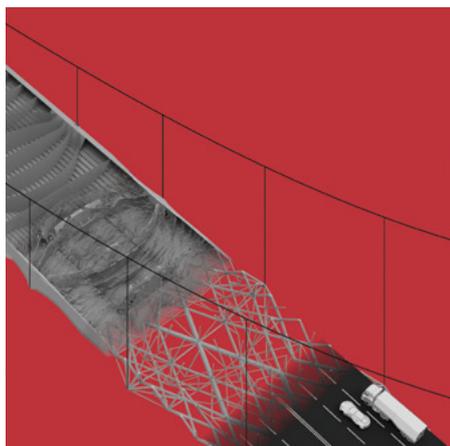
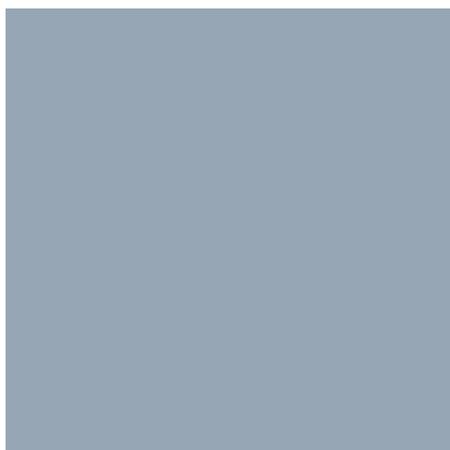
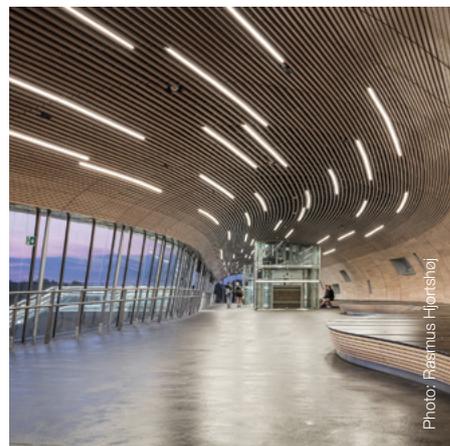


# ANNUAL REPORT | 2019

CBR NO. 50 49 78 28



The annual report was presented and approved at the COWIfonden board meeting on 27 May 2020.

Chairman  
ANTON PETERSEN

**COWIfonden**  
Parallelvej 2, 2800 Kongens Lyngby



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# STATEMENTS

## STATEMENT BY THE BOARD OF DIRECTORS

Today, the Board of Directors considered and approved the annual report for the financial year 1 January – 31 December 2019 of COWIfonden.

The annual report has been prepared in accordance with the Danish Financial Statements Act. In our opinion, the accounting policies applied are appropriate and the accounting estimates made are adequate.

In our opinion, the annual report gives a true and fair view of COWIfonden's assets, liabilities and financial position as of 31 December 2019 and the results of COWIfonden's activities for the financial year 1 January – 31 December 2019 in accordance with the applied accounting policies.

In our opinion, the management's review gives a fair and true view.

Kongens Lyngby, 27 May 2020

### BOARD OF DIRECTORS:

ANTON PETERSEN  
Chairman

MARTIN P. BENDSØE  
Vice Chairman

SUZANNE C. BECKMANN

EJGIL MARTIN VEJE

ANDERS JACOBSSON

TINA VEJRUM

HEIDI LUND HANSEN

KRISTIN SANDBERG

KENNETH C. KLEISSL

## INDEPENDENT AUDITOR'S REPORT

To the board of COWIfonden and the foundation authority

### OPINION

In our opinion, the financial statement gives a true and fair view of the financial position of COWIfonden's assets, liabilities and financial position as of 31 December 2019 and of the results of COWIfonden's activities for the financial year 1 January 2017 – 31 December 2019 in accordance with the Danish Financial Statements Act.

We have revised the financial statement for COWIfonden for the financial year 1 January – 31 December 2019, which covers applied accounting practices, profit and loss account, balance and notes ("the financial statement").

### BASIS FOR OPINION

We have carried out our audit in accordance with international standards on auditing and additional requirements applicable in Denmark. Our responsibility pursuant to said standards and requirements are elaborated in the section "Auditor's responsibility". We are independent of COWIfonden in accordance with the international code of ethics for professional accountants (IESBA's Code of Ethics for Professional Accountants) and the additional requirements applicable in Denmark, just as we have met our other ethical obligations in relation to these rules and requirements. In our opinion, the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### STATEMENT ON THE MANAGEMENT'S REVIEW

The management is responsible for the management's review.

Our opinion on the financial statement does not include the management's review and we express no certain opinion about the management's review.

In relation to our audit of the financial statement, we are responsible for reading the management's review and, in that context, consider whether the management's review is materially inconsistent with the financial statement or

our knowledge obtained during the audit or in any other way appears to contain material misstatement.

In addition, it is our responsibility to consider whether the management's review contains the information required by the Danish Financial Statements Act.

Based on the work carried out, it is our opinion that the management's review is consistent with the financial statement and prepared in accordance with the requirements of the Danish Financial Statements Act. We have not found any material misstatement in the management's review.

### MANAGEMENT'S RESPONSIBILITY FOR THE FINANCIAL STATEMENT

The management is responsible for the preparation of a financial statement that gives a true and fair view in accordance with the Danish Financial Statements Act and for such internal control as the management deems necessary to enable the preparation of a financial statement that is free from material misstatement, whether due to fraud or error.

At the preparation of the financial statement, the management is responsible for assessing COWIfonden's ability to continue operations; for stating issues relating to continued operation, if relevant; and for preparing the financial statement on the basis of the accounting principle of continued operation, unless the management either intends to liquidate COWIfonden, to cease operations or has no other realistic alternative than doing so.

### AUDITOR'S RESPONSIBILITY

Our objective is to achieve a high degree of certainty that the financial statement as a whole is free from material misstatement, whether due to fraud or error, and to provide an auditor's report with an opinion. A high degree of certainty is a high level of certainty, but not a guarantee that an audit carried out in accordance with international accounting standards and additional requirements applicable in Denmark always uncovers material misstatement, where such exists. Misstatements may occur as a result of fraud or error and may be considered material if it is fair to expect that, individually or together, they affect the financial decisions made by users on the basis of the financial statement.

As part of an audit carried out in accordance with international standards on auditing and additional requirements applicable in Denmark, we perform professional assessments and maintain a professional scepticism during the audit. In addition:

- We identify and assess the risk of material misstatement in the financial statement, whether due to fraud or error, plan and perform audit procedures as a response to such risks, as well as obtain audit evidence that is sufficient and suitable for forming the basis for our opinion. The risk of not discovering material misstatement caused by fraud is higher than for material misstatement caused by error, since fraud may include conspiracy, forgery, deliberate omission, misleading information or non-observance of internal control.
- We gain an understanding of the internal control relevant to the audit in order to plan suitable audit procedures, given the circumstances, but not to express an opinion on the effectiveness of the internal control of COWIfonden.
- We decide whether the accounting principles applied by the management are suitable, and whether the financial estimates and related information prepared by the management are fair and true.

Hellerup, 27 May 2020

**PricewaterhouseCoopers**

Statsautoriseret Revisionspartnerselskab

CBR no. 33 77 12 31

JESPER MØLLER LANGVAD

State-authorized public accountant

mne21328

- We conclude whether the management's preparation of the financial statement based on the accounting principle of continued operation is appropriate, and whether, based on the audit evidence obtained, events or conditions are subject to any significant uncertainty, which may give rise to doubts as to COWIfonden's ability to continue operation. If we conclude that there is a significant uncertainty, we must, in our auditor's report, draw attention to such information in the financial statement, or, if such information is not sufficient, we must modify our opinion. Our opinion is based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may entail that COWIfonden is no longer able to continue operation.
- We consider the overall presentation, structure and content of the financial statement, including information in notes, and whether the financial statement reflects the underlying transactions and events in such way that a true and fair view is presented.

We communicate with the top management, among other things about the planned scope and the time for the audit as well as significant audit observations, including any significant deficiencies of the internal control identified during the audit.



# MANAGEMENT'S REVIEW

## INFORMATION ABOUT COWIFONDEN

NAME AND ADDRESS:  
COWIfonden, Parallevej 2,  
2800 Kongens Lyngby, Denmark

## BOARD OF DIRECTORS AND ADMINISTRATION

COWIfonden is headed by a board of directors with nine board members, of which six are appointed, two

are elected by the employees in the Danish part of the COWI Group, pursuant to the Danish Companies Act, and one member is elected by the employees in the Swedish or Norwegian part of the COWI Group. Four of the six appointed members must hold or have held executive positions in the COWI Group. The two remaining members are appointed among recognized, independent persons outside the COWI Group.

The board of directors holds four ordinary meetings a year.

In accordance with recommendations 2.3.4 and 2.4.1 under "Report on foundation governance", the following can be said about the board members:



### ANTON PETERSEN CHAIRMAN

- Former Regional Vice President of COWI's major business line, Bridge, Tunnel and Marine Structures (BTM), born in 1950.
- Member of the board of COWIfonden for two terms – from 1998 to 2001 and from 2009 to 2012 – and Chairman since January 2015.
- Special competencies: In-depth knowledge of COWI, both technical from the field of bridges, tunnels and marine structures, and managerial from line management, based on 39 years of continued employment until the end of 2014. For 15 years, head of Bridge, Tunnel and Marine Structures in COWI, thereby acquiring solid international business and management experience. Broad experience with board duties from his positions as chairman of BTM subsidiaries and board member for several terms for multiple Danish companies (Dansk Konstruktions- og Betoninstitut, Danish Steel Institute (DSI), IABSE Danmark, and Dansk Selskab for Bygningsstatik).
- Not independent.



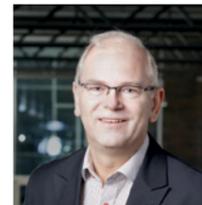
### MARTIN P. BENDSØE VICE CHAIRMAN

- Doctor of Technical Sciences, former SVP, Dean and Professor at the Technical University of Denmark (DTU), born in 1955.
- Member since May 2012, Vice Chairman since May 2013.
- Special competencies: National and international relations in research, education and innovation, especially in engineering.
- Other directorships: Member of the boards of Fondation Idella, Fonden Grethe og Werner Parthums Legat and Frederiksberg Gymnasium.
- Independent.



### SUZANNE C. BECKMANN MEMBER

- MSc in Social Sciences, Director/partner in own consultancy company, 30 years as researcher and teacher at the Aarhus School of Business and Social Sciences, the University of Southern Denmark, and most recently as professor at the Copenhagen Business School for 20 years until 2016, born in 1959.
- Member since May 2018.
- Special competencies: international board experience, strategy and management, corporate social responsibility (ESG/CSR/SDGs), marketing management, research donations in public and private contexts.
- Other directorships: member of a portfolio of Danish and international committees, steering groups and boards.
- Independent.



### EJGIL MARTIN VEJE MEMBER

- Senior Project Director, born in 1954.
- Member since 2017.
- Special competencies: Extensive line management and project management experience from large international construction projects, as well as thorough knowledge of COWI from 37 years of employment.
- Other directorships: Member of the board of COWI Korea.
- Not independent.



## ANDERS JACOBSSON

### MEMBER

- Managing Director AEC AB/Senior Vice President, Buildings, COWI AB, Sweden, born in 1972.
- Member since May 2019.
- Special competencies: Extensive knowledge and experience with line management and business development from several managing positions in the COWI Group.
- Other directorships: Former member of the board of Vianova AB (today, Vianova is part of Trimble) and COWI Management AB. Member of the board of COWI Projektbyrå AB.
- Not independent.



## TINA VEJRUR

### MEMBER

- Vice President of Bridges International, born in 1968.
- Member since May 2019.
- Special competencies: Extensive experience in line management and project management as well as business development. In-depth knowledge of COWI's international infrastructure business. Vast international network.
- Other directorships: Member of IABSE Executive Committee (International Association of Bridge and Structural Engineering). Chairman of the Danish IABSE section. Member of the editorial staff of the professional magazine Structural Engineering International. Member of the organisational committee and scientific committee of numerous international conferences.
- Not independent.



## JESPER KJØLHOLT

### EMPLOYEE-ELECTED

- Chief Specialist and Chief Project Manager, Water and Environment, COWI A/S, Denmark, born in 1955.
- Member for the period 1994-2002, re-joined the board in May 2007 and elected anew in 2010.
- Retired from the board of COWIfonden in September 2019.
- Special competencies: Thorough knowledge of the fields of water and environment as well as chemicals, and experience with R&D and international projects.
- Miljø- og Fødevareklagenævnet (Environmental and food appeals board), appointed expert member (industry) since 2017.
- Not independent.



## HEIDI LUND HANSEN

### EMPLOYEE-ELECTED

- Chief Project Manager, Project Management Consultancy and Architecture, COWI Denmark, born in 1970.
- Member of the board of COWIfonden from 2012 to 2014, elected as alternate in 2014 and elected anew in 2016.
- Special competencies: Knowledge of client consultancy, competition consultancy and process consultancy. Industrial PhD. Special knowledge of COWI's business, especially sales activities. Knowledge of employee issues.
- Not independent.



## KRISTIN SANDBERG

### EMPLOYEE-ELECTED

- Vice President, Civil West, COWI in Sweden, born in 1976.
- Member since May 2017.
- Special competencies: With an MSc in Civil Engineering from Chalmers, Sweden, in roads and marine structures, and 19 years of employment with COWI Sweden, Kristin has acquired unique competencies in geotechnical and foundation engineering, both technical and managerial.
- Other directorships: Former member of the board of SGF Väst (Sweden's geotechnical association, department west). Member of the board of Flygfältsbyrå AB (incl. FB Engineering AB, FB Engineering AS i Norge and AEC AB) from 2003 to 2009 (In 2009, Flygfältsbyrå became COWI AB).
- Not independent.



## KENNETH C. KLEISL

### EMPLOYEE-ELECTED

- Senior Specialist and AI Lead, Department of Bridges International, COWI in Denmark, born in 1984.
- Member since 2019.
- Special competencies: Innovative and technically strong profile in structural bridge design with experience in digital transformation, and specialised in artificial intelligence/machine learning and data-driven science. Background as PhD advisor in connection with industrial PhD projects, patent inventor as well as head of professional network in concrete design.
- Not independent.

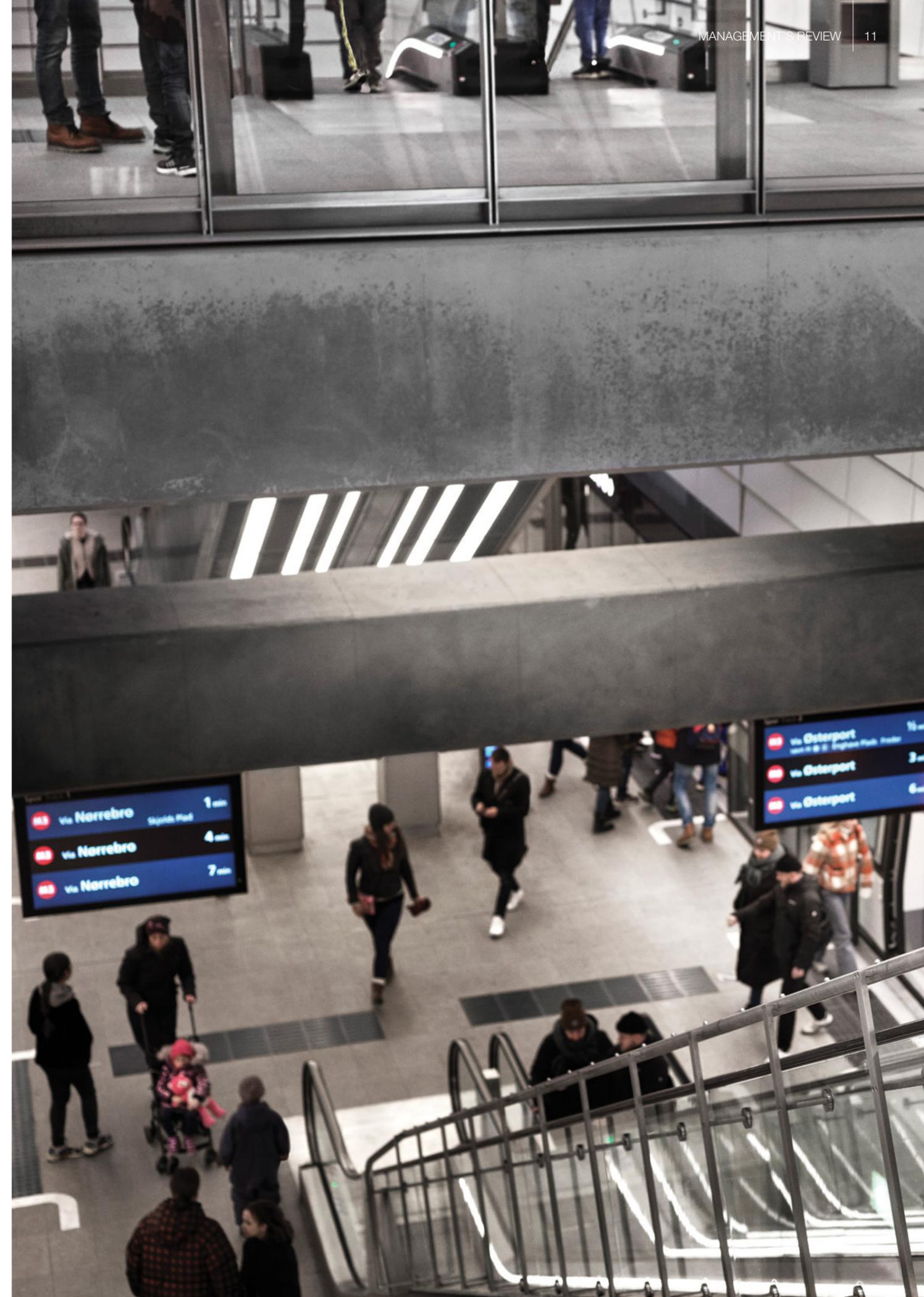
The administrative processing of applications for donations is handled by the technical and administrative secretary, who also acquires expert testimonies, when needed. Qualified applications are assessed by an evaluation committee set up by the board of COWIfonden. Applications are presented for the approval or rejection of the joint board of directors.



**JOAN MAJ NIELSEN**  
TECHNICAL AND ADMINISTRATIVE SECRETARY

Board members are eligible for re-election, but are to resign at the first board meeting of COWIfonden following the annual general meeting of COWI Holding A/S after the end of the financial year when they turn 70.

Also see COWIfonden's website, [www.cowifonden.dk](http://www.cowifonden.dk), for further information about COWIfonden's activities.



## COWIFONDEN'S PURPOSE

The purpose of COWIfonden can be stated as follows:

- The foundation is to support and expand the COWI Group.
- The foundation is to work to strengthen the reputation of Danish engineering.
- The foundation may use the means available to increase the share capital in COWI Holding A/S.
- The foundation may support the further education and research of engineers.
- The foundation may support the further education and research of other academics, especially in technical, economic or social disciplines, or, in special cases, other scientific or artistic purposes, relating to the activities of the COWI Group.

## COMPETENCIES AND DIVERSITY ON THE BOARD OF COWIFONDEN

Prior to appointing new board members, the board of COWIfonden prepares a profile of the competencies needed on the board. In addition, COWIfonden has prepared a diversity policy, which sets out targets on gender and geography in terms of board makeup. As a result, at least two out of six appointed board members are to be of the same gender, and at least one of the internally appointed (not external) members is to come from a non-Danish subsidiary. At the end of 2019, COWIfonden meets these targets.

## INVESTMENT POLICY

COWIfonden has adopted an investment policy covering COWIfonden's investments in securities in order to ensure that it invests in companies that have a business-oriented mindset, that exercise a high professional and ethical standard in all regards, and that meet the values of COWIfonden. The investment policy is evaluated/updated once a year for final approval by the board of the COWIfonden. In 2018, COWIfonden also professionalised the administration of COWIfonden's available capital by engaging a professional investment advisor and setting up an investment and audit committee.

## DONATIONS

COWIfonden wants to support projects with a high technical level and long-term perspective. To promote this objective, COWIfonden has adopted a donation policy, which entails, among other things, that projects are granted a suitable overhead to cover expenses beyond direct salary expenses. The size of the overhead

granted is published on COWIfonden's website. In 2019, we granted an overhead of DKK 175 per hour for salary costs, and for other project-related costs, we accepted an overhead contribution of up to 20 per cent. The award of donations complies with COWIfonden's donation policy, which is stated below.

## DONATION POLICY

Referring to sections 2 and 4 of the charter, the board of COWIfonden has adopted the below guidelines, which form the basis for COWIfonden's processing of applications and potential design of innovative research projects. The guidelines can be summed up as follows:

- When awarding donations, priority is given to recipients from countries where the COWI Group is established. Priority is also given to development of projects regarding the professional activities of the COWI Group.
- Universities, research institutions, well-established organisations or individuals are eligible for donations. The activities receiving support are normally to be anchored in a professional environment.
- Large-scale thematic donations can be awarded to innovative research projects or programmes that stretch over several years, preferably with several parties contributing financially and participating actively in the project. A business unit of the COWI Group can participate in such multidisciplinary projects. Smaller donations can be awarded to narrow purposes and individuals, although with a long-term perspective.
- Projects worthy of support are characterised by high technical competencies, long-term value to society and social responsibility.
- The results of projects or activities supported by COWIfonden are to be publicly accessible and, preferably, contribute to COWI's good reputation.

## FINANCIAL DEVELOPMENT IN 2019

Profit of the year before taxes amounted to DKK 97,426,000.

As of 31 December 2019, COWIfonden owns 82.2 per cent of the shares in COWI Holding A/S, corresponding to a booked cost price of DKK 61,404,000. Stated according to the net asset value method, the share portfolio would amount to DKK 1,093,080,000. In 2019, COWIfonden received dividend from COWI Holding A/S of DKK 48,309,000, which is recognized with COWIfonden.

The donations pledged in that period make up DKK 13,420,000, consisting of DKK 13,515,000 of donations awarded and DKK 95,000 of donations reversed.

The profit of the year after donations and regulation of the frame of donations amounts to DKK 79,315,000, which is proposed to be carried over to the revenue reserves. The total net capital (net asset value) then makes up DKK 282,432,000, of which the base capital makes up DKK 20,000,000.

COWIfonden states COWI Holding A/S shares at cost price. If the shares of COWIfonden were stated at the percentage of COWI Holding A/S's net capital (net asset value), the net capital of COWIfonden would amount to DKK 1,311,987,000.

In connection with COWI's employee share sale, 97,500 shares for COWI Holding A/S were bought or sold during the April trading window.

## EVENTS AFTER THE BALANCE SHEET DAY

After the balance sheet day, no events occurred that significantly affect the evaluation of the annual report.

## EXPECTED DEVELOPMENT

COWIfonden's result for 2020 is expected to be in line with the result for 2019.

Report on foundation governance pursuant to the Danish Financial Statements Act, § 77a.

	RECOMMENDATION	COMPLIANCE
1	Transparency and communication	
1.1	It is recommended that the board of directors adopt guidelines for external communication, including who can make public statements on behalf of the foundation and on what matters.	COWIfonden complies with the recommendation. COWIfonden has a website, which communicates, e.g., news and matters relating to donations. In its rules of procedure, COWIfonden states that only the chairman is to make public statements.
2	Tasks and responsibilities of the board of directors	
2.1	Overall tasks and responsibilities	
2.1.1	It is recommended that, in order to secure the activities of the commercial foundation in accordance with the purposes and interests of the foundation, at least once a year the board of directors take a position on the overall strategy and distribution policy of the foundation on the basis of the articles of association.	COWIfonden complies with the recommendation. COWIfonden has adopted a strategy "Purpose, values, vision and donation policy", which was approved by the board of directors in 2017. Once a year, a status report is prepared on implementation of the overall strategy, subject to the processing and approval of the board of COWIfonden. The donation policy is included in the overall strategy, and once a year the frame for donations is determined as part of the budgeting.
2.2	Chairman and vice-chairman of the board of directors	
2.2.1	It is recommended that the chairman of the board of directors organise, convene and chair meetings of the board of directors in order to ensure effective board work and to establish the best conditions for the work of the board members individually and collectively.	COWIfonden complies with the recommendation. The job description for the chairman is part of the rules of procedure for COWIfonden. It clearly defines that the chairman organizes, convenes and chairs board meetings.

COWIfonden's expectations for the future are negatively affected by the Covid-19 outbreak and the measures that most governments across the world have implemented to mitigate the impact of the outbreak, cf. the mention of events after the balance sheet day in note 10. However, it is too soon to say anything about the scope of the negative consequences for COWIfonden's expectations.

COWIfonden's management has attempted to assess the impact of Covid-19 on the operation and activities of COWIfonden, but it is too soon to say anything about the scope of the negative consequences. Therefore, the management does not consider itself able to provide reliable expectations for the future, cf. the Danish Financial Statements Act, § 12.

## STATEMENT ON FOUNDATION GOVERNANCE

COWIfonden complies with all recommendations for foundation governance, except for recommendation 3.2, cf. the table below.

RECOMMENDATION	COMPLIANCE	
2.2.2	<p>It is recommended that if, in addition to the position as chairman, in exceptional circumstances, the chairman of the board of directors is requested to perform specific operating functions for the commercial foundation, a board resolution be passed which ensures that the board of directors retains its independent, overall management and control function. Appropriate allocation of responsibilities should be ensured between the chairman, the vice-chairman, the other members of the board of directors and the executive board, if any.</p>	<p>COWIfonden complies with the recommendation. A job description is prepared for both the chairman and the vice chairman to ensure well-defined and sound allocation of responsibilities. The chairman of the board is not permitted to take on special operational tasks for the board of COWIfonden without prior approval by the board of directors. Furthermore, the following committees exist:</p> <ul style="list-style-type: none"> <li>• Evaluation committee (donations)</li> <li>• Nomination committee</li> <li>• Investment and audit committee.</li> </ul>
2.3	<p>Composition and organization of the board of directors</p>	
2.3.1	<p>It is recommended that the board of directors regularly assess and stipulate the competences that the board of directors is to possess in order to perform the tasks incumbent upon the board of directors as well as possible.</p>	<p>COWIfonden complies with the recommendation. COWIfonden has prepared a competency profile for the board of COWIfonden, which is discussed and approved once a year by the board of COWIfonden.</p>
2.3.2	<p>It is recommended that, with due respect of any right in the articles of association to make appointments, the board of directors ensures a structured, thorough and transparent process for selection and nomination of candidates for the board of directors.</p>	<p>COWIfonden complies with the recommendation. The board of COWIfonden set up a nomination committee, which is tasked with identifying and recommending candidates for the boards of COWIfonden and COWI Holding. The terms of reference for the nomination committee describe the process for selecting candidates. Then, based on the recommendations of the nomination committee, the board of COWIfonden appoints new members to the board of COWIfonden.</p>
2.3.3	<p>It is recommended that members of the board of directors are appointed on the basis of their personal qualities and competences taking into account the collective competences of the board and when composing and nominating new members of the board the need for introducing new talent is weighed against the need for continuity and the need for diversity is considered in relation to commercial and grants experience, age and gender.</p>	<p>COWIfonden complies with the recommendation. COWIfonden has prepared a competency profile for the board of COWIfonden as well as targets for diversity on the boards of COWIfonden and COWI Holding A/S as the basis for appointment of new board members. Also see 2.3.2.</p>
2.3.4	<p>It is recommended that in the management commentary in the annual report and on the Commercial foundation's website, there is an account of the composition of the board of directors, including its diversity, and that the following information is provided on each board member:</p> <ul style="list-style-type: none"> <li>• the name and position of the member,</li> <li>• the age and gender of the member,</li> <li>• date of original appointment to the board whether the member has been re-elected, and expiry of the current election period,</li> <li>• any special competences possessed by the member,</li> <li>• other managerial positions held by the member, including positions on executive boards, boards of directors and supervisory boards and board committees in Danish and foreign foundations, enterprises and institutions, as well as other demanding organisation tasks,</li> <li>• whether the member has been appointed by authorities/providers of grants etc., and</li> <li>• whether the member is considered independent.</li> </ul>	<p>COWIfonden complies with the recommendation. The required information about all of the members of the board of COWIfonden is available at COWIfonden's website, <a href="http://www.cowifonden.com">www.cowifonden.com</a>, and in the annual report.</p>

RECOMMENDATION	COMPLIANCE	
2.3.5	<p>It is recommended that the majority of the members of the board of directors of the commercial foundation are not also members of the board of directors or executive board of the foundation's subsidiary(ies), unless it is a fully owned actual holding company.</p>	<p>COWIfonden complies with the recommendation. None of the board members of COWIfonden are members of the executive boards or board of directors of any COWIfonden subsidiary.</p>
2.4	<p>Independence</p>	
2.4.1	<p>It is recommended that an appropriate proportion of the board of directors be independent.</p>	<p>COWIfonden complies with the recommendation. COWIfonden's board consists of nine members. Three of the board members are elected by employees and six are appointed. Of the six appointed board members, two are independent.</p>
2.5	<p>Appointment period</p>	
2.5.1	<p>It is recommended that members of the board of directors be appointed for a minimum period of two years and a maximum period of four years.</p>	<p>COWIfonden complies with the recommendation. According to COWIfonden's rules of procedure, board members are appointed for a period of three years. They may be re-elected.</p>
2.5.2	<p>It is recommended that an age limit for members of the board of directors be set, which is published in the management commentary or on the foundation's website.</p>	<p>COWIfonden complies with the recommendation. The age limit for the chairman and board members are stated in the rules of procedure and published as part of the management's review in the annual report.</p>
2.6	<p>Evaluation of the performance of the board of directors and the executive board</p>	
2.6.1	<p>It is recommended that the board of directors establish an evaluation procedure in which the board of directors, the chairman and the contributions and performance of individual members are evaluated annually and the result is discussed by the board of directors.</p>	<p>COWIfonden complies with the recommendation. According to COWIfonden's rules of procedure, an annual evaluation of the board's performance is carried out, following a thorough procedure defined by the board of directors. Among other things, the evaluation covers the topics described in the recommendation.</p>
2.6.2	<p>It is recommended that once a year the board of directors evaluate the work and performance of the executive board and/or the administrator (where relevant) in accordance with predefined clear criteria.</p>	<p>COWIfonden complies with the recommendation. The work carried out by the administrative staff related to COWIfonden is part of the overall evaluation of the work of the board, cf. 2.6.1. COWIfonden has no executive board and no administrator.</p>
3	<p>Remuneration of management</p>	
3.1	<p>It is recommended that the members of the board of directors of commercial foundations be remunerated with a fixed remuneration and that members of a possible executive board be remunerated with a fixed remuneration, possibly combined with a bonus which should not be dependent upon accounting results. The remuneration should reflect the work and responsibilities consequential to the position.</p>	<p>COWIfonden complies with the recommendation. COWIfonden has no executive board. Remuneration of chairman, vice chairman and board members is stated in the note in the annual report.</p>
3.2	<p>It is recommended that the annual financial statements provide information about the full remuneration received by each member of the board of directors and executive board (if relevant) from the commercial foundation and from other enterprises in the group. Furthermore there should be information on any other remuneration which members of the board of directors, except for employee representatives, have received for performing tasks for the foundation, subsidiaries of the foundation or enterprises in the same group as the foundation.</p>	<p>COWIfonden does not comply with the recommendation. COWIfonden does not believe that publishing remuneration received by each board member will add additional relevant information to COWIfonden's stakeholders. For your information, board members that are employed by COWI Holding A/S subsidiaries earn a normal wage and bonus, if relevant. The note in the annual report states the total salary including bonus of board members employed with COWI Holding A/S subsidiaries.</p>

## KEY FIGURES AND FINANCIAL RATIOS FOR COWIFONDEN

	2019	2018	2017
	DKK ('000)	DKK ('000)	DKK ('000)
<b>KEY FIGURES</b>			
<b>PROFIT AND LOSS ACCOUNT</b>			
Dividend from shares in subsidiaries	48,309	43,709	41,408
Profit before financial items	45,003	40,386	38,595
Financial income and expenses	52,423	-6,210	10,806
Profit for the year	92,735	34,143	50,722
<b>BALANCE</b>			
Assets	317,514	232,673	204,803
Equity	282,432	203,117	185,419
Equity (book value) <sup>1</sup>	1,314,108	1,214,868	1,101,286
<b>FINANCIAL RATIOS</b>			
Donation percentage	14.5	48.2	12.6
Return on equity	38.2	17.6	31.1

### KEY FIGURES EXPLANATIONS

Donation percentage:  $(\text{Donations} \times 100) / \text{Profit for the year}$   
 Return on equity:  $(\text{Profit for the year} \times 100) / \text{Average equity}$

<sup>1</sup> Equity, book value – i.e. if shares in subsidiaries were calculated at book value and not at historic cost.

## STATEMENT ON DONATION POLICY

The board of COWIfonden has set a frame for donations of DKK 18 million for 2020. The intention is to aim for a total award of some DKK 13 million in 2020, but the larger frame will provide the board with the required elbow room, should special projects eligible for support emerge.

	2019		
TYPE OF APPLICATION	Applications	Donations awarded	Success rate %
Innovative research projects (based on prequalification)	2	2	100
Industrial PhD	4	4	100
R&D projects	20	7	35
Visiting professorships	2	1	50
Publications, TV, other media	1	0	0
(Organisation of) conferences etc.	11	4	36
PhD including conference participation	8	0	0
Equipment	16	3	19
Other	1	0	0
<b>TOTAL</b>	<b>65</b>	<b>21</b>	<b>32</b>

In present annual report, COWIfonden chooses to focus on a number of recently completed industrial PhD projects, as well as one of the large-scale innovative research project that COWIfonden has supported in the past years.

As mentioned elsewhere in present annual report (and on COWIfonden's website), COWIfonden is to serve two purposes, according to its charter. As a commercial foundation, COWIfonden is to support and expand the COWI Group. The commercial element is unfolded in the role as an active and competent owner with a profound interest in the COWI Group's business and development. Furthermore, COWIfonden is to act as a donating foundation, supporting relevant purposes beneficial to society, primarily within the COWI Group's fields of activity and in particular within postgraduate studies and research. COWIfonden attaches great importance to high professional skills and activities carried out within the framework of what is today called open science, preferably in collaboration between several actors within and outside COWI. To that end, COWIfonden grants substantial donations to research and development projects at universities or research institutes that have a long-term effect and perspective within the COWI Group's fields of activity.

Among other things, that means that, for a number of years, COWIfonden has made donations to industrial PhD projects carried out with COWI and partner universities in several countries. We greatly value this function since it combines several of the COWIfonden's objectives: high professional level, relevant to COWI's long-term development, employee development and talent management. At the same time, the professional foundation is developed with COWI's partners at universities, benefitting the common public, while COWI's reputation is strengthened through the publications resulting from the industrial PhD projects.



## NEW CIRCULAR PERSPECTIVE ON INDUSTRIAL WASTE

The Waste-to-Value project seeks to demonstrate how big data and artificial intelligence (AI) can work as a match-making tool between waste producers and receivers. The project, sponsored by COWIfonden, could widely improve resource management and boost circular economy.

Danish-Norwegian project duo Line Geest Jakobsen and Vidar Valen have seen their share of trash. As specialists in environment and waste at COWI, the two are developing a new take on how to distribute industrial waste in a more constructive way than what is often the case today, where much of it is either buried or burned.

*"We just got tired of seeing all this good waste go to waste. Why not consider it as a resource and take some of it, like metals and plastic, and match it with someone who needs it. We decided to sit down and identify opportunities for improved resource management, and this is how the Waste-to-Value project was born",* says Line Geest Jakobsen, Consultant at the Waste and Contaminated Sites department at COWI in Lyngby. The project came to life following an Innovation Booster programme in COWI, where colleagues Tore Kofstad and Øyvind Foyn were also part of the team that later applied for funding from COWIfonden.

The unique idea behind Waste-to-Value is to develop an intelligent tool: A smart digital platform which automatically creates a match between waste producers and receivers based on their output and needs.

### IT IS A MATCH

Vidar Valen joins the conversation on a Skype connection from his desk at the COWI office in Kristiansand, Norway:

*"The first step was to develop a method for identifying and ranking these resource streams as a basis for assessing their suitability and applicability as secondary raw materials."*

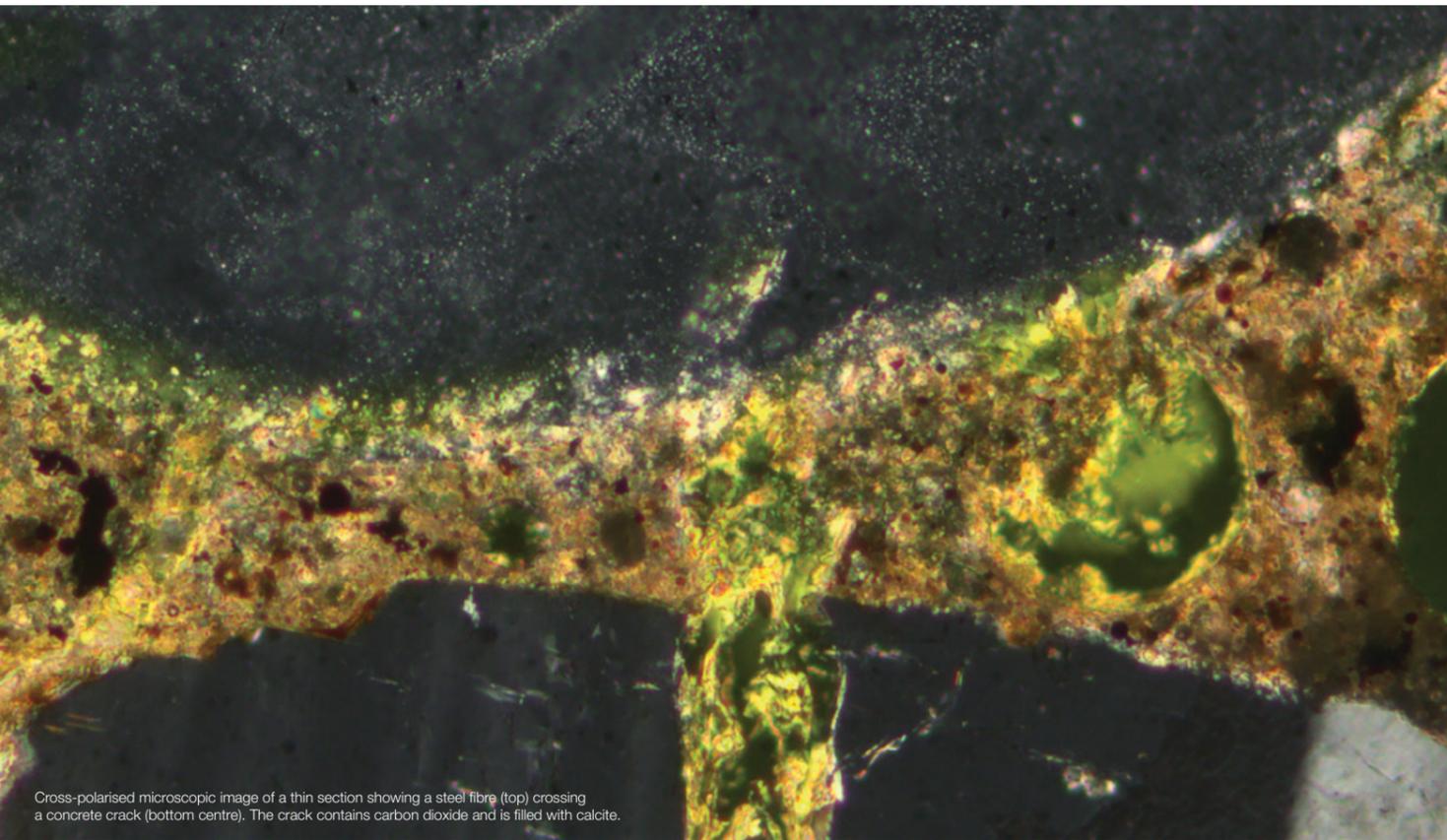
The framework for the project was developed in collaboration with a team from the Technical University of Denmark (DTU). The outcome is a list of criteria for prioritisation and evaluation of waste streams. These criteria are based on a triple bottom line; environmental, economic and social impacts. A method for calculating the identified criteria was established, including two Tier levels to be used according to data availability. A procedure for uncertainty estimation for the two Tiers was established, translating qualitative data evaluation into quantitative uncertainty scores. The method was illustratively tested on three case studies, covering different material types, geographical scopes, and decisional goals. This showed that the method can organize and provide useful information for decision-making. In itself, this is a useful methodology that can be used by, e.g., authorities to prioritise circular economy projects.

The next step is to investigate the actual match-making tool. This is where digital tools like machine learning and artificial intelligence come into the picture, providing data and digital brain power for the matchmaking platform. In collaboration with computer technology company Oracle, the project team has started processing available data and the project has entered its final stage. Oracle is working on the proof of concept and a first mini-version of the tool is expected to be ready in May 2020. The methodologies in play include principal component analysis (PCA) and t-distributed stochastic neighbour embedding (t-SNE), and the programming is done in Python. PCA and t-SNE are used to reduce the large number of dimensions, as well as to cluster and visualise the vast amount of data. One of the major issues foreseen is that the data quality is not good enough. This can be solved by retrieving a large number of detailed datasets on existing circular economy projects. The machine will then be able to estimate matches – so to speak by reading 'blurry pictures' based on a number of high-resolution pictures.

*"We are highly encouraged by our results so far and although we are still in the early process of developing this tool, I think COWI will benefit from this by becoming thought leaders within this type of waste management. I think we, as a company, can become an important matchmaker between waste producers and receivers, thereby contributing to a smarter way of handling waste and a more sustainable society,"* says Line Geest Jakobsen.

### FACTS

- PROJECT NAME:  
Waste-to-Value
- PARTICIPANTS:  
COWI, DTU, Oracle, NTNU
- TIMELINE:  
2017–2020
- COWIFONDEN DONATION:  
NOK 2,530,000



Cross-polarised microscopic image of a thin section showing a steel fibre (top) crossing a concrete crack (bottom centre). The crack contains carbon dioxide and is filled with calcite.

## INDUSTRIAL PHD STUDY ABOUT THE DURABILITY OF CARBON STEEL FIBRE REINFORCED CONCRETE

Supported by a donation from, e.g., COWIfonden, Victor Marcos Meson, Engineer with COWI, completed an industrial PhD study on the corrosion resistance of steel fibre reinforced concrete, also known as SFRC. The scope and findings of the study consolidates COWI's position as a leading consultant in the field.

The study focuses on the durability of cracked SFRC when exposed to aggressive conditions, such as carbon dioxide, seawater or salty groundwater. Such conditions may cause corrosion of conventional steel reinforcement, and further information about the risk of corrosion of steel fibres is needed.

Using steel fibres as partial or full replacement of conventional steel reinforcement offers a number of known advantages, one of these being improved durability towards corrosion. Replacing traditional steel reinforcement with steel fibres has, e.g., become popular for prefab segments for bored tunnels – an application within which COWI is a leading consultant globally.

Unfortunately, the durability of SFRC has been subject to some degree of uncertainty and contradictory design guidelines. Disagreement has especially revolved around the risk of corrosion of steel fibres in case of cracks in concrete exposed to an aggressive environment, e.g., cyclical dry-wet impact of salt water. Therefore, the PhD study aimed to examine the durability of cracked SFRC through an extensive and systematic testing programme, when exposed to aggressive conditions such as carbon dioxide, seawater or salty groundwater.

At the centre of Victor's PhD study is the to date most extensive and systematic program for experimental studies of the durability of SFRC, which covers – in addition to a comparison with past studies found in literature – an assessment of various parameters and their influence on the durability of SFRC, from micro level (each individual steel fibre) to macro level (SFRC). The PhD study was carried out in cooperation between COWI A/S, VIA University College and the Technical University of Denmark (DTU), and received financial support by Innovation Fund Denmark, COWIfonden and industrial partners.

### DEEPER INSIGHT INTO MATERIAL PERFORMANCE

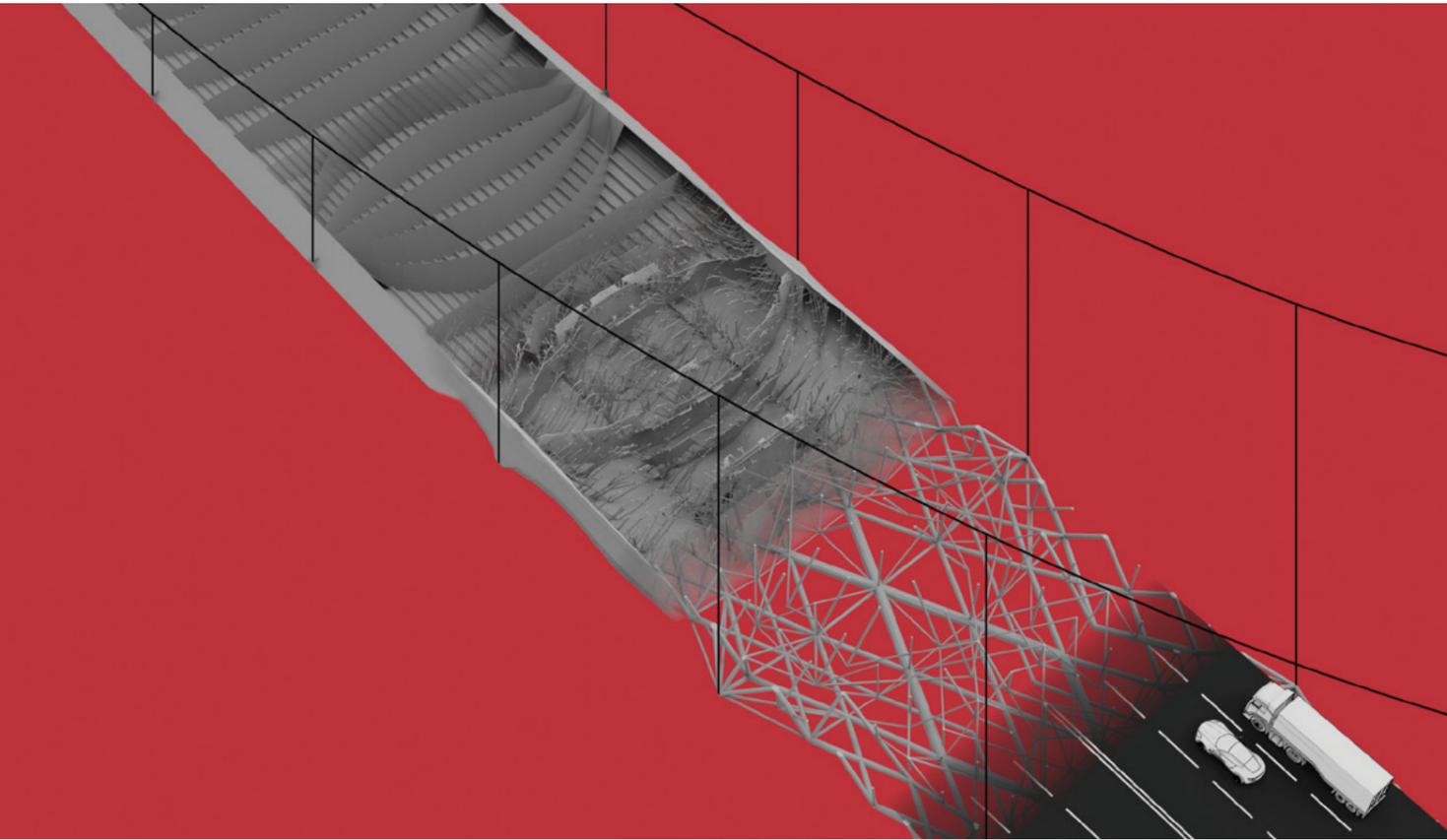
The experimental programme carried out as part of the PhD study involved testing more than 1,000 test samples; samples exposed to as much as two years of exposure to different corrosive environments. The experiments focused, on one hand, on quantifying the scope of corrosion damage to steel fibres in case of cracks in SFRC and the influence on the mechanical performance of the cracked SFRC, and on the other, on understanding the disintegration mechanisms in SFRC around a crack and what parameters have the greatest influence on the disintegration process. Furthermore, the study also developed a numerical model for disintegration of SFRC, and data from the experimental studies was used for calibrating the model. Using the model, disintegration observed at fibre level can be linked to changes to the mechanical performance of SFRC.

The findings of the study provided a solid basis for an enhanced understanding of disintegration and the controlling mechanisms, caused by corrosion, of SFRC. This helps build trust in the material as an engineering material, and Victor Marcos Meson adds:

*"The experimental findings achieved in our research allows a far better understanding of the durability of SFRC when exposed to different environments, and thereby greater trust in SFRC as a reliable engineering material under exposure to corrosive environments. The findings of our experiments indicate that we can trust in the long-term mechanical performance of SFRC exposed to salt water or carbon dioxide, even if there are small cracks in SFRC (e.g., cracks smaller than 0.3 mm). However, additional research is required to fully quantify the design limits for SFRC."*

### FACTS

- **PROJECT NAME:**  
Corrosion resistance of Steel Fibre Reinforced Concrete Structures
- **PARTICIPANTS:**  
DTU, VIA UC and COWI A/S (dept. 1706, Tunnels)
- **TIMELINE:**  
2016–2019
- **COWIFONDEN DONATION:**  
DKK 450,000



## NEW BRIDGE GIRDER DESIGN MAY REDUCE CO<sub>2</sub> EMISSIONS BY UP TO 30 PER CENT

In the industrial PhD thesis “Innovative design of steel girders in cable-supported bridges”, Mads Baandrup, Industrial PhD student and Consultant in COWI’s Bridges International, calls for a broader focus on reducing material consumption instead of focusing solely on construction costs. Possible weight savings were identified from state-of-the-art optimisation studies, and total savings in material quantities in the bridge girder ranged from 13 to 45 per cent. Lastly and importantly, a possible reduction in CO<sub>2</sub> emissions of 18–30 per cent for the entire bridge structure was found.

The main design principles for girders in cable-supported bridges have remained largely unchanged for the past 50 years and have reached a point where the potential for further development is limited. The design concept of closed steel box-girders with orthotropic stiffened decks is subject to substantial fatigue issues and potential cracks in the structures, which requires continuous maintenance.

*“In future super-long bridges with spans beyond three kilometres, the girder weight becomes a critical design factor which prevents even longer bridge spans. To accommodate the challenges of designing lighter structures and reducing fatigue issues, it was clear that radical design changes in girders were required,”* says Mads Baandrup.

Furthermore, since the construction industry accounts for 39 per cent of the world’s CO<sub>2</sub> emissions, attention must be broadened from a one-sided focus on construction costs to reducing material consumption. Mads Baandrup applied three different methods of structural optimisation in the search of innovative girder concepts, focusing on reducing weight, identifying improved load-carrying principles and designing more material-efficient structures.

Initially, a gradient-based parametric optimisation of the conventional design concept was carried out. Here, the main finding was a possible weight saving of up to 14 per cent. However, it was confirmed that the conventional design concept is limited in further development, without altering the structural concept.

Next, topology optimisation of a finely discretized FE model was applied in search of innovative girder designs. Based on the main structural features of the optimised designs, a simple interpreted design was established with an initial weight saving of 13 per cent. After a subsequent parametric optimisation to identify the full potential, a total weight saving in excess of 28 per cent was gained while maintaining constructability.

Finally, large-scale truss optimisation was applied with constraints on stresses and stability to ensure buildable structures. A significant weight saving of 45 per cent was achieved with a truss girder considerably different compared to conventional design.

During the project, valuable knowledge sharing took place with COWI’s bridge design teams in Lyngby, London and Vancouver.

### MAKING WAY FOR RECORD-BREAKING DESIGN

The development of new design concepts for deck construction in major cable-supported bridges in the PhD project led to conclusions regarding structures that are considerably lighter than current ones and decks that are potentially less prone to fatigue.

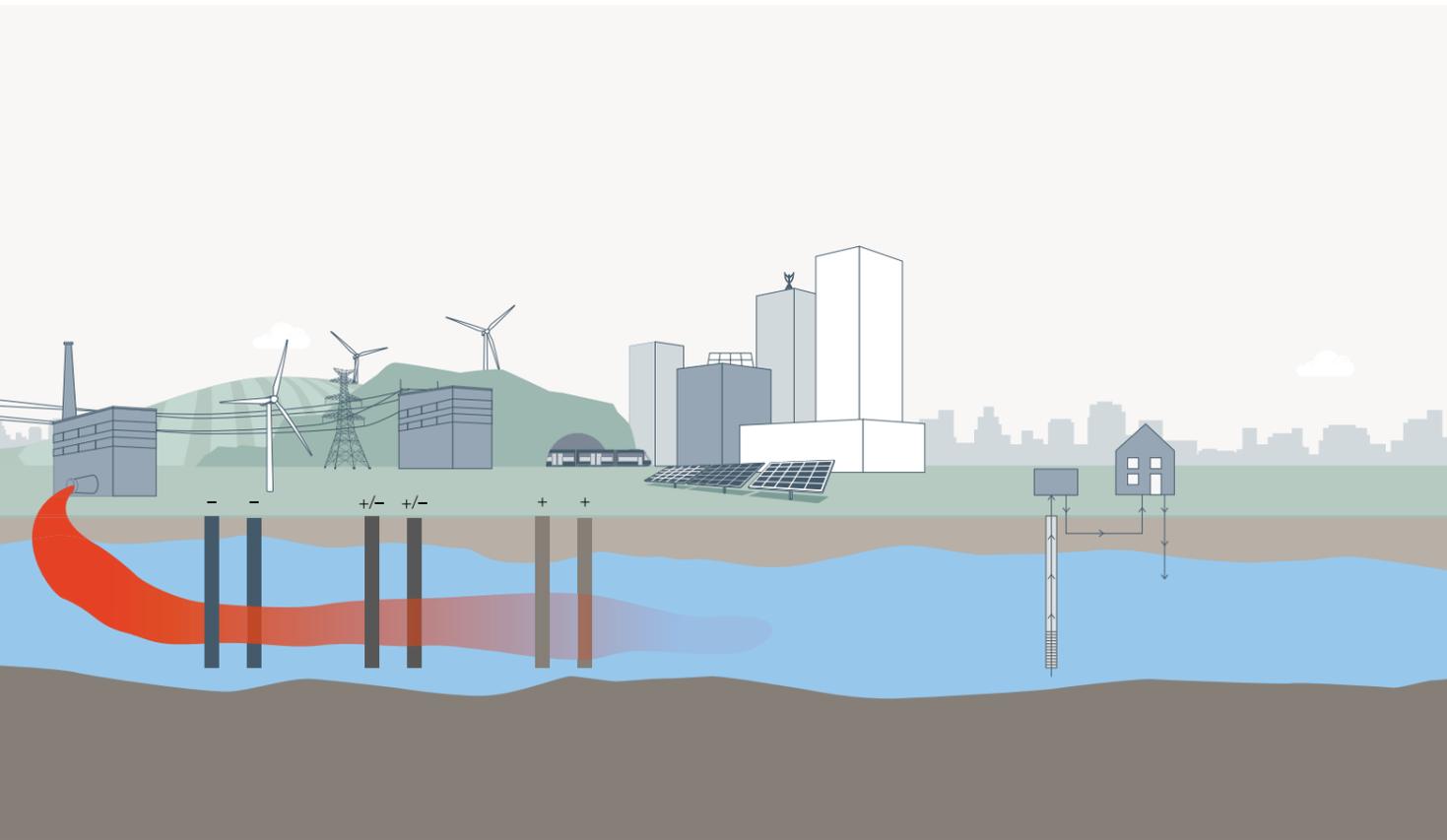
The identified design principles and possible weight savings emphasise the potential of using significantly different girder design concepts. The potential weight reductions to be achieved may close the gap toward super-long cable-supported bridges and reduce material quantities, and hereby reduce the environmental impact.

*“I am sure that the PhD project adds valuable information in the design of future bridge decks for major cable-supported bridges. It was a clear ambition that the optimisation studies would contribute significant knowledge. The new bridge girder design may translate into a reduction of CO<sub>2</sub> emissions of up to 30 percent, which, of course, is extremely advantageous as it has the potential to benefit society as a whole. COWI continues to be involved in a large number of the world’s major bridges and therefore it will also indirectly and directly benefit the entire COWI Group,”* concludes Mads Baandrup.

Mads Baandrup was granted DKK 450,000 for the PhD project, which started back in 2017. The conclusions were ready at the end of 2019 when the PhD thesis was submitted.

### FACTS

- **PROJECT NAME:**  
Innovative design of steel bridge girders in cable supported bridges
- **PARTICIPANTS:**  
COWI and DTU
- **TIMELINE:**  
2017–2019
- **COWIFONDEN CONTRIBUTION:**  
DKK 450,000



## DEVELOPMENT OF ALTERNATIVE METHOD FOR PROTECTING GROUNDWATER RESOURCES

How do we ensure clean drinking water in the future? Bente Højlund Hyldegaard looked into this issue in her industrial PhD, which developed a new method for treating contaminated groundwater. The project was backed by COWIfonden and carried out in cooperation between COWI A/S, the Technical University of Denmark (DTU), the Capital Region of Denmark and the US Army Corps of Engineers.

Water is a scarce resource, and in the Capital Region of Denmark alone, 1,300 plots are registered as being contaminated with chlorinated solvents. For decades, chemicals used for, e.g., cleaning clothes and degreasing metals were spilled or otherwise released into nature. This contamination poses health hazards to the population since the chemicals may, e.g., be carcinogens and affect our reproductive capacity.

### ALTERNATIVE WATER TREATMENT METHOD

To address this issue, Bente Højlund Hyldegaard carried out a PhD project from 2016 to 2019 in COWI's department of Waste and Contaminated Sites. Through her lab research, and in cooperation with the project partners, she developed a water treatment method that involves using electric current for cleaning contaminated groundwater.

*"Applying current to the groundwater degrades contamination directly in the ground instead of pumping the water to the ground surface. The method increases treatment efficiency, and we avoid adding chemicals,"* explains Bente Højlund Hyldegaard.

### TIME-SAVING AND SUSTAINABLE

Bente compared the alternative method to the current treatment methods, which involve pumping up water, treating it above ground surface and pumping it back down into the ground. The conventional method is a lengthy and costly process that requires a lot of space, and it generates a secondary waste flow, which needs to be handled subsequently. By introducing a current into the soil layers where the contaminated groundwater flows, a series of harmless chemical compounds are formed which degrades the contamination – so-called electrochemical degradation.

*"The electrochemical method is more effective, saves space and is presumably cheaper than the existing measures. It's particularly useful in situations where it is difficult to trace the source of the contamination or where several sources are responsible for groundwater contamination,"* says Bente Højlund Hyldegaard, stressing that sustainability components are also included in the process:

*"The only resource spent is energy in the shape of current, which can be combined with green sources such as solar panels or wind turbines,"* she says.

The electrochemically formed substances form the basis for a combination of at least five different degradation processes for chlorinated solvents. The five degradation processes include:

1. Direct chemical reduction on cathode
2. Indirect chemical reduction via electrogenerated reactants
3. Direct chemical oxidation on the anode
4. Indirect chemical oxidation via electrogenerated reactants
5. Stimulated biological degradation.

Having multiple degradation processes is an advantage since chlorinated solvents (perchloroethylene and trichloroethylene) and their harmful degradation products (dichloroethylenes and vinyl chloride) can then be degraded in parallel via one or more processes. Other treatment strategies often only use a single degradation process, making them more sensitive to variations in the composition of soil, groundwater and contamination.

### FACTS

- **PROJECT NAME:**  
Electrochemical Zone for Degradation of Chlorinated Solvents in Aquifer
- **PARTICIPANTS:**  
COWI A/S, DTU, the Capital Region of Denmark, and the US Army Corps of Engineers
- **TIMELINE:**  
2017–2019
- **COWIFONDEN CONTRIBUTION:**  
DKK 650,000

Furthermore, the electrochemical method can be given a flexible design, enabling the number and length of electrodes installed in the ground to be adapted to the extent of the specific contamination. The fact that the infrastructure for the method can be installed underground means that activities on the contaminated site can continue, without interruptions, while groundwater is treated.

So, the only input driving the degradation of contamination is the electric current. You do not need to add otherwise widely used substances or microbial cultures to the groundwater aquifer to initiate or maintain the degradation process.

#### CAN MITIGATE OTHER CONTAMINATION ISSUES

Bente Højlund Hyldegaard explains that the number of sites registered as being contaminated with man-made chemicals is increasing – including contamination caused by chlorinated solvents. Since chlorinated solvents are heavier than water, they travel great distances in soil and groundwater.

Bente Højlund Hyldegaard explains that, in addition to optimising treatment of groundwater, her research findings can also mitigate other contamination issues:

*“Besides contributing new knowledge about degradation processes for chlorinated solvents, this research also contributed new insights about the influence of natural conditions on the degradation, the impact of electric current on soil and groundwater systems, as well as the influence of the material properties of the electrodes. Plus, you can tailor the method to address other types of contamination,”* she says.

#### NEXT STEP

Until now, the methods has only been developed and tested in lab setups, using sand and pumped up polluted groundwater to mimic contaminated sites. She is now ready to demonstrate her results outside the walls of COWI and DTU:

*“The next step is to organise a pilot project and apply for funds to get the electrochemical method ready for use. I hope I will soon be able to do so, since this type of method is requested by authorities as well as private and public plot owners in Denmark and the rest of the world,”* says Bente Højlund Hyldegaard.

The thesis is available for download at:

<https://www.byg.dtu.dk/-/media/Institutter/Byg/publikationer/PhD/byg-r424.ashx?la=da&hash=EEFBA77CF1FF4ABD3565ED29B64DDC3E65496563>





## NEW RESEARCH FOCUSING ON PRESERVATION-WORTHY BUILDING REDUCES THERMAL TRANSMITTANCE AND IMPROVES INDOOR CLIMATE

No more cold, damp and poor indoor climate in older housing. In his industrial PhD project, Tommy Odgaard studied retrofitting of interior thermal insulation in preservation-worthy buildings with the purpose of increasing comfort and reducing thermal transmittance, while preserving exterior cultural historical and architectural facades. The project was supported by COWIfonden and carried out in cooperation with the Technical University of Denmark (DTU).

Denmark has more than 350,000 multi-story residential properties that were built from 1850 to 1950. Back then, comfort and energy consumption were not priorities, and the lack of insulation results in the buildings being cold and transmitting vast amounts of energy.

*“Multi-storey housing accounts for eight per cent of Denmark’s energy consumption, and 60 per cent of that is caused by buildings constructed from 1850 to 1950. For the majority of the apartments built in that period, you want to preserve the façades, which are valuable from a cultural historical and architectural perspective. Therefore, our challenge was to energy optimise the buildings while sparing the exterior surfaces,”* explains Tommy Odgaard.

### ENERGY SAVING OF UP TO 40 PER CENT AND HIGHER COMFORT

From 2015 to 2019, Tommy Odgaard carried out an industrial PhD project in a cooperation between COWI and DTU Civil Engineering. Through theoretical and practical tests, he studied energy and comfort enhancement in preservation-worthy buildings:

*“We tested seven different types of retrofitting of internal thermal insulation, yielding different results. In the best case, retrofitting of internal thermal insulation generates an energy saving of up to 40 per cent, and almost half of that saving can be achieved just by insulating the thin spandrel,”* says Tommy Odgaard.

He explains that multi-storey residential buildings from that period were built in the same way. They consist of load-bearing wooden elements and feature thin brick spandrels and brick columns.

### HOW THE PROJECT WAS CARRIED OUT

Tommy Odgaard explains that the research project was based on an extensive literature study of building engineering and previous research. The literature study was used for a segment analysis to determine the architectural style and scope of housing, and to build a parametric simulation model of the characteristic architectural style of the period. The model was used for examining the potential heat saving resulting from various extent of insulation, and examining differences in results between a simple one-dimensional calculation to more complex two- and three-dimensional models.

The segment analysis revealed that 45 per cent of the current multi-storey residential buildings were built from 1850 to 1950. Among other things, the simulation results showed that one- and two-dimensional simulations lead to an overestimation of the thermal saving of 60 per cent compared to the three-dimensional models.

In parallel, physical tests were created and measured, consisting of:

- Two test containers within which 24 identical brick fields were built, designed to replicate the characteristic architectural style with brickwork and integrated wooden elements. The brick fields were then retrofitted with internal thermal insulation, using different insulation methods. In each field, air humidity and temperature sensors were installed in up to 18 different locations, reaching a total of 228 unique measuring points across the two containers, each recording measurements every ten minutes.
- A specific building which was retrofitted with interior thermal insulation on an spandrel in a listed Copenhagen dormitory. Four measuring points were established in an insulated area and three measuring points were established in a similar, uninsulated area.

### FACTS

- PROJECT NAME:  
Sustainable energy renovation
- PARTICIPANTS:  
COWI A/S, DTU
- TIMELINE:  
2015–2019
- COWIFONDEN CONTRIBUTION:  
DKK 500,000

*"The purpose was to test and compare different thermal insulation systems. To that end, I used various insulation solutions and impregnation, continuously examining the development of humidity and temperature under a normal Danish indoor and outdoor climate," says Tommy Odgaard.*

#### RISKS

The results revealed differences in wall humidity and temperature across methods.

*"The tests demonstrated that methods for retrofitting of interior thermal insulation increase the risk of mould growth and rot development. That goes both for insulation methods based on a tight vapour barrier and diffusion open methods. We see significant variations across the different products," says Tommy Odgaard and continues: "Another very interesting result is the seasonal differences, which revealed that vapour barrier methods performed best in the winter, whereas methods without vapour barriers performed best in the summer. The same was true for the tests involving impregnation, which improved conditions in the summer, but worsened them in the winter."*

#### NEXT STEP

Tommy Odgaard explains that the research project stands out from past research by focusing on calculation and measurement of retrofitting of interior thermal insulation in a Danish climate. Furthermore, he says that this research project mainly focused on configuration and demonstration of tests, while another PhD student took over to work on additional analyses.

The next step is to apply the findings of the research project on preservation-worthy buildings.

The thesis is available for download at:

<https://orbit.dtu.dk/en/publications/challenges-when-retrofitting-multi-storey-buildings-with-interior>



# ACCOUNTING POLICIES

## BASIS OF ACCOUNTING

The 2019 annual report of COWIfonden has been prepared in accordance with the provisions of the Danish Financial Statements Act for a class-B enterprise, with the addition of a few provisions for a class-C enterprise.

In pursuance of number 5 of section 111(3), COWIfonden has not prepared consolidated financial statements. COWI Holding A/S' consolidated financial statements can be requisitioned at COWI Holding A/S, Parallevej 2, 2800 Kongens Lyngby.

The annual accounts have been prepared according to the same accounting policies as last year.

The annual accounts are stated in DKK thousands.

## RECOGNITION AND MEASUREMENT

The accounts have been prepared using the historical cost principle.

Income is recognised in the profit and loss account as earned. Value adjustments of financial assets and liabilities which are measured at fair value or at amortised cost are also recognised in the profit and loss account. The same applies to all expenses paid to achieve earnings of the year.

Assets are recognised in the balance sheet when it is probable that future economic benefits will flow to the company, and the value of the asset can be reliably measured.

Liabilities are recognised in the balance sheet when it is probable that future economic benefits will flow out of the company and the value of the liability can be reliably measured.

On initial recognition, assets and liabilities are measured at cost. Subsequently, assets and liabilities are measured as described for each individual item below.

Recognition and measurement take into consideration anticipated losses and risks that arise before the time of presentation of the annual report and that confirm or invalidate affairs and conditions existing at the balance sheet date.

The functional currency is Danish kroner (DKK). All other currencies are considered foreign currency.

## PROFIT AND LOSS ACCOUNT

### DIVIDEND FROM SHARES IN SUBSIDIARIES

Dividend from subsidiaries is calculated in the profit and loss account upon receipt of the dividend.

### STAFF AND ADMINISTRATION COST

In addition to remuneration to the Board of Directors, staff and administration costs include remuneration to the administrator of COWIfonden, COWI A/S, and other salary cost.

### OTHER EXTERNAL COST

Other external cost include administration and rent cost, travel cost, bank charges, etc.

### FINANCIAL ITEMS

Financial income and expenditure include dividend, net interest and value adjustments on marketable securities.

### FOREIGN EXCHANGE ADJUSTMENT

Foreign exchange transactions are translated at the rates ruling at the transaction date.

Monetary items in foreign currencies are translated at the exchange rates ruling at the balance sheet date. Unrealised exchange gains or losses arising from differences between the exchange rates ruling at the balance sheet date and the rates prevailing at the time when the receivable or payable arises, are recognised in the profit and loss account.

### TAX ON PROFIT FOR THE YEAR AND DEFERRED TAX

The taxable income of COWIfonden is measured according to the tax rules on foundations.

Tax rules allow tax deductions for deferred tax intended for later distribution. This provides the foundation with the option to reduce a possible taxable income to zero when computing the taxable income by recognizing deferred tax intended for later distribution. Accounting recognition of deferred tax for later distribution is disallowed.

Deferred tax of unrealised capital gain on shares as well as loss carryforward is allocated.

## BALANCE SHEET

### INVESTMENTS IN SUBSIDIARIES

Investments in subsidiaries are measured at cost. If the cost exceeds the recoverable amount, it is written down to the lower recoverable amount.

### RECEIVABLES

Accounts receivable are measured in the balance sheet at amortised cost, which essentially corresponds to the nominal value. Write-downs are made to meet potential losses.

### MARKETABLE SECURITIES

Marketable securities are recognised in total current assets and include listed bonds and shares measured at fair value at the balance sheet date.

### CURRENT TAX LIABILITIES AND CURRENT TAX RECEIVABLES

Current tax liabilities and current tax receivables are recognised net in the balance sheet as tax computed on taxable income for the year adjusted for tax on taxable income for previous years. Tax liabilities and tax receivables are set off provided there is legal right of set-off, and the items are forecasted net.

### DEFERRED TAX ASSETS AND LIABILITIES

Deferred tax is accounted for in respect of all temporary differences between accounting and tax values of assets and liabilities. Deferred tax is measured based on the tax rules and tax rates effective at the balance sheet date when the deferred tax is expected to crystallise as current tax. In cases where the tax base can be determined according to alternative tax rules, deferred tax is recognised on the basis of the planned use of the asset or settlement of the liability, respectively. Deferred tax assets, including the tax base of tax loss carryforwards, are recognised at the value at which they are expected to be utilised, either by elimination in tax on future earnings or by set-off against deferred tax liabilities.

# FINANCIAL STATEMENT

## PROFIT AND LOSS STATEMENT FOR 1 JANUARY TO 31 DECEMBER

	Note	2019 DKK	2018 DKK
Dividend from shares in subsidiaries		48,309,450	43,708,550
<b>ADMINISTRATION EXPENSES</b>			
Employee expenses/administration expenses	1	-2,818,182	-2,759,685
Other external expenses	1	-488,449	-562,939
<b>Profit before financial items</b>		<b>45,002,819</b>	<b>40,385,926</b>
<b>Profit on sale of 97,500 COWI Holding A/S B shares</b>		<b>18,154,445</b>	<b>0</b>
Financial income	2	52,673,905	9,543,216
Financial expenses	3	-250,728	-15,752,931
<b>Profit before tax</b>		<b>97,425,996</b>	<b>34,176,210</b>
Foundation tax	5	-4,691,000	-33,446
<b>Profit for the year</b>		<b>92,734,996</b>	<b>34,142,764</b>
<b>PROPOSED DISTRIBUTION OF THE PROFIT FOR THE YEAR</b>			
Donations for the year	5	13,420,278	16,444,575
Adjustment of frame of donation		0	0
Transferred profit		79,314,718	17,698,189
		<b>92,734,996</b>	<b>34,142,764</b>

## BALANCE SHEET AT 31 DECEMBER

ASSETS	Note	2019 DKK	2018 DKK
Investment in subsidiaries		61,403,581	89,941,886
<b>Financial fixed assets investments</b>	6	<b>61,403,581</b>	<b>89,941,886</b>
<b>Fixed assets</b>		<b>61,403,581</b>	<b>89,941,886</b>
Other receivables		1,106,456	756,166
Tax receivables		572,238	816,718
Prepayments		74,293	20,097
<b>Receivables</b>		<b>1,752,987</b>	<b>1,592,981</b>
<b>Securities</b>	7	<b>247,253,394</b>	<b>139,454,434</b>
<b>Cash</b>		<b>7,103,790</b>	<b>1,683,328</b>
<b>Current assets</b>		<b>256,110,171</b>	<b>142,730,743</b>
<b>Total assets</b>		<b>317,513,752</b>	<b>232,672,629</b>

## BALANCE AT 31 DECEMBER

	Note	2019 DKK	2018 DKK
<b>EQUITY AND LIABILITIES</b>			
Base capital		20,000,000	20,000,000
Reserve for future donations		18,000,000	18,000,000
Retained earnings		244,431,625	165,117,299
<b>Equity</b>	8	<b>282,431,625</b>	<b>203,117,299</b>
<b>LIABILITIES</b>			
Tax payable		4,691,000	0
Accounts payable, suppliers		327,603	392,948
Accounts payable, donations		30,063,524	29,162,382
<b>Short-term debt</b>		<b>35,082,127</b>	<b>29,555,330</b>
<b>Total debt</b>		<b>35,082,127</b>	<b>29,555,330</b>
<b>Total equity and liabilities</b>		<b>317,513,752</b>	<b>232,672,629</b>
Related parties and ownership	9		

## NOTES TO THE ANNUAL REPORT

	2019 DKK	2018 DKK
1 EXPENSES FOR BOARD AND ADMINISTRATION		
Remuneration for board	1,697,000	1,653,083
Other remuneration	175,750	165,250
Remuneration to the board administrator	945,432	941,352
Other external cost	488,449	562,939
	<b>3,306,631</b>	<b>3,322,624</b>

Of the total expenses, about DKK 1,319,000 is spent for administration of the donations, in connection with evaluation and selection. COWIfonden has no employees.

## REMUNERATION FOR THE BOARD IS AS BELOW

<b>Basic fee</b>		
Chairman	340,000	340,000
Vice chairman	190,000	190,000
Seven common board members	980,000	991,667
<b>Fee for committee members</b>		
Chairman	28,000	46,000
Deputy chairman	46,000	35,500
Six common members	113,000	49,917
	<b>1,697,000</b>	<b>1,653,083</b>

In accordance with recommendations on foundation governance, it is informed that the board members receive from other group companies:	8,342,046	6,929,740
Thereof is remuneration for the Board to Executive Boards and Boards of Directors in other Group Companies in total:	0	0

2 FINANCIAL INCOME		
Dividend, shares	2,858,977	5,067,649
Interest, bonds	1,727,887	1,053,074
Value adjustment, bonds	4,595,283	262,892
Value adjustment, shares	25,337,313	3,159,601
	<b>34,519,460</b>	<b>9,543,216</b>

3 FINANCIAL EXPENSES		
Interest, Danske Bank	-183,162	-61,180
Value adjustment, bonds	-1,277	-3,933,995
Value adjustment, shares	-66,289	-11,757,756
	<b>-250,728</b>	<b>-15,752,931</b>

## NOTES TO THE ANNUAL REPORT

	2019 DKK	2018 DKK
4 FOUNDATION TAX		
The tax is calculated on basis of a temporary inventory of the taxable profit and can be specified as below:		
Dividend taxes	42,463	33,446
Adjustment of deferred tax	4,691,000	0
	<b>4,733,463</b>	<b>33,446</b>

	2019 DKK
5 DONATIONS	
<b>Innovative research projects</b>	
Development of smart inclusive tools to increase walking's role as a sustainable mode of transport in future cities, COWI A/S and RUC. Rasmus Guldborg Jensen	3,999,916
Door-to-door public transit using hyperloop guided transport and autonomous technology, COWI AS (NO), NTNU, DTU, KTH, COWI DK, COWI SE and SINTEF, Jørgen Pedersen	3,000,000
Donation for preparation of applications	200,000
<b>Total</b>	<b>7,199,916</b>
<b>Industrial PhD</b>	
Smart Precast Concrete Tunnel Segments, COWI UK and Strathclyde University, Chris Hoy	375,696
Stability optimisation of twin-box girders, COWI A/S and DTU, Maja Rønne	650,000
Enhancing ecosystem services by innovative remediation using gentle remediation options (ECO-GRO), COWI AB and Chalmers University of Technology, Paul Drenning	425,220
COWI A/S, Design of Looped Wire Rope connection between Precast Concrete Wall elements, Søren Hansen	650,000
<b>Total</b>	<b>2,100,916</b>
<b>R&amp;D</b>	
Ice loads on piles, COWI AB, Henrik Mayor	105,840
Towards the understanding of concrete abrasion in hydraulic structures – testing and modeling, Aarhus Universitet and COWI BTM, Carola Edvardsen	1,000,000
Rising damp in Hørsholm Church, the National Museum – department of environmental archaeology and material science, Poul Klens Larsen	262,400
Development of a new energy-efficient core technology for large air-source heat pumps to be used in district heating without the coil freeze problems that commonly occur when operating in a cold and humid winter climate in Denmark and central Europe, DTU – Department of Civil Engineering, Lei Fang	499,650
Construction Transformation, DTU Management, Christian Thuesen	250,000
Tool for assessing groundwater pesticide sensitivity, COWI A/S, Marianne Jeppesen	675,847
Probabilistic Framework for Agent-Based Modeling within Public Spaces, Aalborg Universitet, José Guadalupe Rangel-Ramirez	350,000
<b>Total</b>	<b>3,143,737</b>
<b>Visiting professorships</b>	
Research stay at the University of Missouri, USA, Aalborg University – Department of Civil Engineering, Søren Thorndahl	50,000
<b>Total</b>	<b>50,000</b>

## NOTES TO THE ANNUAL REPORT

<b>Conferences</b>	
5th SRA Nordic Conference, Risk Management for Responsible Innovation, DTU – Department of Management Engineering, Igor Kozin	30,000
10th IWA Symposium on Modelling and Integrated Assessment (Watermatex 2019), DTU – Department of Chemical and Biochemical Engineering, Krist V, Gernaey	50,000
H.C. Ørsted 2020, The 200th anniversary of the discovery of electromagnetism, DTU – Management and Administration, Rasmus Larsen	250,000
Nordic Steel Construction Conference, Dansk Stålinstitut, Jørn Nielsen	50,000
<b>I alt</b>	<b>380,000</b>
<b>Equipment</b>	
Purchase of a microwave reactor for technical development on precious metal recycling from Waste Electrical and Electronic Equipment (WEEE), SDU, Dept, of Chemical Engineering, Shuang Ma Andersen	194,021
A vane rheometer for characterizing 3D printable geopolymer concrete, DTU – Mechanical Engineering, Jon Spangenberg	60,070
FlowCam 8400, Aalborg University, Jes Vollertsen	386,500
<b>I alt</b>	<b>640,591</b>
<b>Donations in total</b>	
Reversed donations of the year	94,882
<b>Donations, net</b>	
	<b>13,420,278</b>

6 FINANCIAL ASSETS	2019 DKK	
	A-shares	B-shares
Shares in COWI Holding A/S value at year end nom. DKK 200,000,000 A-shares and DKK 20,295,000 B-shares.		
Acquisition price 1/1 2019	2,000,000	87,941,886
Sale of 97,500 shares	0	-28,538,306
<b>Acquisition price 31/12 2019</b>	<b>2,000,000</b>	<b>59,403,581</b>

If the shares of COWI Holding A/S were booked at the internal value method, they would represent a value of TDKK 1,093,080 per 31 December 2019 and the equity in COWIfonden per 31 December 2019 would be TDKK 1,311,987.

## NOTES TO THE ANNUAL REPORT

7 SHARES AND BONDS	2019 DKK	2018 DKK
<b>Marketable securities</b>		
Marketable securities are valued at the share price on 31 December and can be specified as below:		
Shares	158,226,516	78,798,968
Bonds	89,026,878	60,655,466
	<b>247,253,394</b>	<b>139,454,434</b>

8 EQUITY	Base capital DKK	Reserve for future donations DKK	Retained earnings DKK	Total DKK
Equity at 1 January 2019	20,000,000	18,000,000	165,116,907	203,116,907
Donations in 2019	0	-13,420,278	0	-13,420,278
Profit distributed to equity	0	13,420,278	79,314,718	92,734,996
<b>Equity at 31 December 2019</b>	<b>20,000,000</b>	<b>18,000,000</b>	<b>244,431,625</b>	<b>282,431,625</b>

## 9 RELATED PARTIES AND OWNERSHIP

COWIfonden owns all A-shares i COWI Holding A/S, and has therefore determining influence in COWI Holding A/S, as COWIfonden has 97.7 % of the votes.

The COWI Holding group has a share programme for past and current employees, and COWI Invest A/S (subsidiary of COWI Holding A/S) is subject to an obligation to buy back employee shares at book value. Employees own for a total of nominally DKK 47,710,500 at 31 December 2019. Under certain conditions and at certain terms, COWIfonden has issued a letter of indemnity for COWI Invest A/S, allowing the company to honour its buyback obligation.

COWIfonden does not run independent business.

All transactions with the related parties during the year have been on market conditions.

## 10 EVENTS AFTER THE BALANCE SHEET DATE

Covid-19, which has caused many governments across the world to order a lockdown, will have large consequences for the world economy. The management considers the consequences of Covid-19 an event occurring after the balance sheet date (31 December 2019), and thus makes up a non-regulating event for COWIfonden.

As a result of Covid-19, COWIfonden has seen a negative price development for COWIfonden's securities. The management continues to monitor the situation.



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