

Welcome to DKLA

Public Utility without equal in the US

Program Thursday April 29th from 17.00-18.00

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|----------------|---|
| 17.00 - 17.05: | Welcome
/Kurt Bennetsen, Erhverv Norddanmark – Chamber of Commerce |
| 17.05 - 17.25: | LADWP's Sustainability Goals
Nancy Sutley, LADWP |
| 17.25 - 17.45: | A holistic approach to Water supply and wastewater management
Chairman Lasse Frimand Jensen, Aalborg Water |
| 17.45 - 17.55 | Dialogue and questions |
| 17.55 - 18.00: | Summary and the next webinars
Erhverv Norddanmark – Chamber of Commerce and AXEL |

Remember

- Mute your microphone
- Raise your hand or write in the chat, if you have any questions or comments
- Or write to: kurt@erhvervnorddanmark.dk



The DKLA Partnership:



ERHVERV
NORDDANMARK
CHAMBER OF COMMERCE



AXEL



WORLD TRADE CENTER®
LOS ANGELES



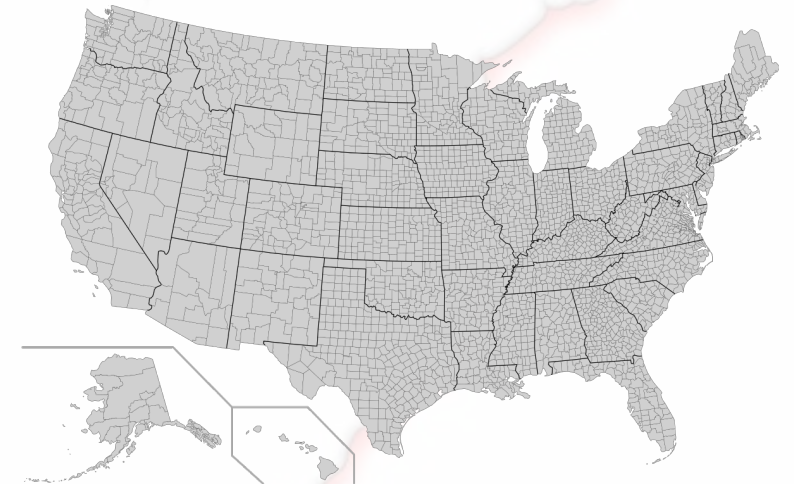
Energistyrelsen

GOAL and Background:

***DKLA is a public-private partnership, financed by the Danish Energy Agency.
The Mission is to connect technology, solutions, know-how, culture and people/companies
from Denmark with the city of Los Angeles, who has the most ambitious sustainability agenda in the US.***



One BIG Market



3 physically separate areas, 50 states, 3141 counties, 10814 VAT regions and 39044 municipalities

Los Angeles Department of Water & Power
Sustainability Goals,
Nancy Sutley

Welcome to Los Angeles



Ms. Nancy Sutley

NANCY H. SUTLEY, Chief Sustainability Officer and Senior Assistant General Manager of External and Regulatory Affairs.

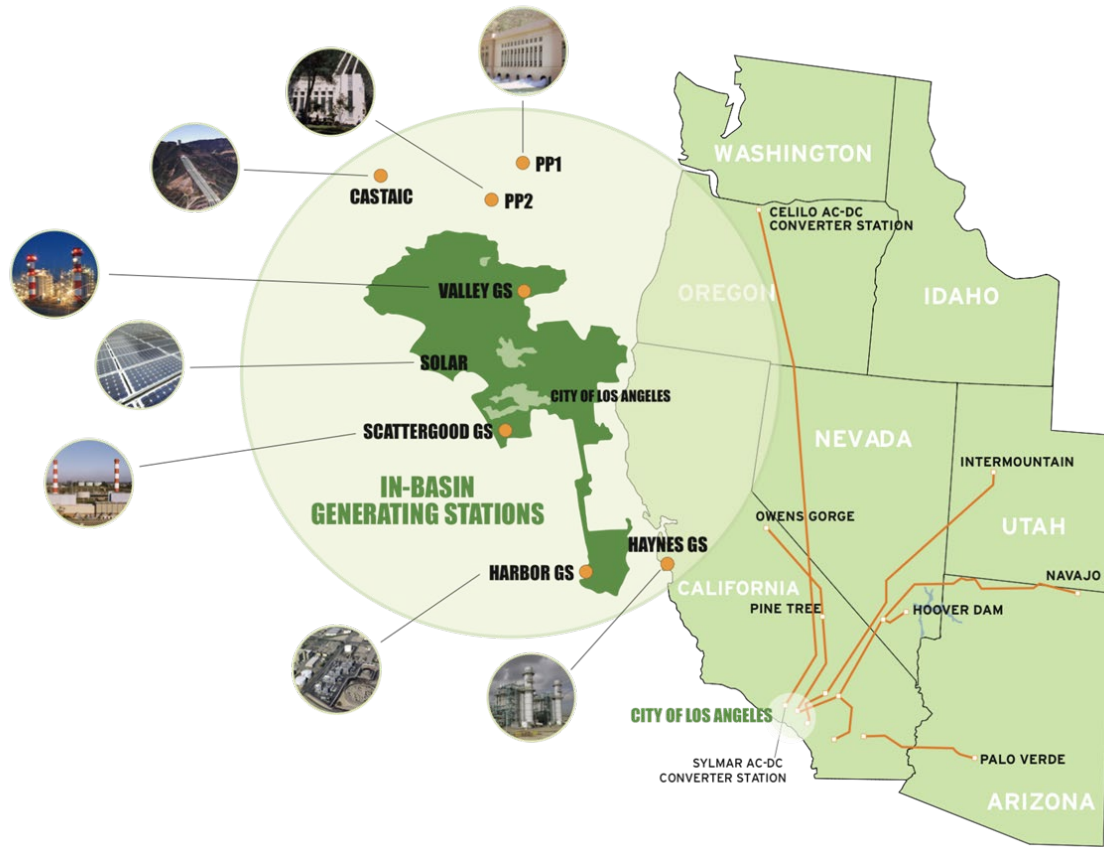
Ms. Sutley was named Chief Sustainability Officer in 2014 and assumed the role of Senior Assistant General Manager of External and Regulatory Affairs in October 2019. Prior to joining the Department, Ms. Sutley served as Chair of the White House Council on Environmental Quality. Under her leadership, the Council played a central role in shepherding the Obama Administration's signature environmental projects and was one of the chief architects of President Obama's 2013 Climate Action Plan. Ms. Sutley has an extensive background in public service that includes posts as Deputy Mayor for Energy and Environment for the City of Los Angeles, Board Member of the Metropolitan Water District, Member of the California State Water Resources Control Board, Energy Advisor for California Governor Gray Davis, Deputy Secretary for Policy and Intergovernmental Relations at the California Environmental Protection Agency, and Senior Policy Advisor for the United States Environmental Protection Agency during the Clinton Administration. Ms. Sutley holds a bachelor's degree from Cornell University and a Master of Public Policy degree from Harvard University



Los Angeles Department of Water and Power

The nation's largest municipal electric utility, began delivering electricity in Los Angeles in 1916

LADWP provides more than 8,000 megawatts of electric capacity and serves an average of 436 million gallons of water per day to the more than 4 million residents of Los Angeles.



Power System Quick Facts:

- In 2020 LADWP has approx. 38% RPS
- LADWP has been ranked the number one solar City in the US since 2017
- LADWP is building the nation's first hydrogen plant in Utah for operation in 2025
- In cooperation with NREL, LADWP completed a 100% renewable study – the first detail plan of its kind to meet LA's electrification and clean grid goals.
- In 2020, Los Angeles had over 10,000 commercial chargers – meeting goals over two years ahead of schedule.

LADWP is a Vertically Integrated Utility

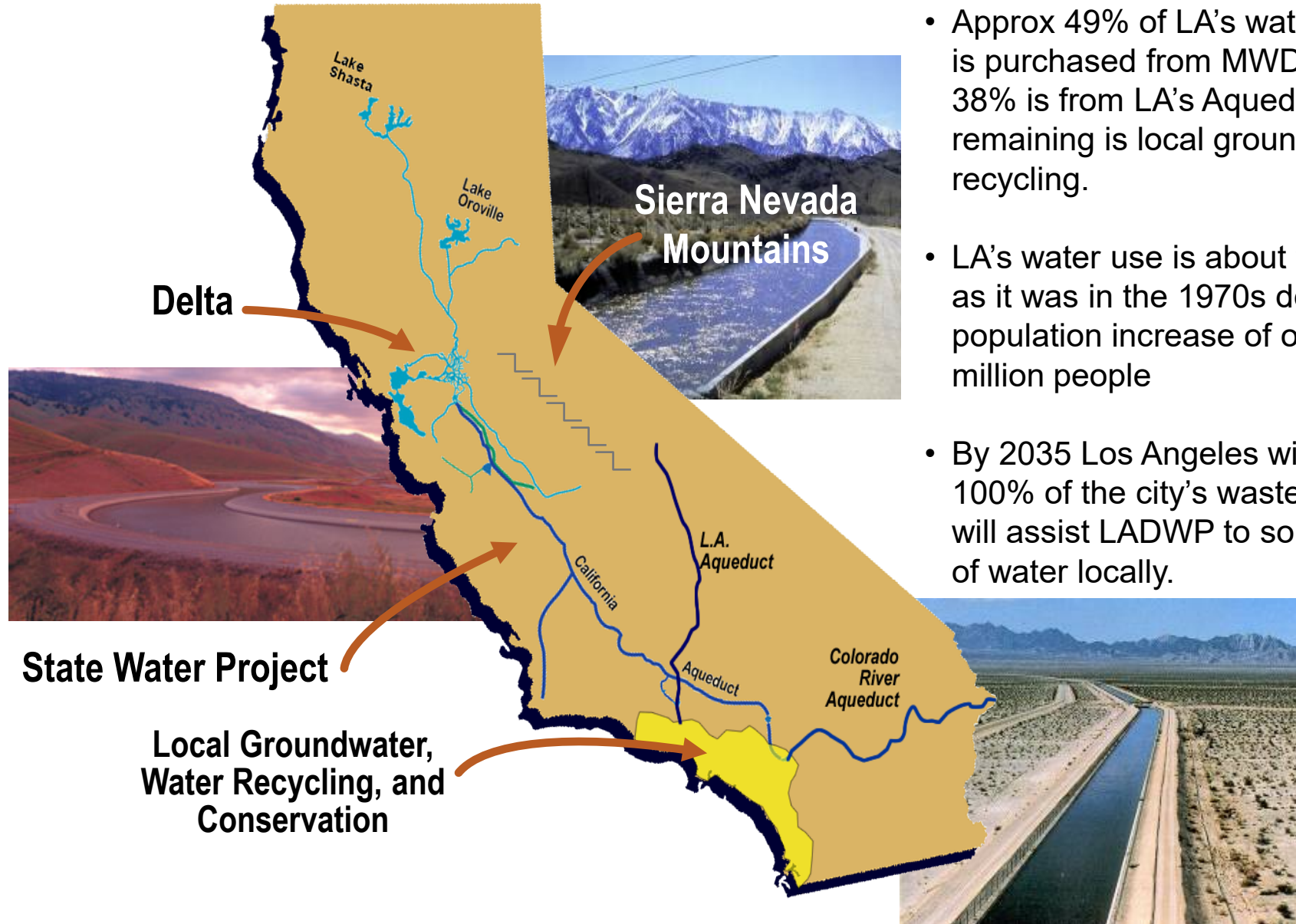


Los Angeles Department of Water and Power Water System

Average Daily Use of per Capita is approx. 105 gallons

Water System Quick Facts:

- Approx 49% of LA's water supply is purchased from MWD, Approx 38% is from LA's Aqueduct and the remaining is local groundwater and recycling.
- LA's water use is about the same as it was in the 1970s despite a population increase of over 1 million people
- By 2035 Los Angeles will recycle 100% of the city's waste water that will assist LADWP to source 70% of water locally.



A holistic approach to water supply and waste water management

- How we supply drinking Water and clean / reuse waste water in Aalborg
Utilities

Aalborg Utilities

Lasse Frimand Jensen

Chairman Aalborg Vand A/S

Watersupply & Wastewater



A holistic approach to Water supply and wastewater management

By Lasse Frimand Jensen, Chairman of the board in Aalborg Utilities



Topics: Water, Water and Water



Rain



Drinking Water



Wastewater

A few things You should know about the Danish approach

- In Denmark we have a history for cooperative solutions – also when it comes to water and energy supply
 - Wastewater utilities are all public owned in Denmark, as non-profit companies
 - The major part of drinking water utilities are also public owned non-profit companies. Some drinking water utilities are private owned, but still based on a principle of non-profit
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- It rains a lot in Denmark (765 mm every year)
 - We don't use rainwater, but we need to control it to prevent damage/inconvenience in urban areas
 - We have “enough” drinking water - but some of our ground water sources are challenged by pesticides in the long term, due to former use of pesticides



Just to compare...

LADWP:

Publicly owned utilities - non-profit.

Serving over 4 million residents

Water and energy supply

Water-supply:

Surface water /Aqueducts

Recycled water

Groundwater experiments (San Fernando)

Aalborg Utilities:

Publicly owned utilities - non-profit.

Serving 213.000 residents with drinking water and
217.000 residents with wastewater treatment

Water and energy supply

Water supply:

100% Ground water sources. 12 source sites and
approx. 55 drill holes.

Water loss less than 10%

Some of the best drinking water in DK – no treatment is
needed (yet...)

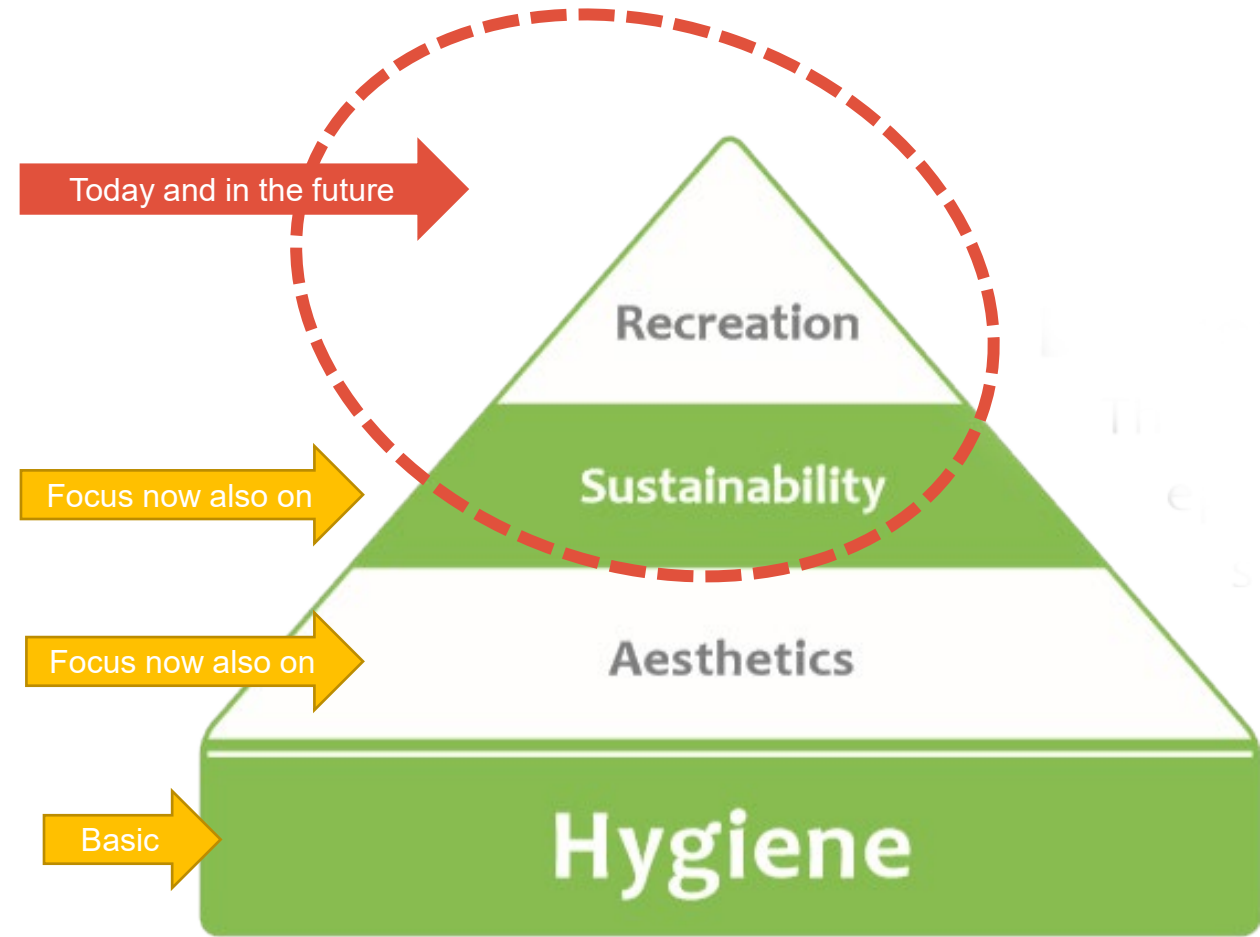
Our Journey in more than 150 years as provider of public health and welfare

Now: Circular economy – Urban growth – 17 SDG

1990: Sustainable production (efficiency, minimize water loss and leakage of wastewater to the environment)

1960: Urban growth – aesthetics in local environment

1850: Basic health (separating drinking water from sewer system, elimination on Cholera and Disease caused by poor water quality and Bacteria)





The Key to succes

What did we do to become a high performing company ?

We believe it's all about:

- Data and active use of quality data
- Knowing when to seek advice from highly skilled experts
- Investing in new technologies, even though the short-term business case could be better
- Finding Synergy between the water and energy sector

Wastewater only

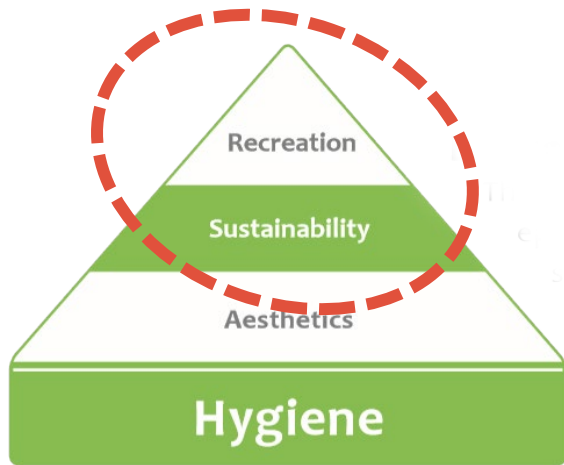
- Planning period for 100 years (!) – “Vision 2100”
- Change of mindset: Wastewater = resource, not waste
- Separation of rainwater and wastewater in two pipes, stabilizing flow in wastewater pipes.
- Central Waste-water treatment in high performing plants
- Decentralized rainwater management

Drinking Water only

- Protecting groundwater sources through Afforestation and restricted Cultivation in agricultural land
- More than 150 years of experience analyzing, mapping, using and protecting ground water resources.

Now and coming up....

CO₂



In Aalborg Utilities:

- We are already CO_{e2} neutral in the water section (CO_{e2} positive, actually ☺) and has been since 2016
- Our water loss (10%) is too high due to old pipes, Primarily in the oldest city center – reinvestments needed
- Finding and developing more ground water sources, protecting the existing from pesticides
- 67% of our area has separated waste- and rainwater system...the maintaining 35% will be separated before 2065
- The use of rain in – “climate parks” for recreation and biodiversity

In our business relations:

- Implement UNGPs (human rights, environment and the prevent of Money laundering)
- The 17 WDG's

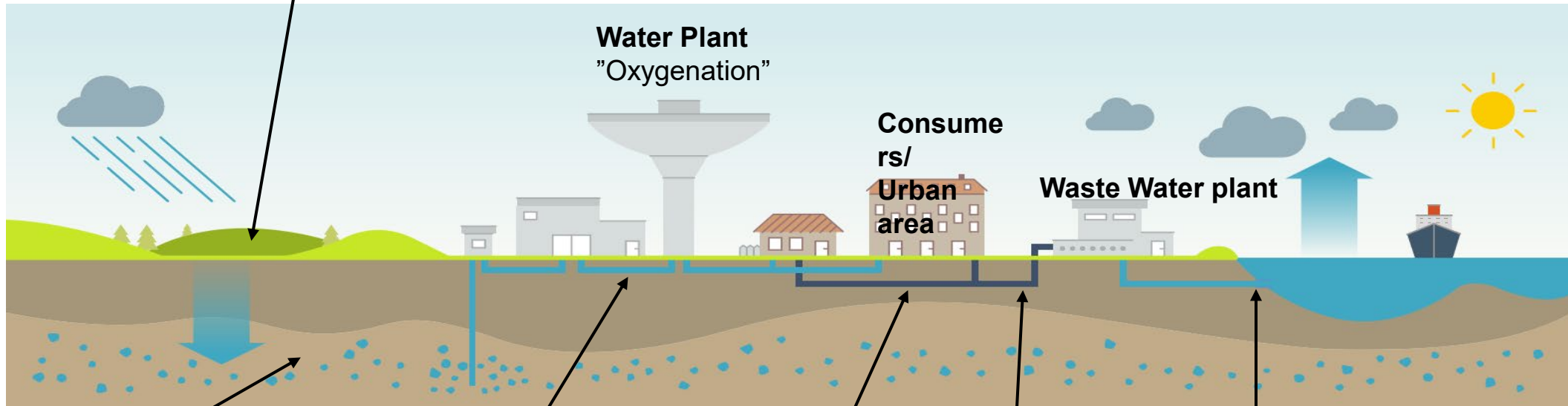


This is our mission today

We protect ground water sources through Afforestation and restricted Cultivation in agricultural land

We are planning the development of our facilities together with the city's development

We develop new solutions together with universities and advisors



We use ground water sources as drinking water - and we don't pay for it

We own the piping and the water plants

Rain Water is cleaned locally in climate parks.

Waste Water
We own the piping and pumping stations

Cleaning process in central Waste Water Utility.

When Waste water is cleaned (Biological and Mechanical) it is led back to nature



Water supply in Aalborg Utilities

Drinking water

Based on ground water sources (we don't use surface-water)

No need for cleaning the water



We supply water to most of the urban area in Aalborg and a number of smaller towns

- 12 source sites and approx. 55 drill holes
- 6.6 million m³ of clean drinking water per year
- 113,000 consumers
- 827 km. piping
- Water loss less than 10%

Sewerage and wastewater resources in Aalborg

We strive to:

- Maintain a satisfactory wastewater management and low health risk
 - Maintain a high security of supply with regard to wastewater
 - Achieve an even better water environment and good bathing water
 - Address the negative effects of climate change
 - Reduce energy consumption in wastewater management
 - Separate sewerage (67 %)
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- We are CO₂e Positive and has been so since 2016.

Future Events

- ~~• Introduction to DKLA Program~~ ~~March 2nd~~
- ~~• Business First – Approaching and Engaging with the US~~ ~~March 30th~~
- ~~• Leading the Sustainability Revolution in the US~~ ~~Apr 15th~~
- ~~• Public Utility Without Equal in the US~~ ~~Apr 29th~~
- Electricity to 15 Million Users May 11th
- Commitment møde – STARTUP CAFÉ appx. Aug 20th
- Select LA Oct 20-21st

Read more at our landing page at www.erhvervnorddanmark.dk
International → DKLA – Export to the US

<https://bit.ly/3dkn9KX>

Questions ?

The view from the back of Hollywood-POSTER
towards Los Angeles
“A slightly different angle”

