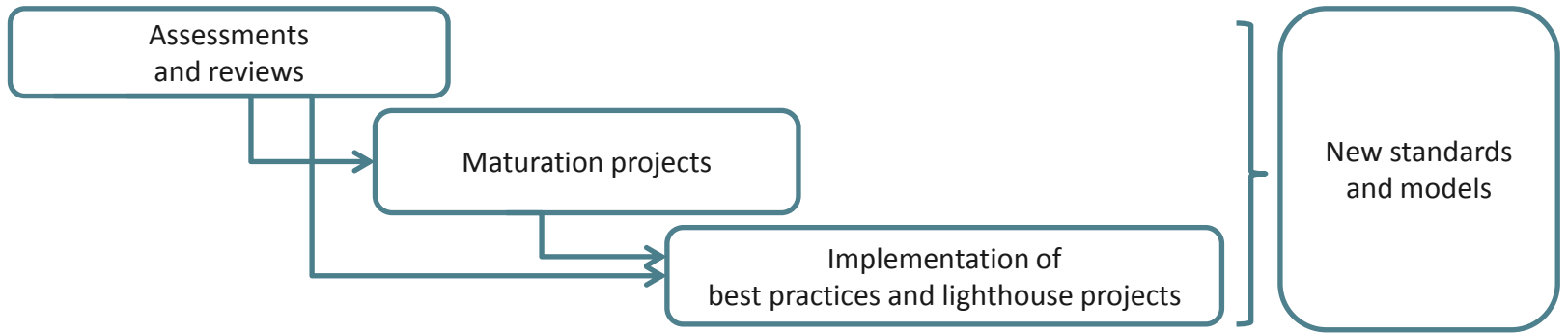
Prioritisation framework for
strategic investments in
innovation ready
Fall 2013

Innovation Fund DK
invests DKK 50m
February 2015

DRIP Kick-off
Maj 2015

Fra ideer til projekter





Work Package	Phase 1	Phase 2	Phase 3	Outcomes
WP1 Regulation	National/EU regulation DVFA 3rd countries regulation DAFC Non-regulatory barriers DAFC	Ad hoc risk assessments DTU Food	Ad hoc risk assessments DTU Food	National guides DTU Food EU BREF standards DEPA EU water reuse standards DNA
WP2 Mapping and system analyses	Pre-assessment DHI	System analysis DHI	Scenario development DHI Quick-scan water efficiency assessment DHI Sustainability assessment DTU Env.	
WP3 Production lines, closed loops	Review of state-of-art DHI	Production technology DHI Reclamation and recycling Ultraaqua		
WP4 Cleaning	Review of state-of-art Alfa Laval	CIP cleaning Alfa Laval Open systems DMRI		
WP5 Wastewater and symbiosis	Review of state-of-art DHI	Treatment and reuse scenarios Ultraaqua Industrial symbiosis Ultraaqua		
WP6 Monitoring and control systems		HACCP based risk assessments KU Monitoring technologies DTU Env. Application of PAT KU		Support decisions in WP1 DTU Food
WP7 Best practices and lighthouses	Identification of best practices Grundfos		Best practice solutions Grundfos Lighthouse solutions Grundfos	
WP8 Business models	Review of current practices CBS		Validate business models CBS Commercialisation Alfa Laval	New business models CBS Other sectors TI, Grundfos

Water efficient industrial food production

Competitiveness, food safety, environment

- Krav til fødevarer sikkerhed giver stort vandforbrug i fødevarerhvervet
- L&F i spidsen for partnerskab med ambitiøse mål for vandbesparelser
- Stor satsning til 100 mio. kr. skal give
 - Lavere miljøbelastning
 - Forbedret konkurrenceevne
 - Fastholdt høj fødevarer sikkerhed
 - Nye standarder og smidige regler