

Continuing Professional Development as viewed by Nordic Engineers

Report



Content

Foreword 4

Executive Summary and Policy Recommendations 6

Main findings: 1. Participation 13

2. Relevance 19

3. Barriers 22

4. Future Perspectives 28

5. Methodology 33

Annex 1: Country Profiles 35

Foreword

Continuing Professional Development, CPD during the career path is not a luxury invention. Everyone should have the right to a sound educational background and CPD in order to maintain and acquire skills to remain in the employment and manage the transitions in the labour market. Regardless of the fact that the Nordic region scores high in terms of innovation and new technology, the talent shortage is becoming a sad reality. And even though the engineers are in high demand, they also need to remain competitive and continue to learn.

The current report, which we are glad to hereby present, provides evidence on barriers to access CPD, and forms several policy recommendations to close the existing gaps. This report is a joint effort of the Association of Nordic Engineers, ANE, which collects the members' opinions from its affiliates, the Norwegian Society of Engineers and Technologists, NITO, the Danish Society of Engineers IDA, the Swedish Association of Graduate Engineers, Sveriges Ingenjörer and the Icelandic Association of Chartered Engineers, VFÍ.

The report accentuates the need for more investment in CPD. Education and productivity go hand in hand, and the professional development should not depend on professional categories and skill levels. We must invest in everyone's professional

growth. When you invest in engineers, they invest in you!

The findings of the report further call for the enhancement of the role the Higher Education institutions must play in securing the provision of the CPD courses. Universities are the holders of the unique and specific technical knowledge, and therefore they should be supported to become the reliable providers of professional development courses.

Moreover, the recommendations point also to the need for a long-term strategy of CPD at work places built on a dialogue between an employer and an employee. CPD should be regarded as a habit, not as an occasional event. It is a great tool for employee development and a strategy for companies to remain relevant while adapting to changing market conditions.

Furthermore, there is a requirement for mapping the existing provision of CPD courses to establish a comprehensive overview both at national and regional levels.

It takes time and a great effort to develop a whole new learning concept. We need to do it together! We need to build new alliances and invest in new solutions to support one another in this quest for personal and professional growth!

We encourage you to read this report, discuss it with your colleagues and let us know of your ideas how to best respond to the ultimate goal of closing the existing gaps.



Trond Markussen
President



Inese Podgaiska
Secretary General

Executive Summary and Policy Recommendations

Continuing Professional Development, CPD often also called lifelong learning has become an antidote for all challenges related to the industrial revolution and the paradigm shift. In the Association of Nordic Engineers, ANE the professional development has always been an integral part of its strategy, always considered as a prerequisite for growth and investment in nurturing the potential. Engineers – the frontrunners of innovation in our societies, as any other workers, are eligible to have choice, space and time to acquire a new knowledge and skills.

In the recent years, the discussions on CPD were also intensified by the observed tendency to prioritize the low-skilled workers assuming that the highly educated professionals would find their ways to succeed. In ANE we strongly believe that everyone should have the right to professional development opportunities, and the dependence thereof upon categories and competence levels will only create a bigger divide.

In order to investigate on engineers' general opinion on CPD perspectives and to identify barriers hindering access to the CPD opportunities, ANE has conducted a survey in the first half of 2018. The questionnaires were sent to engineers in employment both in public and private sectors – members of trade

unions in Denmark, Norway, Sweden and Iceland. As Finland is not a member of ANE it has not been included in the survey.

This report allows making a cross-country comparison in the Nordic Region, and forms policy recommendations, to remedy some existing shortcomings, which are set forth at the end of this chapter.

The report generalizes the findings of the survey, and it is structured around main findings touching upon participation, relevance, barriers and future perspectives.

Country profiles outlining CPD structure at a national level are annexed to the report. Members of ANE are often bound by collective agreements, which generally state that competence development is an important matter and it is responsibility of both the employer and employees. It is however the employer's responsibility to pay for professional development for employees learning the new skills that are of relevance to their current role and work. Nevertheless, some differences exist in the Nordic countries, when it comes to the financing and provision of CPD courses at a national level. Country profiles provide an insight into those differences.

SUMMARY OF MAIN FINDINGS AND POLICY IMPLICATIONS

According to the survey results, 9 out of 10 (91%) Nordic engineers have participated in some form of professional development during the last 12 months. 6 out of 10 (more than 60%) have taken part in professional development offered by their current employer. Almost every 2nd (44% in Norway to 62% in Sweden) has increased his/her knowledge through self-studies. Whereas under 40% in Denmark and over 60% in Sweden have learned from their colleagues as a part of on-the-job training.

Furthermore, the report informs that 60% of the respondents see the need for more opportunities or other types of CPD. The need is highest in Iceland with 75%, followed by 67% in Denmark and Norway respectively, and in Sweden – 54%.

The main motivations for those who have taken part in professional development courses are the new knowledge and skills for the current job and a possibility of getting a higher salary. Only approximately 1 out of 10 (less than 13%) sees this an opportunity for a job change or promotion.

More than 6 out of 10 see the increasing need for professional development to match future demands on the labour market. In Denmark the figure is 61%, followed by Sweden – 65%, Norway – 71% and Iceland – 74%. Approximately every 2nd (50%) in Iceland, Sweden and Norway respectively has a recurring need for professional development to manage their current job. In Denmark it's only 33%.

As regards the prioritization and planning at the work place, nearly 90% in Denmark and Sweden respectively, 77% in Norway and 55% in Iceland discuss CPD needs during their yearly professional development dialogues. However, few have in place a concrete professional development plan describing needs and requirements. In Iceland that is the case for only 19%, in Norway – 25%, in Denmark – 27%. Sweden has the highest figure with 40%.

Professional development needs to be handled on a more strategic level, and that's why **we recommend that employers should be obliged to develop long-term professional development strategies.**

There is a need for a long-term strategy and concrete CPD plans implemented at work places built on a dialogue between the employer and the employee.

In addition, roughly 40% of the respondents work for a company that regularly evaluates the need of CPD in the future. The figures vary from 34% for Iceland followed by Norway – 36%, Denmark – 41% and Sweden with the highest figure of 45%. However, more than 60% find the identification of CPD needs useful for the selection and attendance of the training courses.

Nevertheless, there is still a work to be done on a long-term basis, as only 3 out of 10 (30%) find that CPD is based on the company's long-term needs.

Moreover, and in addition to the aforementioned barriers, the report outlines that every 2nd mentions a lack of time to be the main barrier to participation in CPD.

Every third (around 30%) experiences a provision related barrier, meaning lack of relevant courses and lack of knowledge of the relevant provision. Therefore, our next policy recommendation points to **an urgent need for a comprehensive overview of the provision of CPD courses.**

12% or less in Denmark, Norway and Sweden attended courses provided by universities. Whereas around 27% of respondents in Iceland attended courses provided by universities. The big difference may be partially explained by the fact that the independent institutions that offer technical CPD courses in Iceland have got cooperation agreements with the two biggest universities in Iceland.

According to our recommendations, **the Higher Education institutions should be therefore supported to become the high-quality STEM courses providers.** CPD courses are mainly financed by the employer. This could be justified by the relevance, as the main reason for professional development is to meet needs and requirements of the current place of employment, and thuswise providing benefit for the current job. Nevertheless, the results of the survey further show that for more than 1 out of 4 (more than 25%) in Sweden, Denmark and Norway, the employer was not willing to finance professional development. Only 1 out of 10 (12%) in Iceland experiences the same barrier. This could be explained by the existence of the CPD funds in Iceland, which are available to everyone in the labour market, including professionals with a university degree. This conferring to our analysis means that **investigation of alternative methods of CPD funding is necessary.**

POLICY RECOMMENDATIONS

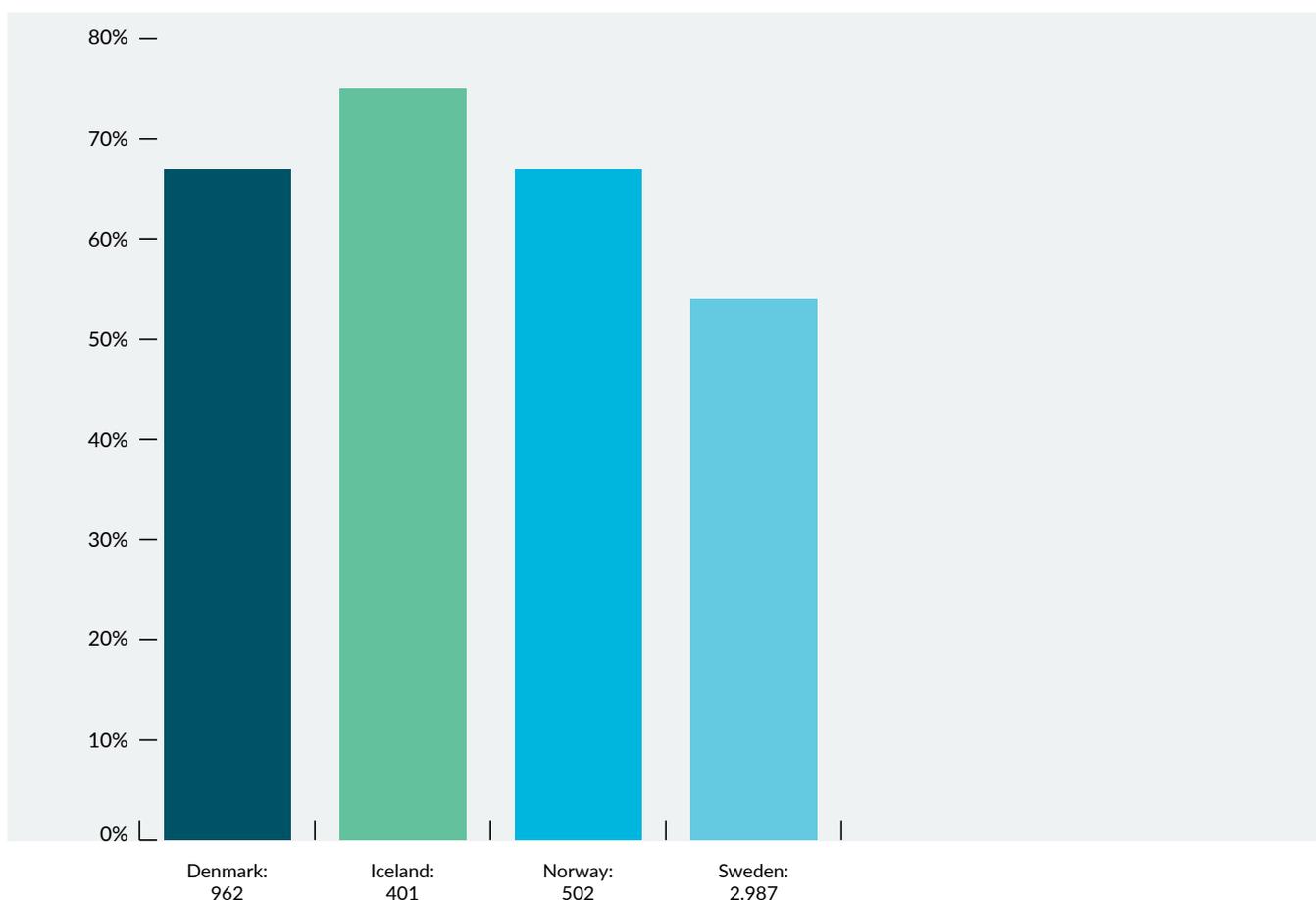
1. THE AUTHORITIES MUST INVESTIGATE THE ALTERNATIVE CPD FUNDING MECHANISMS

Education and productivity go hand in hand, and therefore investing in everyone's professional growth should be given without distinction to professional categories and skills levels. Different funding mechanisms could be envisaged. For example, and as a source of inspiration could be an initiative – education funds as a cooperation between trade unions and employers operated in Iceland. Employees

can either apply for partial or full repayment of course fees they have already paid or be given free admission to courses arranged by their employers or trade unions and funded through grants. Or another example could be the use of study loans and grants as practiced in Sweden.

According to the ANE survey, a majority of the respondents in all four countries see a need for more opportunities or other type of professional development. This is illustrated in the Graph 1 below.

Graph 1. Wish for more opportunities or other type of CPD



Source: ANE professional development survey 2018

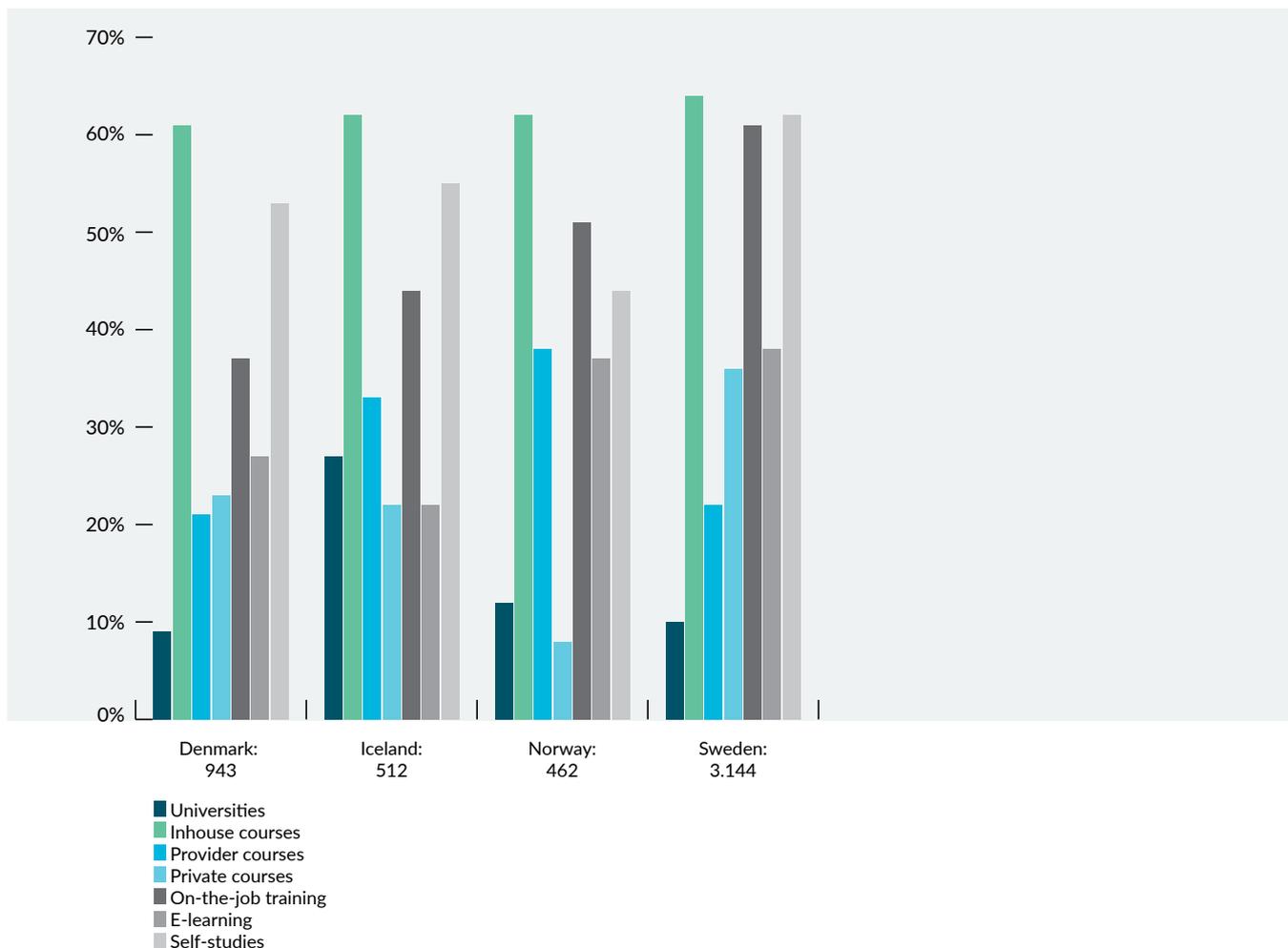
2. HIGHER EDUCATION INSTITUTIONS MUST PROVIDE MORE CPD COURSES FOR ENGINEERS

Universities are the holders of unique and specific know-how in high-quality STEM skills, and therefore they should be supported and incentivized to become the reliable providers of CPD courses. This support can be provided through specific funding mechanisms, multi-stakeholder alliances and strong policy regulations. CPD courses and programmes

should be developed in close cooperation between employers' organisations and Higher Education institutions. A certain master's degree programmes could be opened for the professionals already in the employment as a part of the professional development cycle.

According to the ANE survey, only 1 out of 10 respondents participated in CPD courses provided by Higher Education institutions. This is shown in the Graph 2 below.

Graph 2. Participation in a certain type of CPD



Source: ANE professional development survey 2018

3. AUTHORITIES MUST MAP THE EXISTING PROVISION OF CPD COURSES AT REGIONAL AND NATIONAL LEVELS

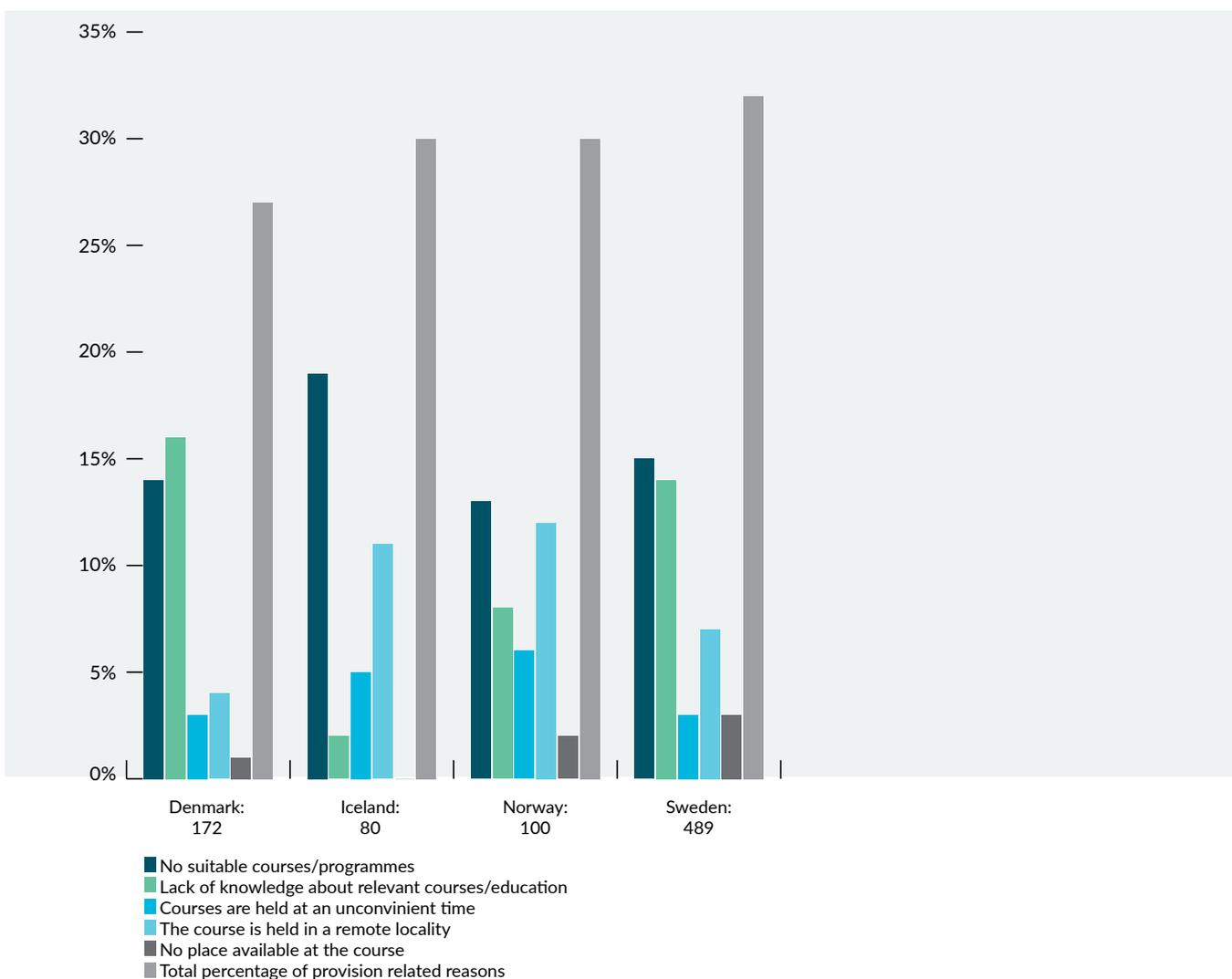
The acquisition of new competences is dependent on a provision, which in the survey is identified as a shortcoming. To better match the demand for STEM competences with the available provision, there is a need for mapping the existing provision of CPD courses both at national and regional levels. This mapping exercise would allow establishing a database or a digital platform, including information on

providers, content, duration and fees of CPD courses.

In line with the ANE survey results, and as shown in the Graph 3 below, 30% of the respondents experience barriers related to provision reasons.

Lack of knowledge about relevant courses/ education is the reason given why the respondents are not adequately participating.

Graph 3. Provision related reasons for not participating adequately in CPD



Source: ANE professional development survey 2018

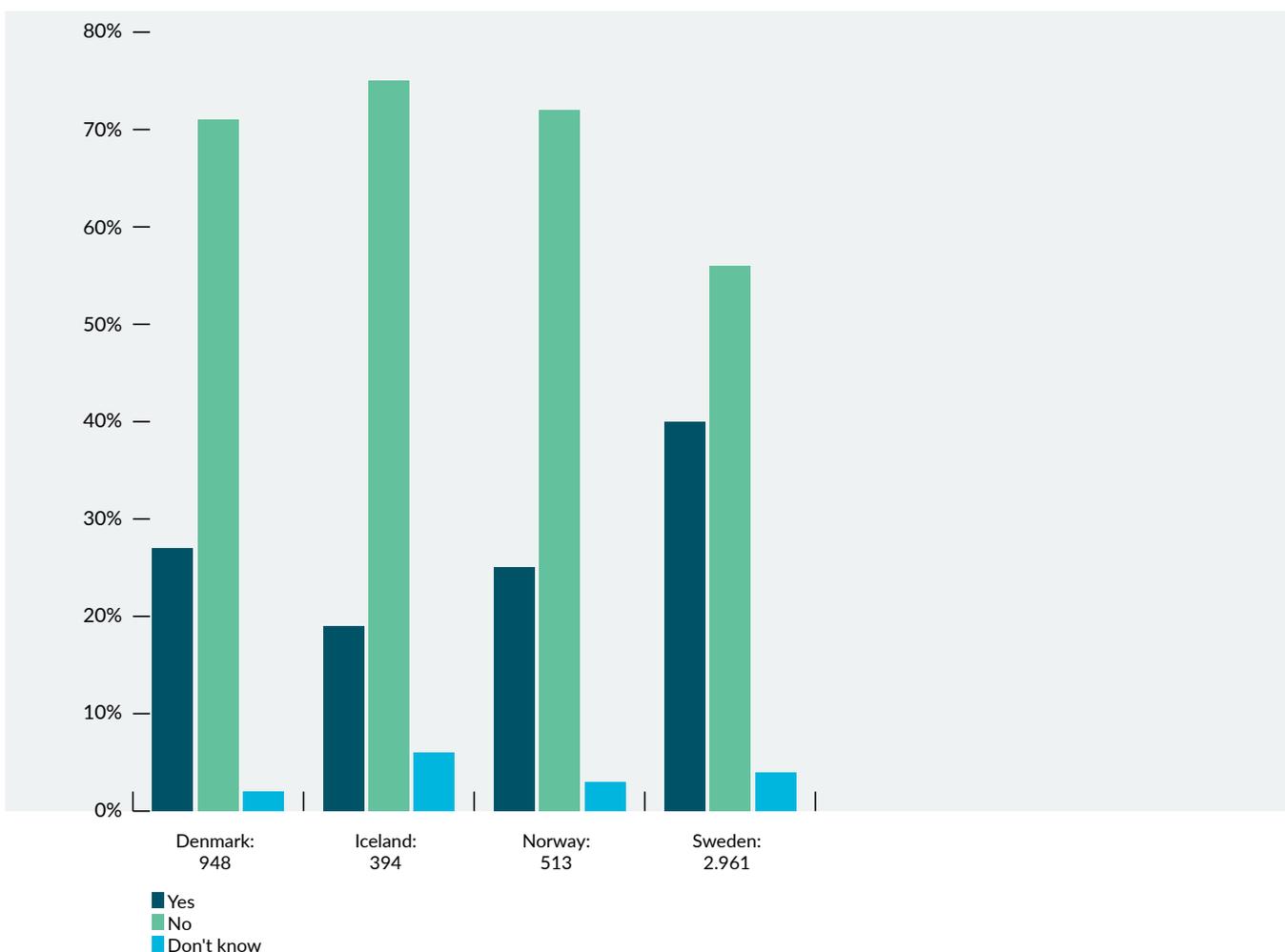
4. ALL EMPLOYERS MUST PROVIDE CPD PLANS AND LONG-TERM STRATEGIES FOR PROFESSIONAL DEVELOPMENT FOR ALL EMPLOYEES

Learning is becoming a new earning, and therefore there is a need for a long-term strategy and concrete CPD plans implemented at work places built on a dialogue between the employer and the employee. The right to receive professional development should be an integral part of the collective bargaining included also in the employment contracts.

Employers should provide spaces and time for employees to develop their competencies. And the employee should have a right and an obligation to proactively seek opportunities for the professional development.

As reported in the ANE survey, and demonstrated in the Graph 4 below, it's not that common to have an educational plan or equivalent which describes what type of professional development is planned for the forthcoming period.

Graph 4. Do you have an educational plan or equivalent?



Source: ANE professional development survey 2018

Main findings:

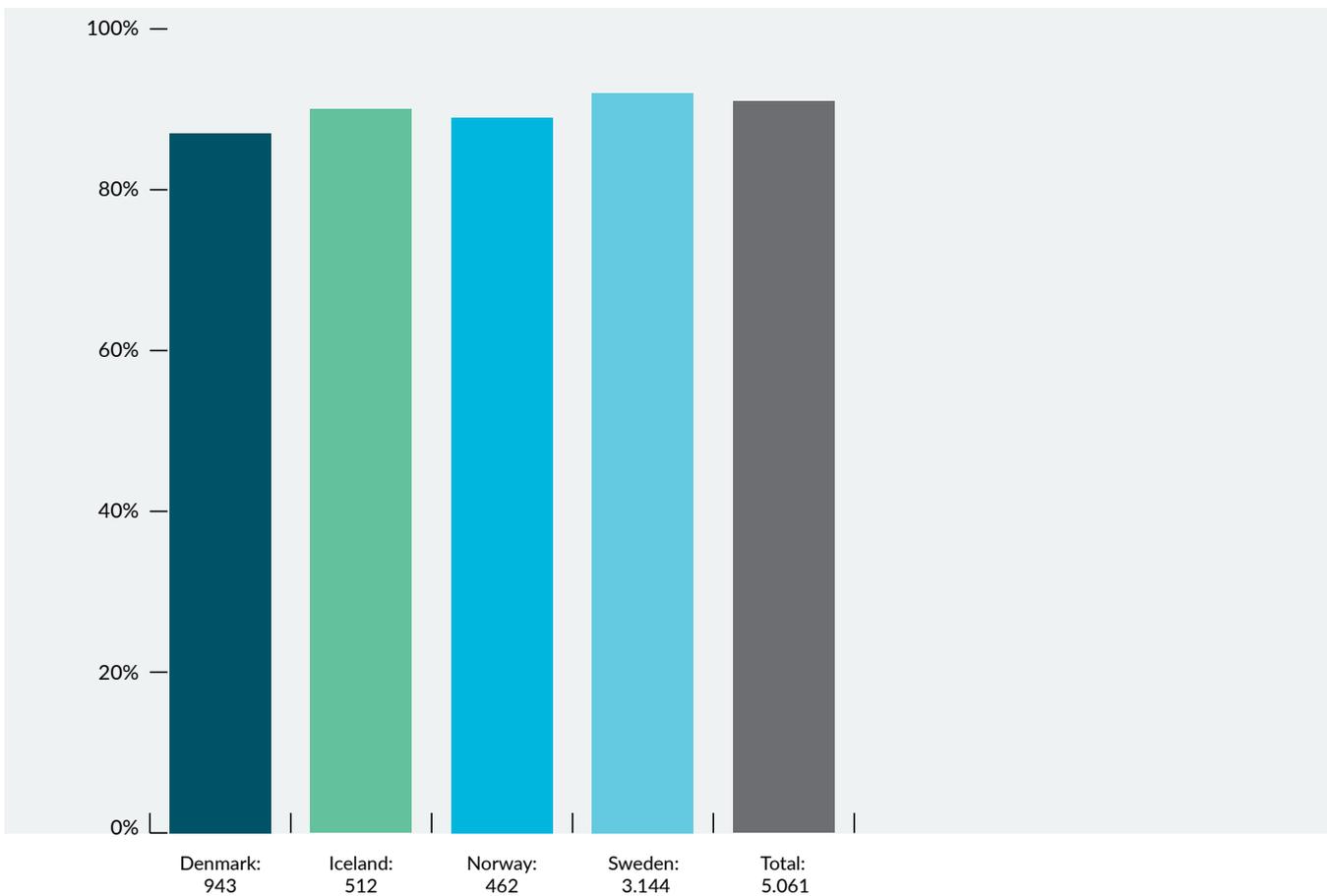
1. Participation

1.1 OVERALL PARTICIPATION IN CPD

91% of the respondents have participated in some type of CPD during the last 12 months.

The level of participation in the four countries is shown in the Graph 1.1 below.

Graph 1.1 Overall participation in CPD



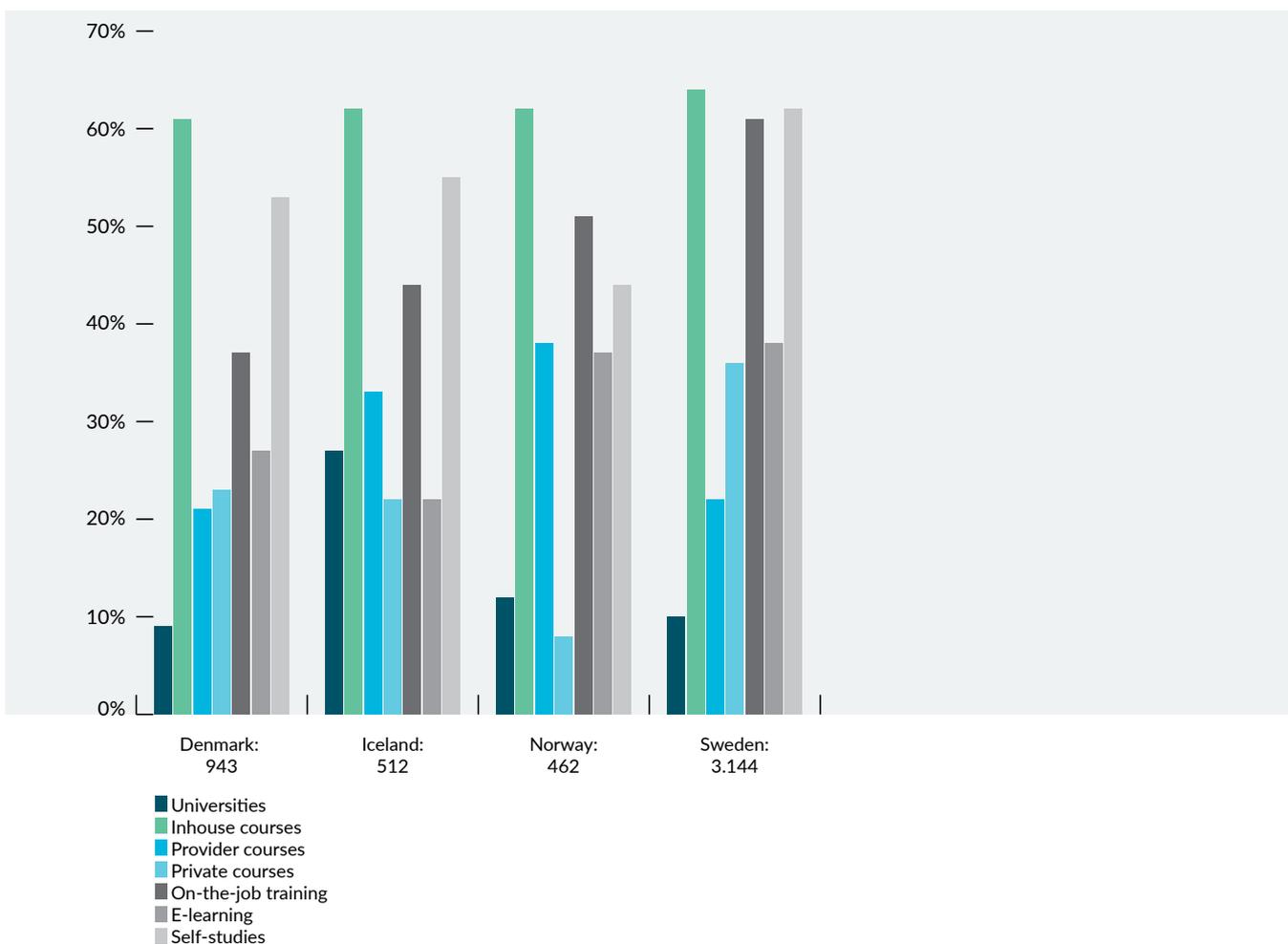
Source: ANE professional development survey 2018

1.2 PARTICIPATION IN A CERTAIN TYPE OF CPD

Inhouse courses are the type of professional development that the majority of the respondents (60% gave a positive answer) had participated in. Self-study is the professional development that takes the second place when it comes to participation. More than 50%, apart from Norway – 44%, pointed out that they had received the professional

development through self-studies like literature or video. On-the-job training, when you learn things from your colleagues, takes the third place. Just under 40% in Denmark and over 60% in Sweden learnt things from their colleagues. Education from private providers is not expressed in such high figures. The only explanation could be that it's difficult to distinguish between the private courses and provider courses.

Graph 1.2 Participation in a certain type of CPD



Source: ANE professional development survey 2018

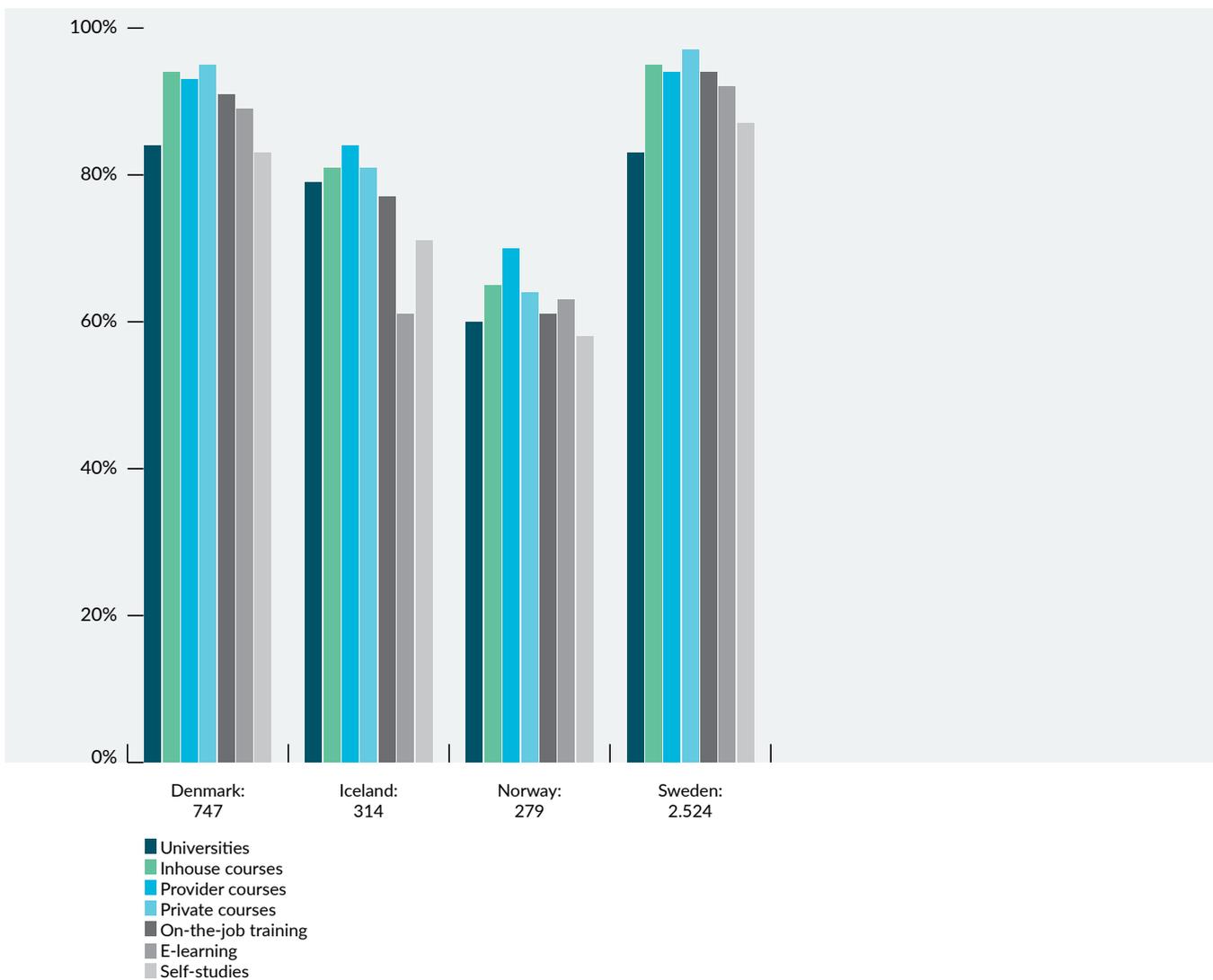
1.3 THE FINANCING OF CPD

The majority has reported that it's either the employer alone or the employer in the main that has financed the professional development. In Denmark and Sweden 87% and 90% respectively have reported this, in Iceland – 72% and in Norway – 54%. Yet in Norway nearly 40% have answered that they

don't know who has financed the professional development.

In the Graph 1.3 below the figures are shown where the employer has paid in full, or most of the cost for each type of professional development.

Graph 1.3 Financed by employer per type of CPD



Source: ANE professional development survey 2018

1.4 WISH FOR MORE OPPORTUNITIES OR OTHER TYPE OF CPD

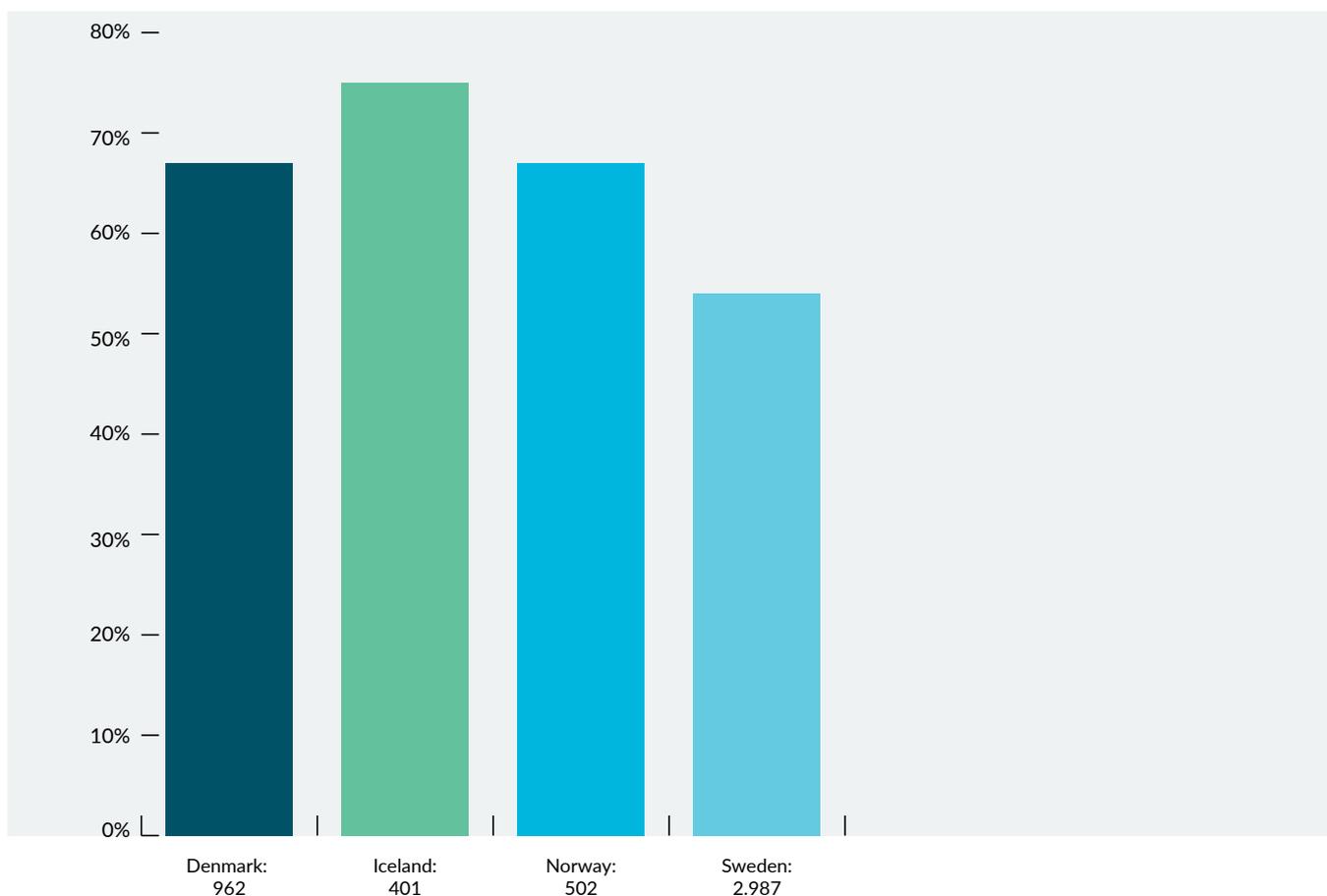
A majority of the respondents in all four countries see the need for more opportunities or other type of professional development.

The conclusion is based on the answers received from both those who haven't had any professional development at all during the last 12 months as well as those who have participated in some type of professional development. In Sweden 54% gave a positive answer, in Denmark and Norway – 67% and in Iceland – 75%. Out of those who haven't participated in any type of professional

development during the last 12 months, 61% in Denmark and Norway say they are willing to participate. The corresponding figures in Sweden and Iceland are 65% and 78% respectively.

Of those who had participated in professional development, 53% of the respondents in Sweden say they are willing to participate in more courses or other type of professional development. In Denmark and Norway, the figure is 68% and Iceland – 75%, see the Graph 1.4 below.

Graph 1.4 Wish for more opportunities or other type of CPD



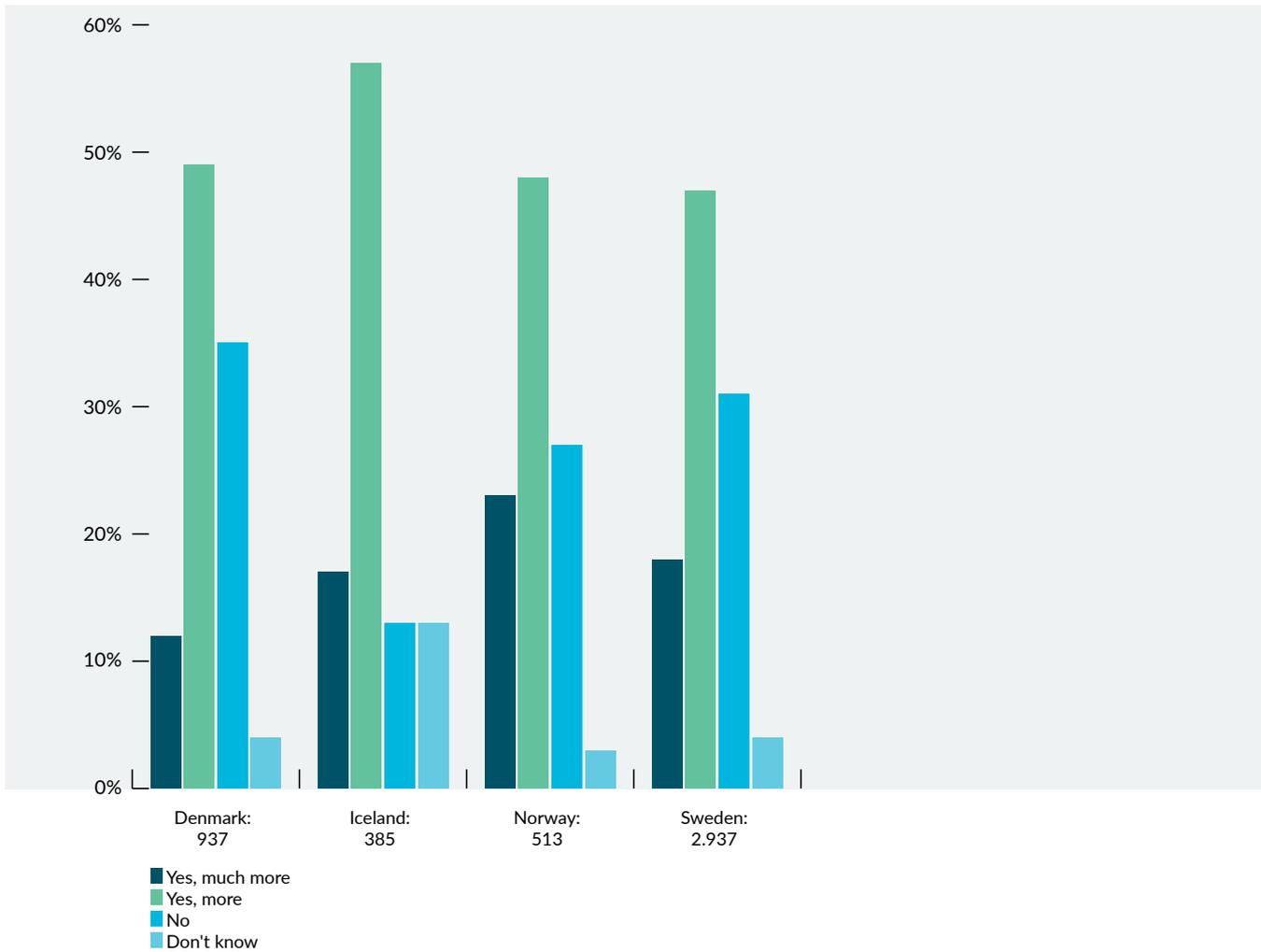
Source: ANE professional development survey 2018

1.5 MORE ACTIVE PARTICIPATION IN PROFESSIONAL DEVELOPMENT COURSES TO MATCH FUTURE DEMANDS ON THE LABOUR MARKET

More active participation in CPD than so far to

match future demands on the labour market, is something a majority of the respondents in all four countries agree upon. In Denmark the figure is 61%, followed by Sweden – 65%, Norway – 71% and Iceland – 74%.

Graph 1.5 More active participation in professional development courses to match future demands on the labour market



Source: ANE professional development survey 2018

2. Relevance

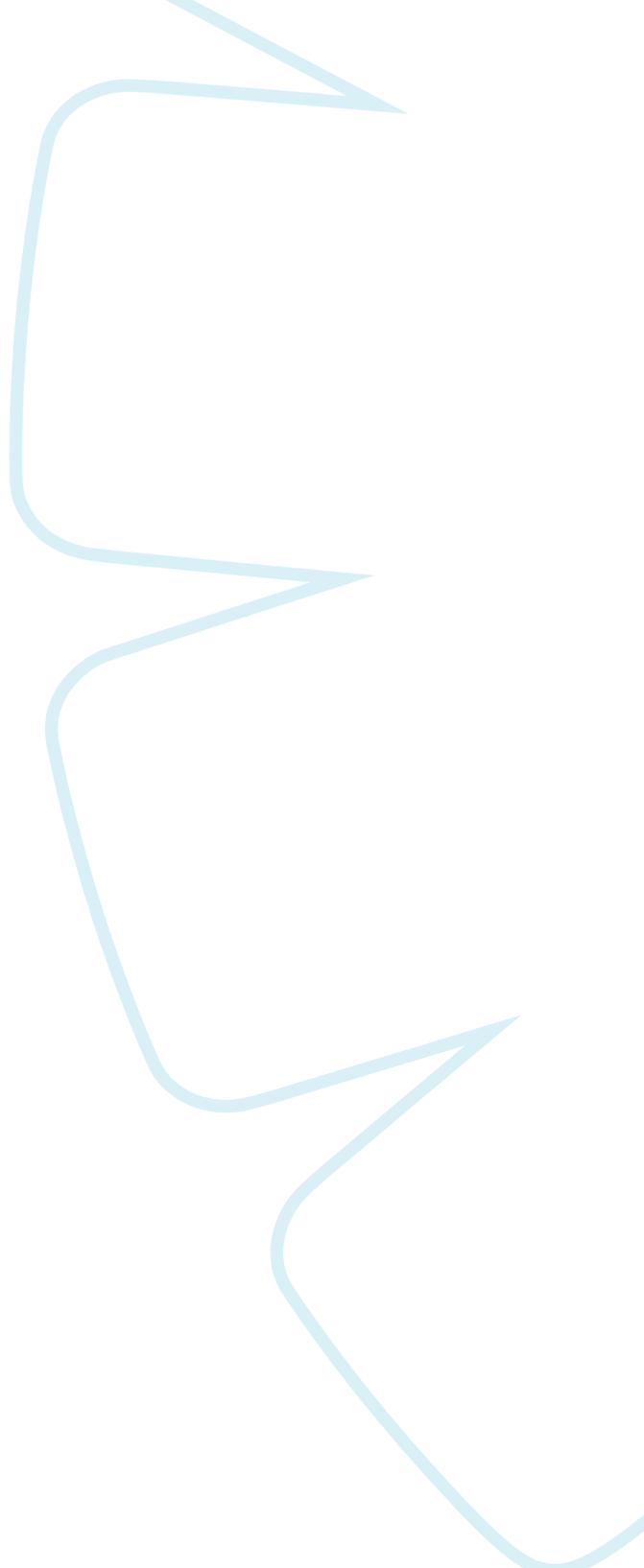
2.1 USE/BENEFIT OF PARTICIPATION IN CPD IN A CURRENT WORK

In general, those who have participated in CPD see a high or very high benefit of this related to their current work.

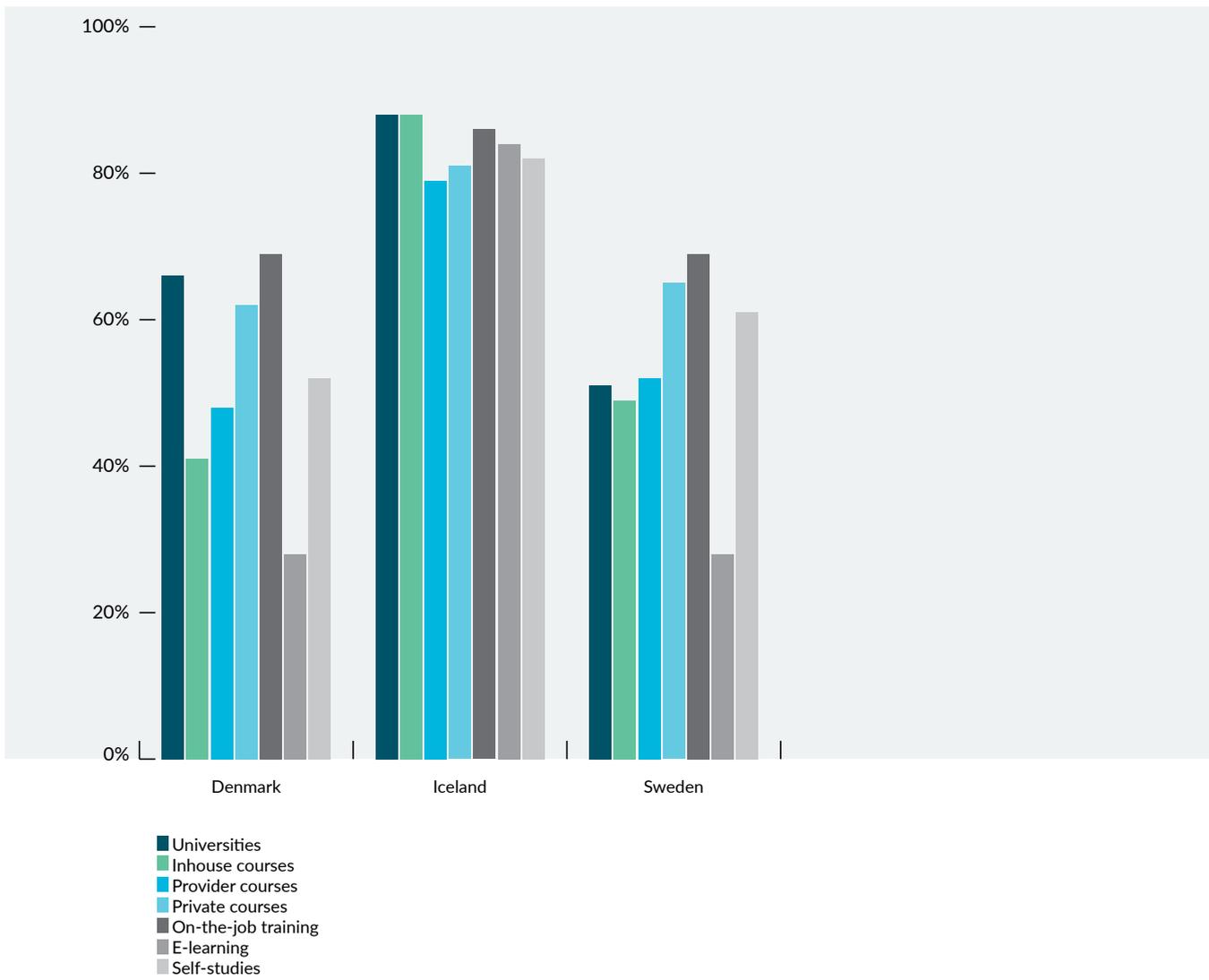
On-the-job training, learning from colleagues, is something that a majority of respondents indicate as a high or very high benefit out of in what they work with today. Education from private providers is also what gives a high benefit in a current work. Self-studies where you decide what to study and when, to learn more for your work today, is also something that scores high figures.

Norway had got open answers to this question, and therefore it was impossible to make a comparison between the four countries, so the result only shows the responds from Denmark, Iceland and Sweden.

Please see the Graph 2.1. on the next page.



Graph 2.1 High or very high benefit in a current work



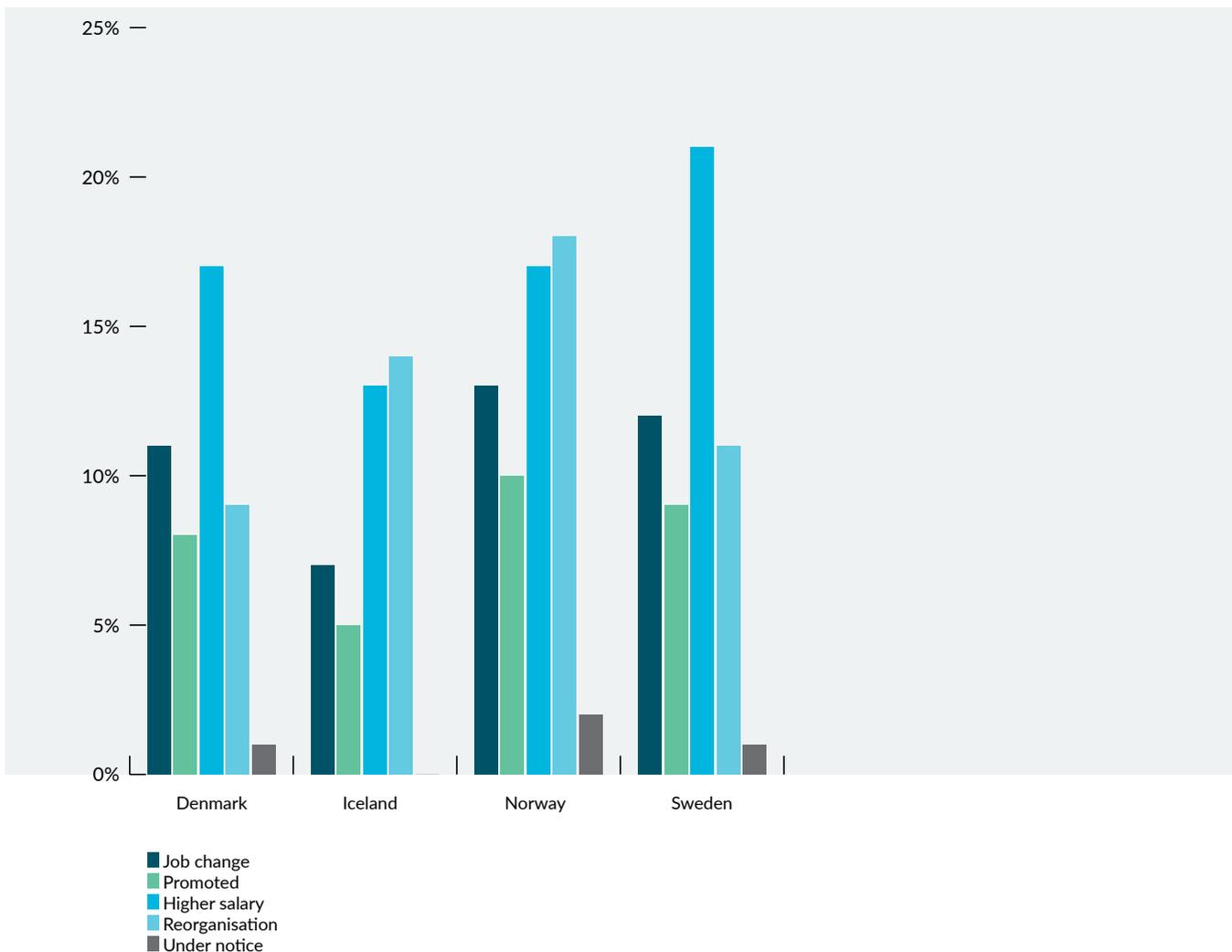
Source: ANE professional development survey 2018

2.2 POSITIVE EFFECTS OF CPD

The most frequent answer out of the five sub-questions regarding positive effects of participating in professional development was a higher salary. In Sweden 21% gave a positive answer followed by Denmark and Norway – 17% and Iceland – 13%. In Iceland and Norway, the most positive figures were

received by the answer reorganisation, 14% and 18% respectively. Changing job has to some extent been positive, yet few if any responded in such a way. Being promoted and giving the notice – hardly anyone gave a positive answer. Many respondents gave the answer to this question “don’t know”.

Graph 2.2 Positive effects of CPD



Source: ANE professional development survey 2018

3. Barriers

3.1 REASONS FOR NOT ADEQUATELY PARTICIPATING IN CPD

What most respondents in all four countries have taken up as a reason why they haven't participated adequately in CPD is a lack of time. This was the answer of nearly 50% of all the respondents.

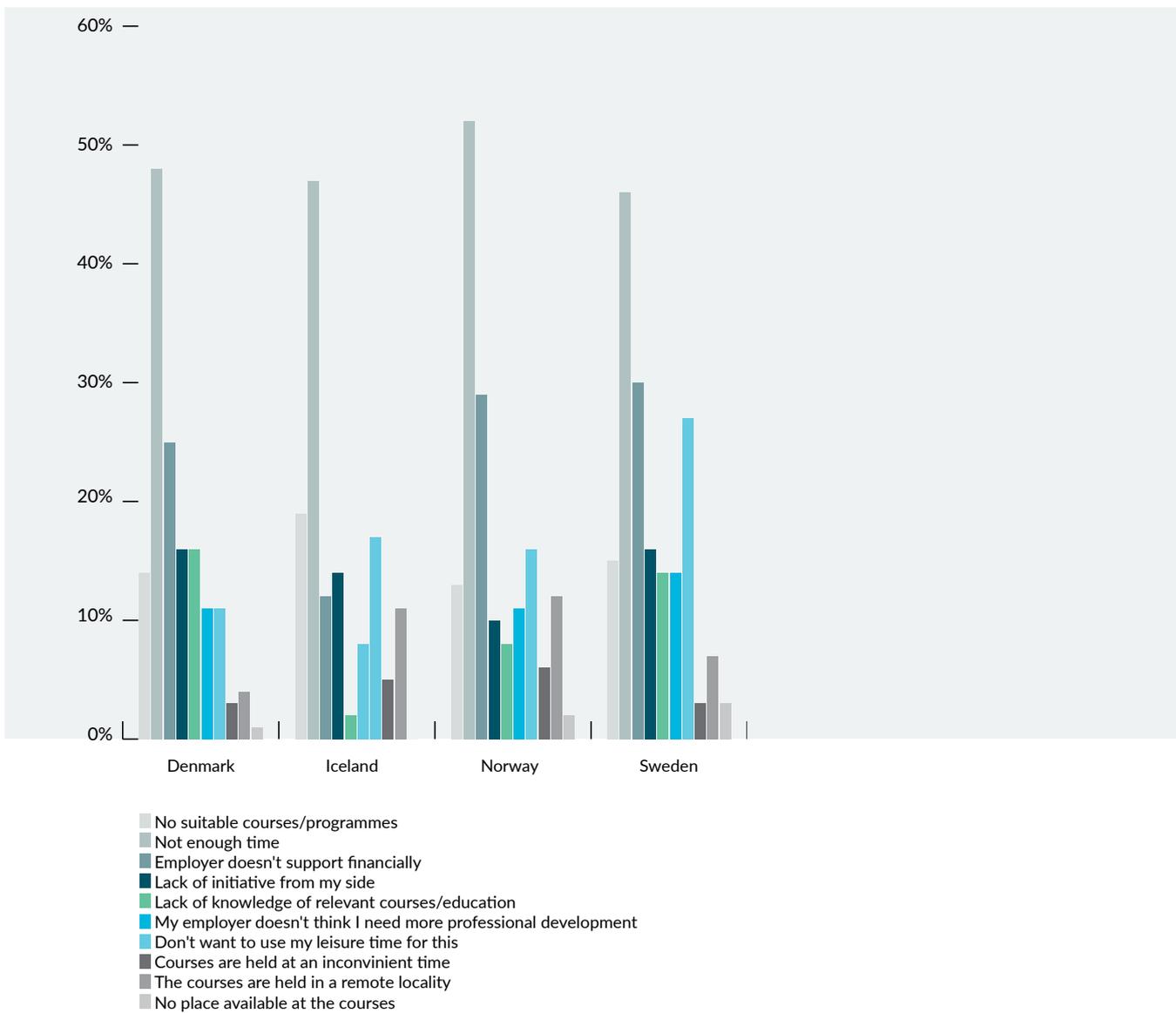
The lack of employer's financial support in the professional development is also a reason for not participating adequately. 25% of the respondents in Denmark, 29% in Sweden and 30% in Norway pointed out this as a reason to a high degree. In Iceland the figure is 12%. The reasons for the difference between Iceland and the rest of the countries may be explained by the availability of the professional development funds established in Iceland, which cover engineers as well. It's interesting that this sub question gets so high percentage when the question earlier about who financed the professional development mainly has been "the employer".

Another reason for not taking part in a professional development in an adequate degree is a lack of initiative from the respondents. In Denmark and Sweden, such was the answer of 16% of the respondents. The corresponding figure in Norway is 10% and 14% in Iceland. 27% of the respondents in Sweden, 17% in Iceland, 16% in Norway and 11% in Denmark don't want to use their leisure time for a professional development.

It's not only that the employer doesn't

finance the professional development that can be a reason for not participating adequately in professional development, 14% of the respondents in Sweden and 11% in Denmark and Norway respectively answer that the employer doesn't think employees need professional development. Only 8% experienced the same barriers in Iceland. See the Graph 3.1 on the next page.

Graph 3.1 Barriers for not adequately participating in CPD



Source: ANE professional development survey 2018

3.2 PROVISION RELATED REASONS

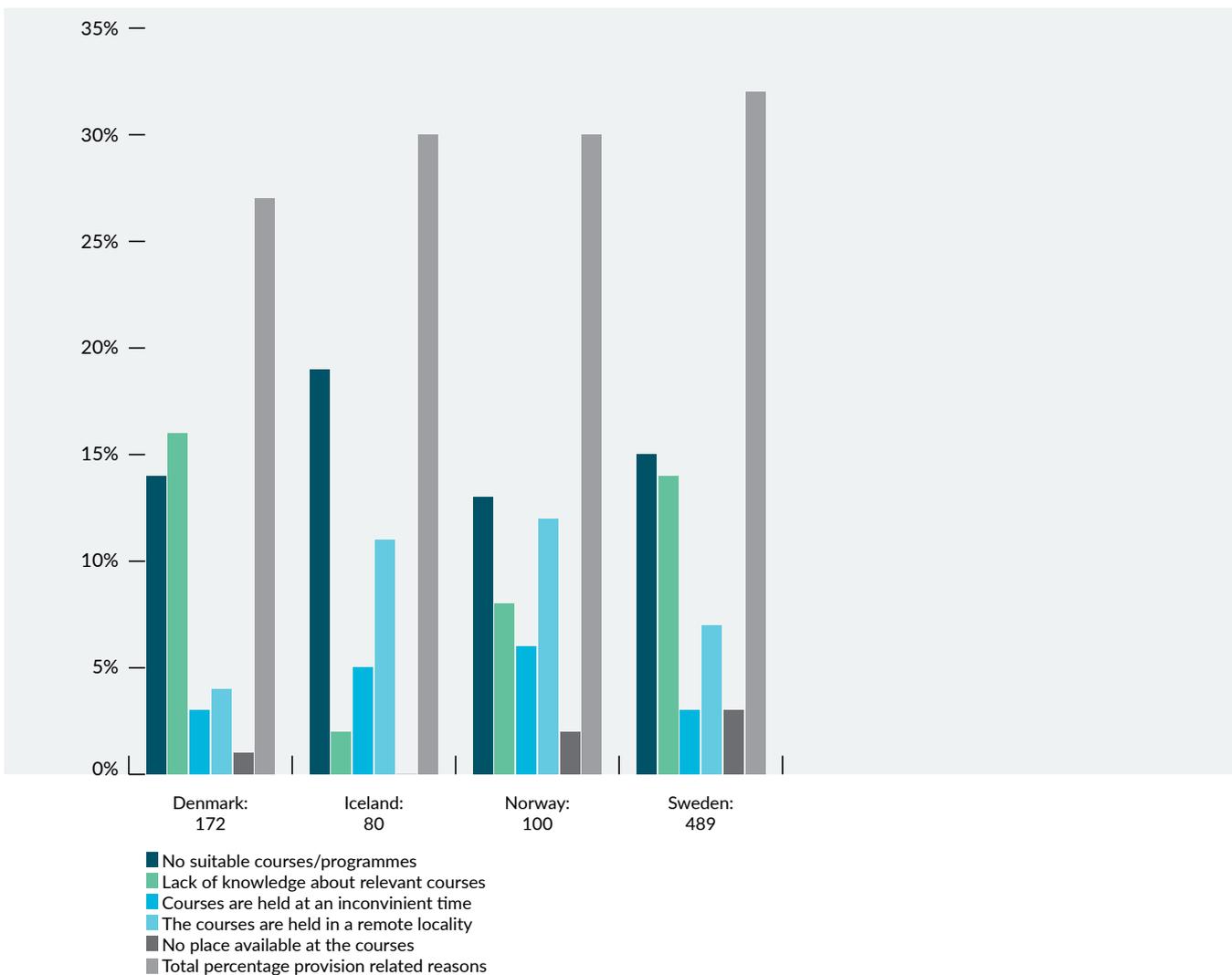
30% of the barriers are related to provision reasons. Lack of knowledge about the relevant courses/education is a reason given for not participating adequately. This varies from 2% of the respondents in Iceland, who mentioned this reason to a high degree, to 16% in Denmark.

Figures in Norway and Sweden are 8% and 14% respectively. More information must be a simple solution to this problem.

Around 15% of the respondents, except for Iceland where it's nearly 20%, say to a high degree that the reason why they haven't participated adequately is that there are no suitable courses or programmes.

Other reasons for not participating adequately are that the course is held in a remote locality, the courses are held at an inconvenient time and the course has been fully booked. An answer "to a small degree" has been generally given to these sub-questions.

Graph 3.2 Provision related reasons for not participating adequately in CPD



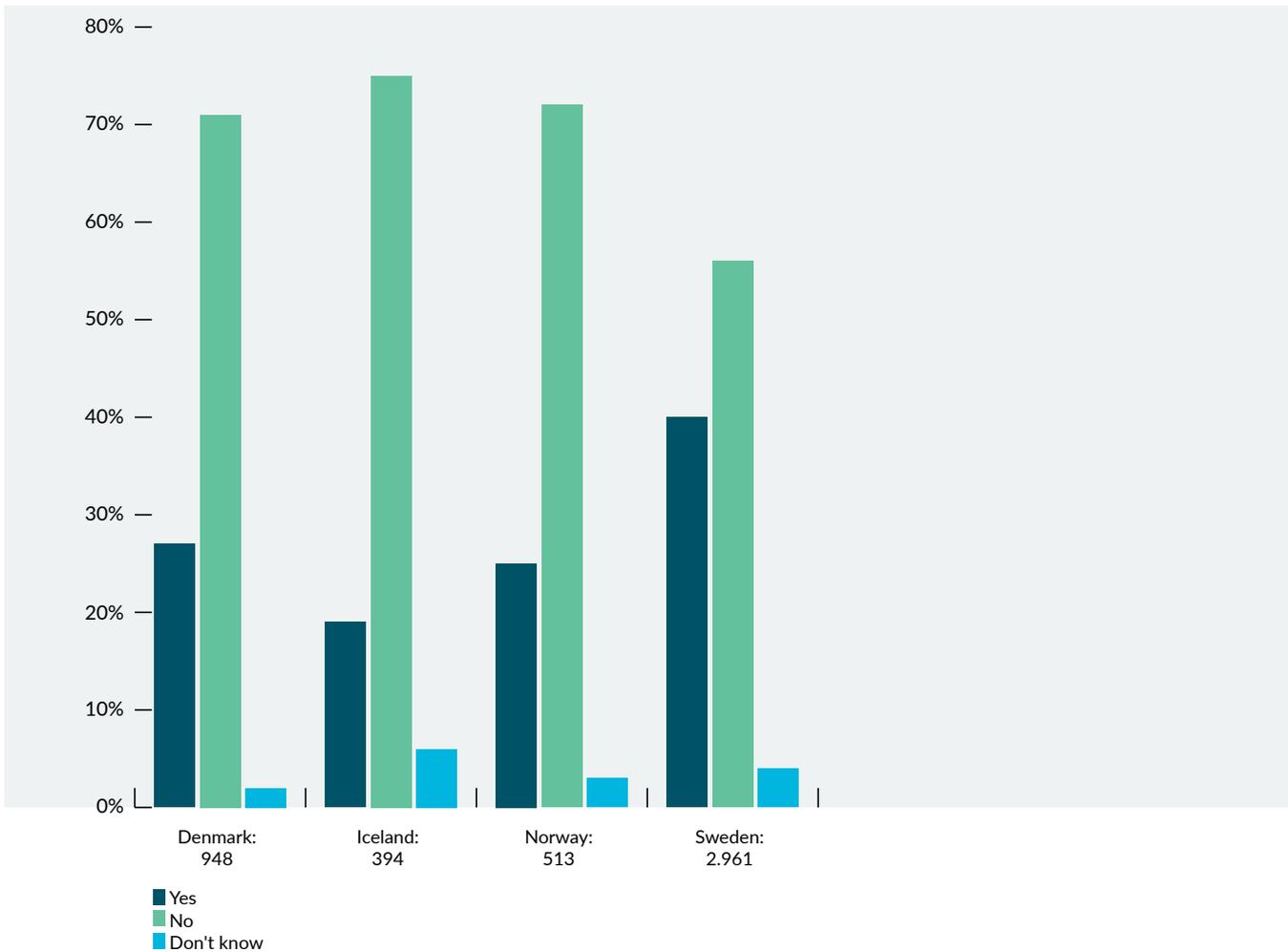
Source: ANE professional development survey 2018

3.3 EDUCATIONAL PLAN OR EQUIVALENT

It's not that common to have an educational plan or equivalent which describes what type of CPD is planned for the forthcoming period.

In Iceland it's only 19% that have it, Norway – 25%, Denmark – 27%. Sweden has the highest figure – 40%.

Graph 3.3 Educational plan or equivalent



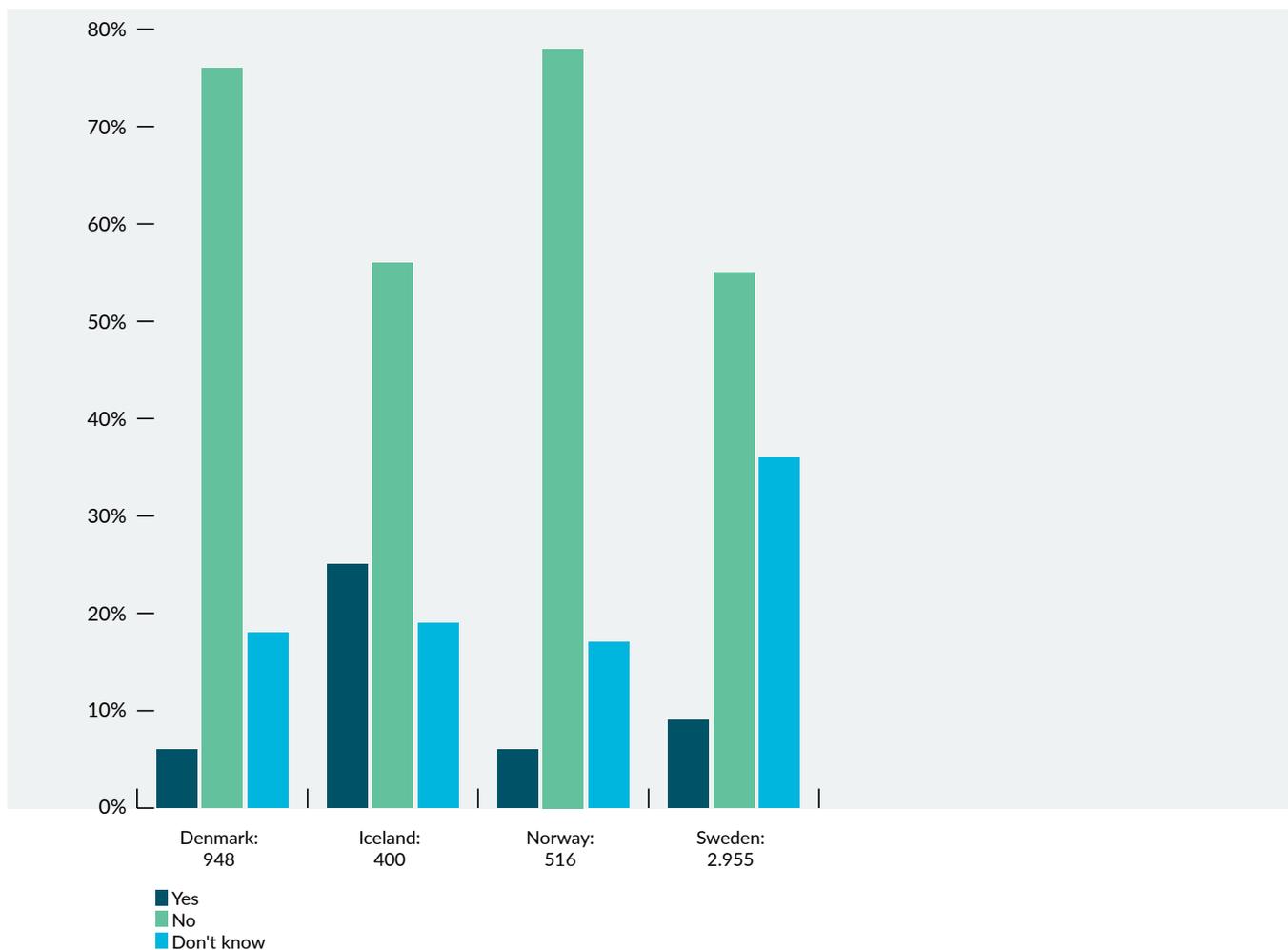
Source: ANE professional development survey 2018

3.4 RIGHT TO A CERTAIN NUMBER OF CPD DAYS PER YEAR

There are very few who have the right to a certain number of CPD days per year. In Iceland 25% of the respondents have this right, whereas in the other three countries it's less than 10%. It's too few answers to draw

any conclusions, but out of those who have answered how many days they're entitled to, the most common number of days are 5 in Denmark, Norway and Sweden. In Iceland there are 10 days. It seems that many of the respondents don't even know that they have the right to a certain number of such days.

Graph 3.4 Right to a certain number of CPD days per year



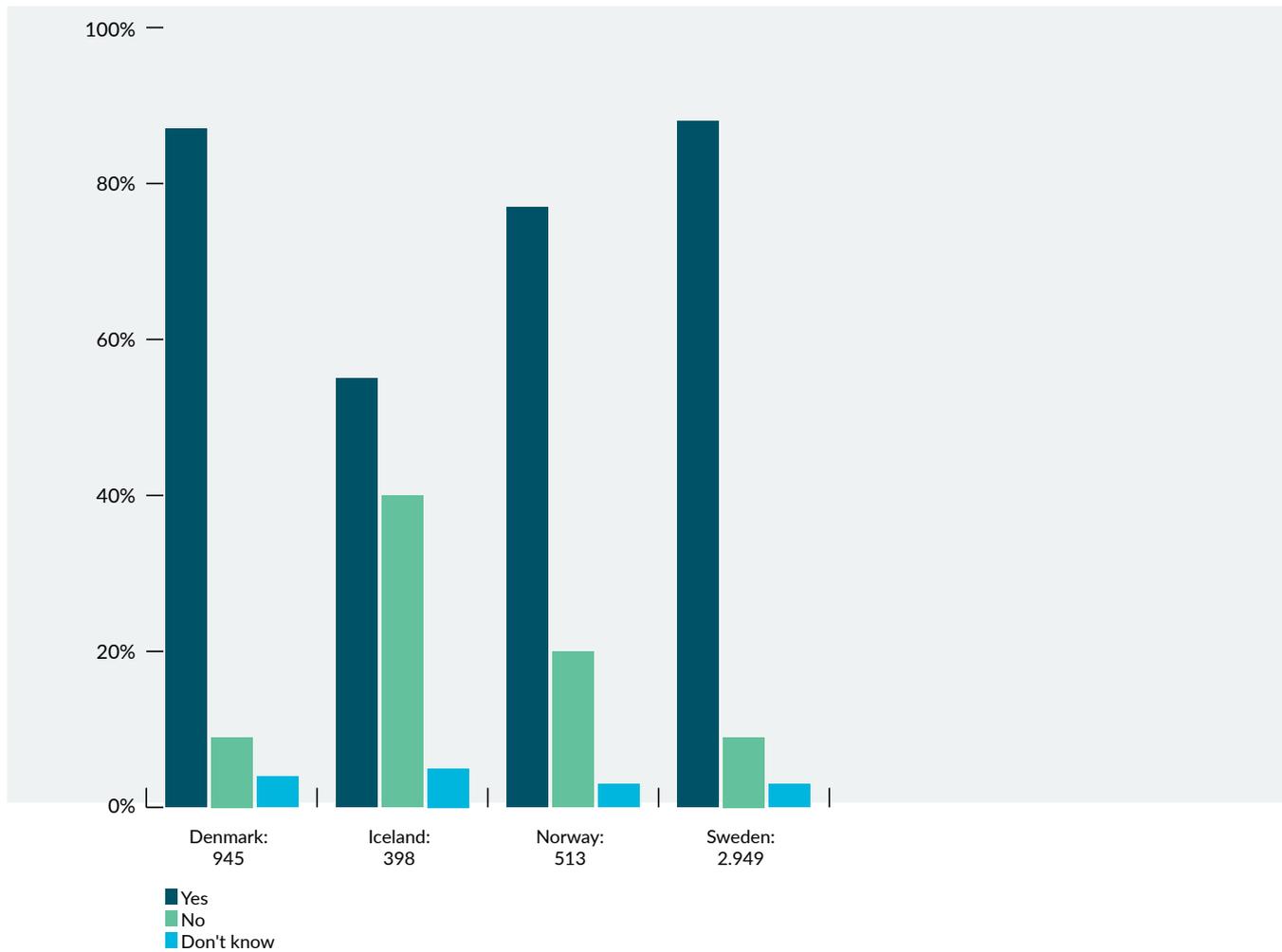
Source: ANE professional development survey 2018

3.5 YEARLY DIALOGUE WHERE CPD IS DISCUSSED

In Denmark and Sweden nearly 90% of the respondents discuss CPD when they have

their yearly development dialogues, the corresponding figure in Norway is 77% and in Iceland - 55%.

Graph 3.5 Yearly dialogue where competence development is discussed



Source: ANE professional development survey 2018

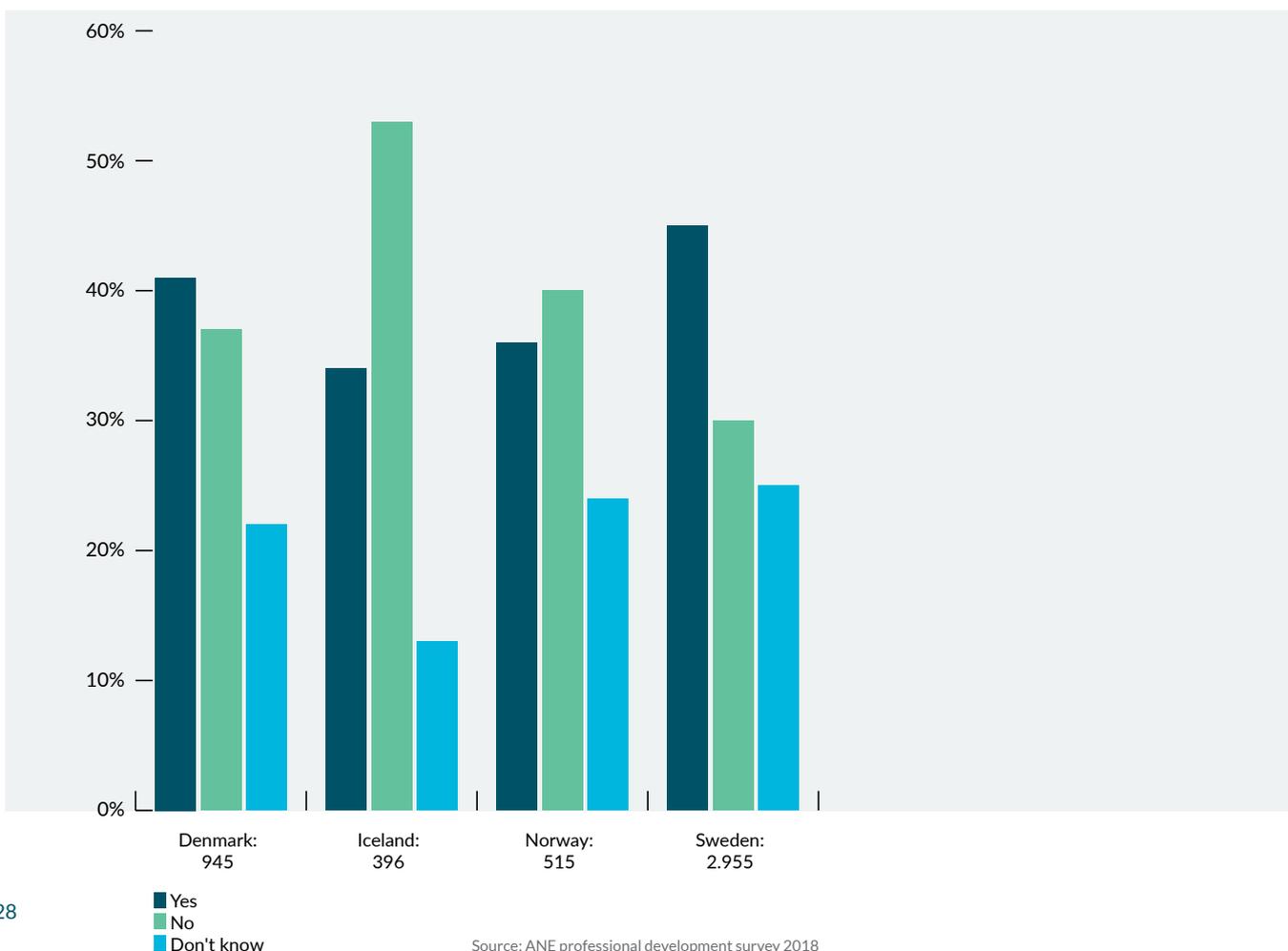
4. Future Perspectives

4.1 REGULARLY EVALUATION OF THE COMPANY'S NEED FOR CPD

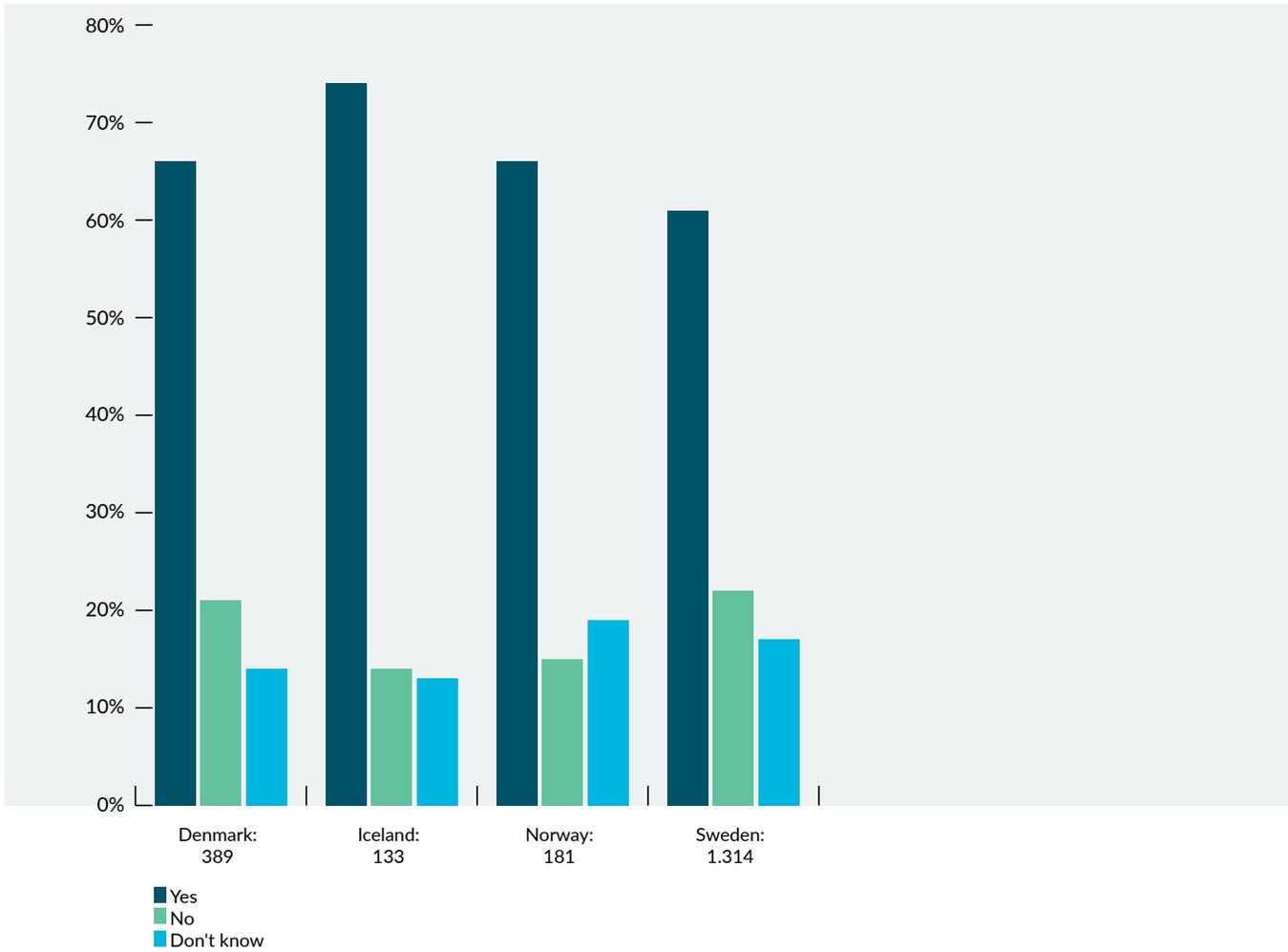
About 40% of the respondents work for a company that regularly evaluates the need for CPD for the future. Yet the figures vary from 34% for Iceland followed by Norway – 36%, Denmark – 41%, and Sweden has the highest figure – 45%. Quite a number of the respondents gave the answer “don’t know”. see the Graph 4.1. In Denmark and Norway, 66% consider that this identification is useful

in the discussion between an employee and a boss when it comes to the employee’s need for CPD. The figure in Sweden is 61% and in Iceland 74% of the respondents have answered that it’s useful, see the Graph 4.1.1. 51% of the respondents in Iceland and Norway think that the professional development they’ve participated in has been based on the long term competency needs of the company. In Denmark and Sweden, the figures are 59% and 63% respectively, see the Graph 4.1.2.

Graph 4.1 Regular identification by the company of the employers’ need of professional development

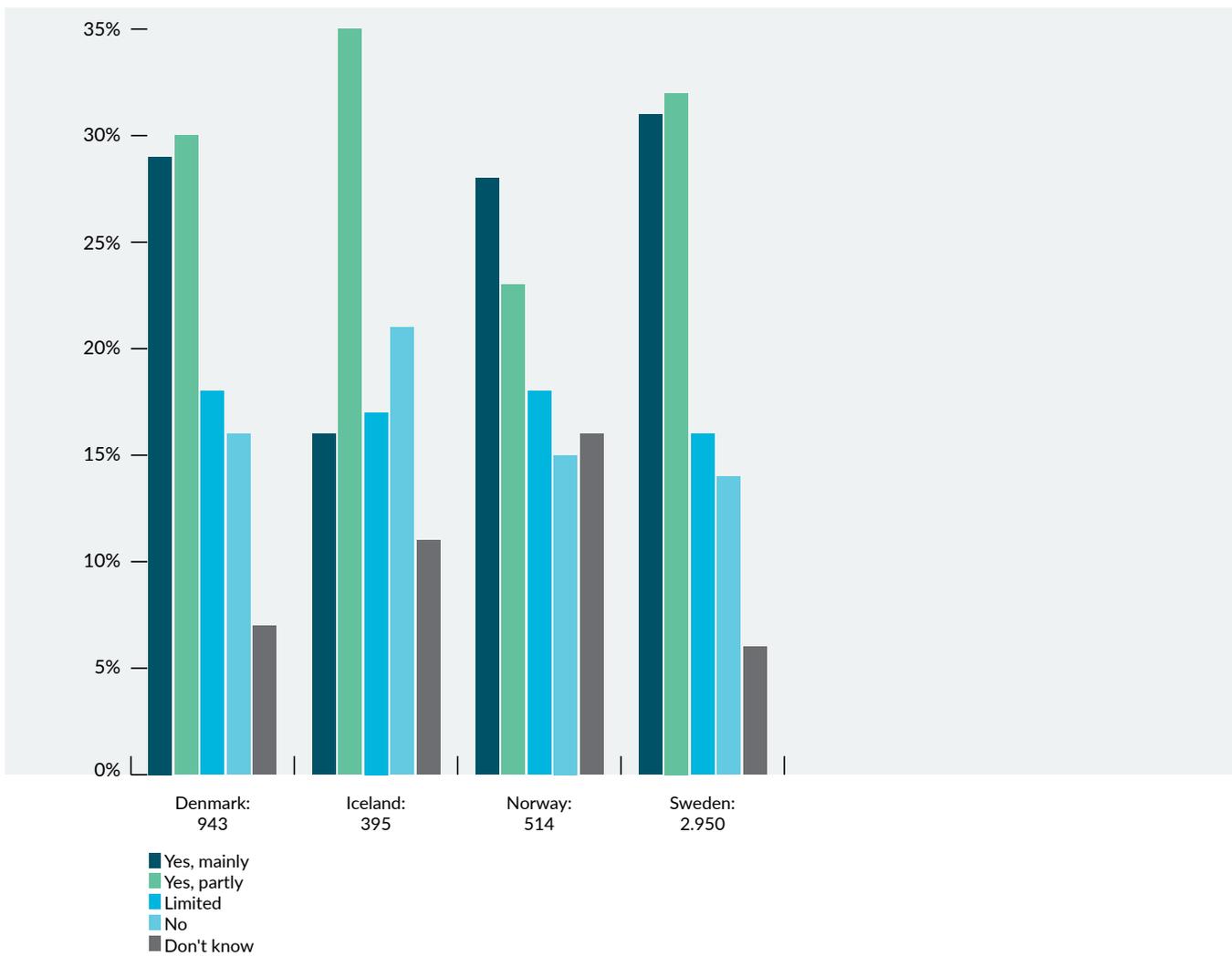


Graph 4.1.1 The identification useful for you and your boss to determine in what type of CPD you should participate in



Source: ANE professional development survey 2018

Graph 4.1.2 The participation in CPD based on the long-term needs for professional development

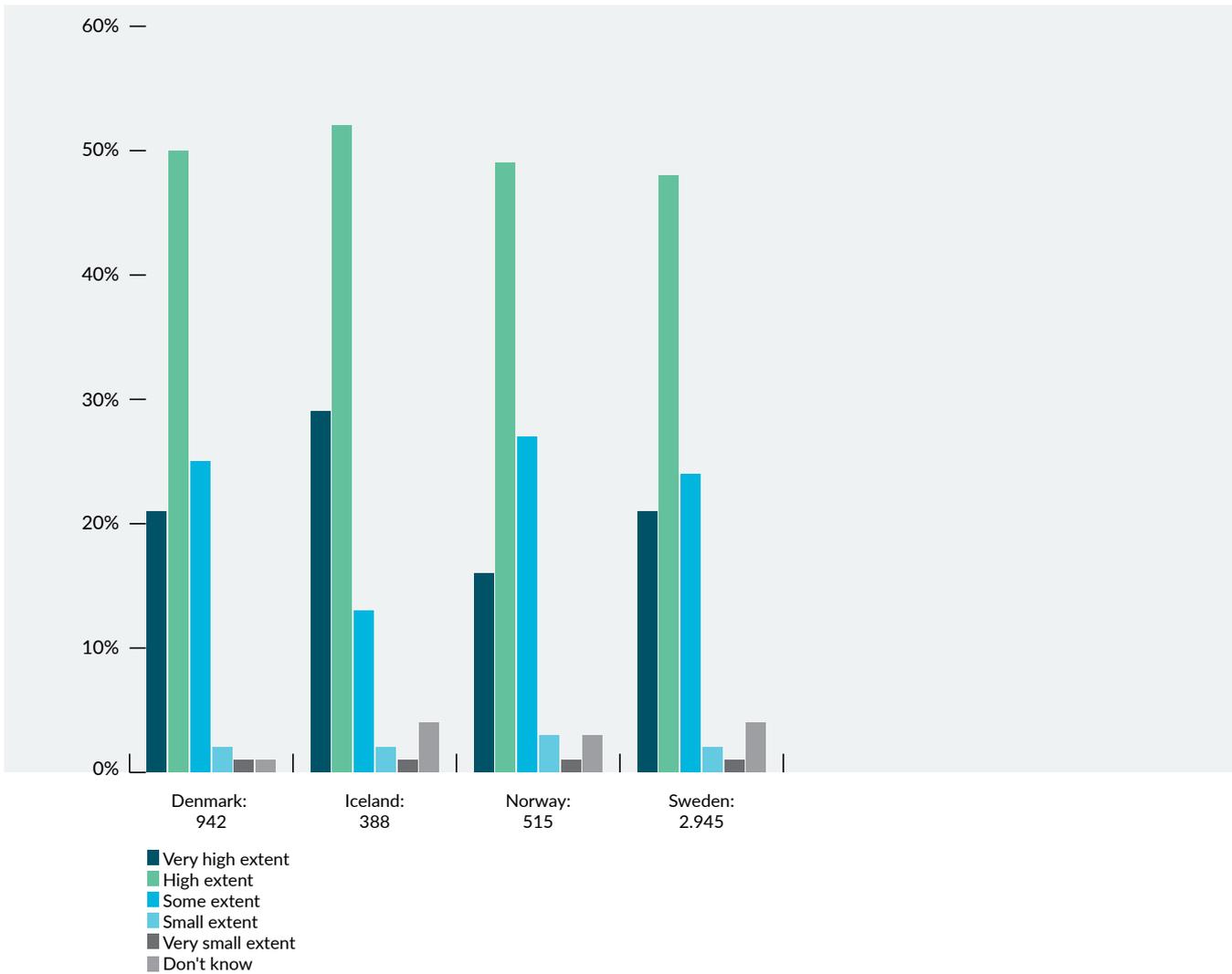


Source: ANE professional development survey 2018

4.2 COMPETENCY MATCH WITH REQUIREMENTS FROM THE COMPANIES THE RESPONDENTS COULD CONSIDER WORKING FOR

In Iceland, 81% of the respondents believe that their competencies match to a high or a very high extent with the requirements specified by companies the respondents could consider working for.

Graph 4.2 Evaluation of competency match with requirements of the companies the respondents could consider working for



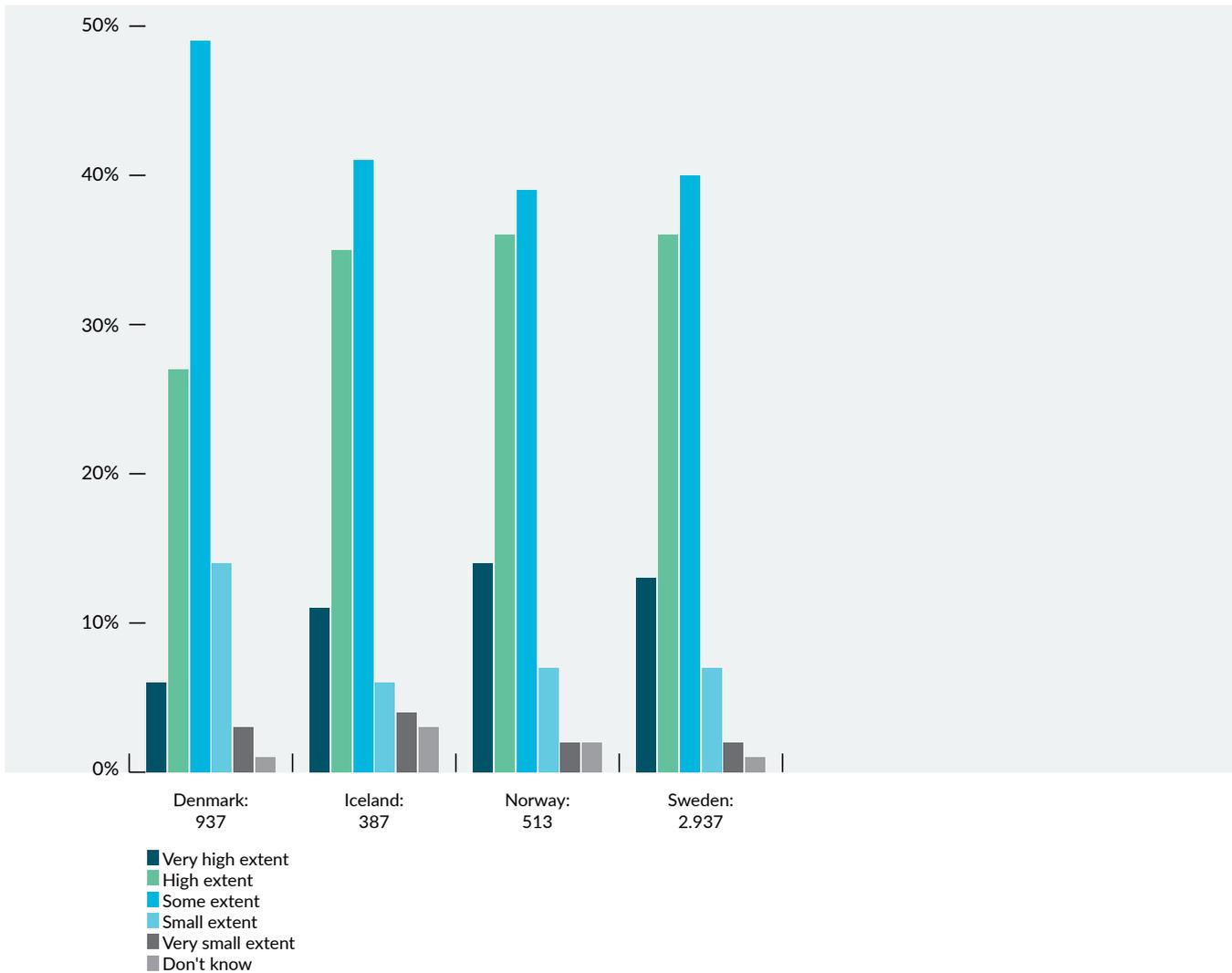
Source: ANE professional development survey 2018

4.3 EXTENT OF REGULARLY NEED FOR CPD TO MANAGE CURRENT JOB

In Iceland, Norway and Sweden, approximately 50% of the respondents answer to a high or

very high extent, that they regularly need CPD to manage their current job. In Denmark it's only 33%.

Graph 4.3 Extent of regularly need for CPD to manage current job



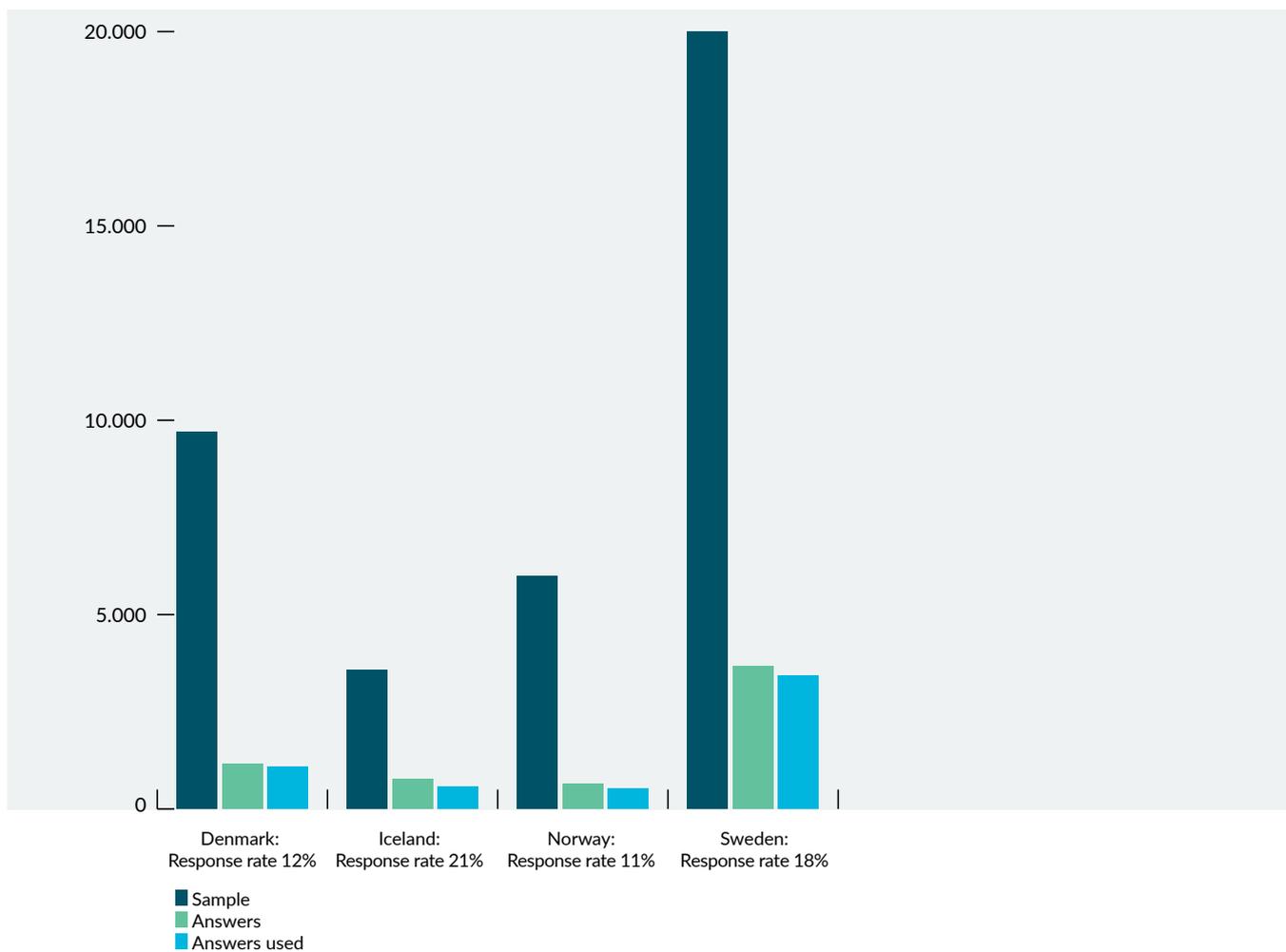
Source: ANE professional development survey 2018

5. Methodology

This survey was conducted in the Spring of 2018 in Denmark, Iceland, Norway and Sweden. The questionnaire was sent out by

each organization to engineers in employment in both private and public sectors. It was a sample survey.

Graph 5.1 Response rate



Source: ANE professional development survey 2018

Partially answered questionnaires have been used in the result. If only background data had been filled in, the respondents were excluded.

There is no comparison with Norway when it comes to benefits from participation in CPD. Present work, the answers are in the text and haven't been coded, wherein a possibility to get a new job in another company was not asked.

An average number has been calculated for the number of days spent at each type of CPD. A maximum of 50 days per type of professional development has been determined. All 0 are excluded from the calculations. In some cases, 0 has been used as missing values so it's difficult to know whether it's actually 0 days or a missing value. The calculations are based on values >0 and ≤ 50 .

The percentage of time spent on CPD during working hours is difficult to analyse in a meaningful way. Even though the data have been cleaned up, there are some answers that are a bit doubtful. There's also the problem with the answer 0: whether it's actually 0 or a missing value.

Annex 1: Country Profiles

DENMARK

OVERVIEW

- In Denmark CPD is financed by the state for blue collar workers, but not for engineers and other professionals with higher academic education.
- The responsibility for CPD of employed engineers is divided between an employer and an employee. However, the employer should pay for training according to the employees' current job and tasks.
- In Denmark there are no funds for highly-skilled professionals in the private sector to be used for individuals or companies to finance education. However, a new fund has been established in 2018 for governmental academic employees, including engineers.

EXISTING PROVISION

CPD for members of the Danish Society of Engineers, IDA is primarily provided through private companies offering certification courses within IT, automation, communication, language courses, management or project management. This market is to a large extent unregulated one in terms of content and quality. However, there is a number of internationally recognized certifications provided by private providers in Denmark. IDA also provides a quantity of courses through IDA Learning.

IDA members and other persons with a higher education degree can also get CPD through diploma or master programmes or shorter courses at the Danish universities or university colleges or business academies. The universities and university colleges are able to offer both public available diploma and master programmes and shorter courses. However, the universities are also able to provide customized short courses for companies on a cost-based basis.

FINANCES

Traditionally the main focus in the public funded CPD-system has been put on training and further education for unskilled and low-skilled workers.

There are two kinds of public funding for CPD in Denmark: a subsidy for education (a taximeter that covers a part of the course fee – the other part is paid by the participant (usually the employer)) and salary reimbursement.

The subsidy is provided for all publicly available and publicly recognized CPD-courses and programs.

Salary reimbursement is only applicable for unskilled and low-skilled workers.

FUNDS

In Denmark there are no CPD funds for engineers operated by the trade unions. However, a new fund has been established in 2018 for governmental academic employees, including IDA members.

BUSINESS ENVIRONMENT

In general, collective agreements in Denmark mention the right and sometimes even the obligation to attend CPD for the employee. It varies a lot how these provisions are formulated in the collective agreements and how the companies and organizations follow them. All employees in the public sector are bound by collective agreements. However, the vast majority of IDA members are employed in the private sector and only 6.25% (aprx. 2 500) of these are bound by a collective agreement. At some of the private companies that employ IDA members it is stated in employee handbooks or principles that the employees have a certain right to attend CPD, but in most companies the employees' CPD is agreed individually between the employee and the employer depending on the company's need.

NORWAY

OVERVIEW

- CPD is divided into the following segments:
Adult education, Tertiary vocational education, Higher education and Non-formal learning.
- For engineers the most relevant CPD activities are further education at higher educational level, non-formal learning or shorter courses offered by external providers.
- Non-formal learning meaning learning outside the formal education system, is usually organized at the workplace, through external courses or by unions. Higher education institutions have traditionally not offered many courses specifically for professional development.
- There is no common scheme for the financing of adult education.
- In order to create incentives for the employers to invest in CPD it must be a part of the negotiations. Collective bargaining and the tripartite cooperation between employers, employees and the government are a prerequisite for CPD in Norway.

EXISTING PROVISION

Good scope of work shall be done for improvement of CPD for engineers. 68% of employers offered at least one opportunity for professional development to engineers in 2017.

The private sector is the largest provider of CPD in Norway. 40% of the population aged 22-66 reported that they had participated in non-formal education over the last 12 months. An almost equal level of participation in CPD of men and women is observed. At the same time, an approximately 8% of the population

between 22 and 59 years participated in formal education. Over half of this discrepancy is seen at university and college level.

All universities provide CPD. However, the finance system for public universities gives no special incentives for the institutions to develop single courses. Therefore, institutions develop too few single courses and often the last ones are quite costly.

The exact amount of CPD at the university level is difficult to estimate. It's possible for workers to use parts of a degree course as CPD. Moreover, all degrees may be considered as continuing education if these are received after a higher education (e.g. a bachelor's degree in another subject after completion of the master's degree).

FINANCES

There is no common scheme for financing of the adult education. The government indirectly supports financially all types of CPD, except for non-formal education. The government financially supports educational institutions rather than CPD courses in particular. There is no general government grants scheme for non-formal education, and it is assumed that this is mostly covered either by provider's or by participant's fees.

Both companies and individuals can also deduct education costs when calculating taxable income.

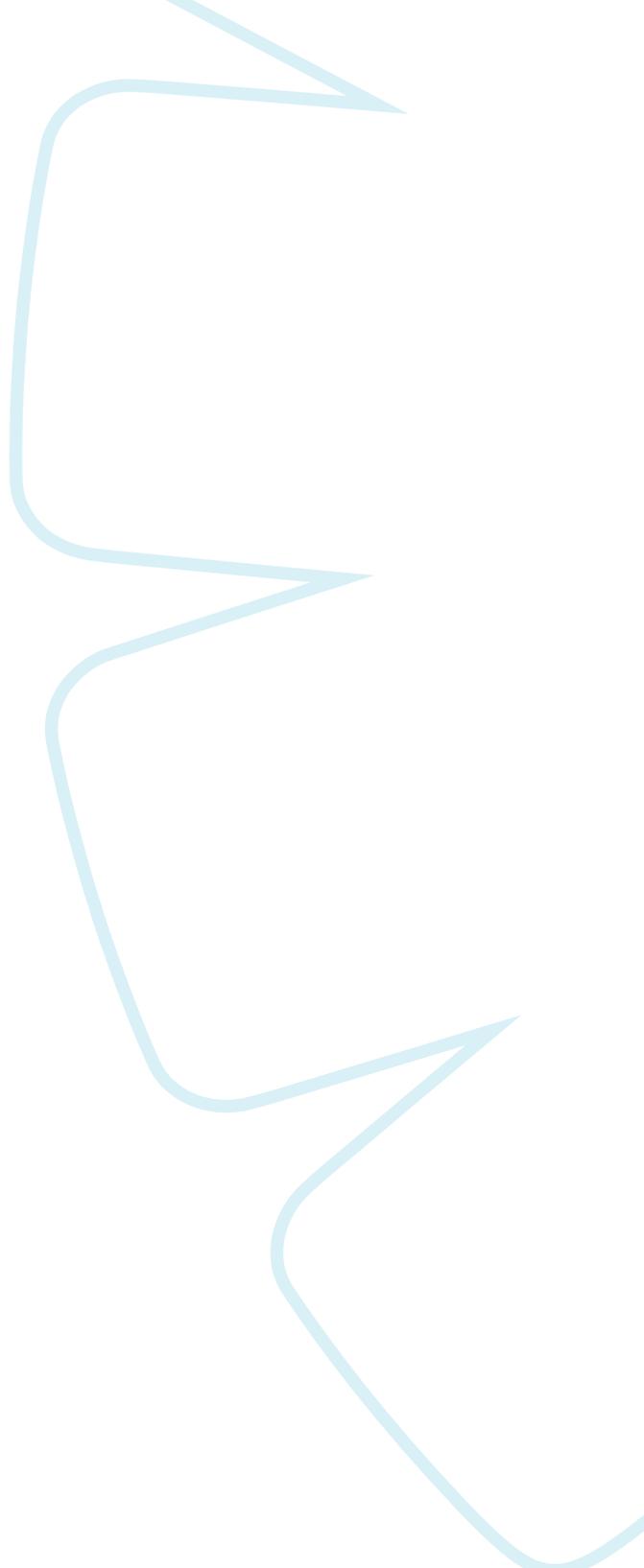
EDUCATION FUNDS AT NITO

The Norwegian Society of Engineers and Technologists, NITO doesn't provide any funding directly. However, the association provides a significant number of courses to its members. A part of these are offered at a slightly reduced price. NITO is also a member of the funding agency Akademisk Studieforbund (AKS) where members can apply for funding.

BUSINESS ENVIRONMENT

NITO has about 61 000 working members. 60% of the members belong to the private sector. 2 298 of members are engaged in state owned businesses (4%). 31% of the members belong to the public sector (State sector, Municipalities and health care).

About 60% of NITO members in the private sector are covered by collective bargaining agreements. For all other sectors the coverage is 100%, except for the ones holding sole proprietorship (2% of NITO members).



SWEDEN

OVERVIEW

- Formal education for engineers in Sweden is mainly offered by universities and through higher vocational education that is not a school form but a temporary education according to society needs.
- The responsibility for professional development of employed engineers is divided between an employer and an employee. However, the employer should pay for education relevant to the employees' current role.
- Sweden do not have any funds that individuals or companies can use to finance education.

EXISTING PROVISION

Komvux: Adults without secondary degrees, including the recently immigrated ones, or those leaving secondary school with incomplete grades, may attend a municipal adult education. The same knowledge requirements for admission and syllabus apply, though flexible and adapted to the needs of adult students.

University: The education at the universities is of two kinds: study programmes and courses. All studies are free of charge. Though individual courses are the basic building block in Swedish higher education, they may be – and have over the years increasingly been – organized in programmes. Consequently, the availability of stand-alone courses for returning graduates has decreased. For budgetary reasons, admission to courses within existing programmes is also often restricted to programme students, further reducing the opportunities for those already in the work force seeking additional formal education.

An institution of higher education may offer access programmes for students to attain the general requirements and/or foundation year programmes for those seeking to fulfil specific requirements. Foundation year programmes geared toward engineering and the natural sciences (tekniskt/naturvetenskapligt basår) are by far the most common.

University, Contract education: Higher education institutions may also offer contract education (uppdragsutbildning) to private or public entities, in domains where they otherwise have the right to award qualifications. Contract education may either aim at the training of that entity's own employees or for broader labour market related purposes. The fee charged by the institution shall be borne by the company/organisation, not by the participating individuals. ECTS-credits may be earned when the same academic criteria are applied as to regular higher education.

Higher vocational education: Higher Vocational Education programmes (YH, yrkeshögskoleutbildning) are intended to respond to a real labour market needs and are delivered in close cooperation with employers and industry. The main focus here is put on re-training and re-skilling of the labour force. Engineers can also apply for the courses, though engineers already in employment don't choose this as an option. Education providers are institutions or establishments such as universities, local authorities or private training companies. New programmes will start, and old ones will be discontinued as the labour market changes. Most programmes offer learning in a work environment work.

FINANCES

There is no formal difference between blue-collar and white-collar workers when it comes to possibilities of financing continuous education or professional development. Admission to university programs or courses is determined according to the qualifications of the individual. One exception is government initiated temporary projects that can focus on increasing the competency of a whole group of professionals, for example teachers, or within a specific line of business. Engineers can definitely be a part of those projects, for example efforts to get more people to supplement teacher skills, where engineers can be an important target group.

It is possible to apply for student grants and loans (studiemedel) for studies at for example a university or a vocational college. It is possible to choose whether you want to take out a loan or only the grant. However, very few engineers that already have a higher education and are out on the labour market, use this way to finance more education.

The collective agreements generally state that CPD is important and it is the responsibility of both the employer and employees. It is however the employer's responsibility to pay for CPD for employees' learning new skills that are of relevance to their current role and work.

FUNDS

In Sweden there are no CPD funds, neither from the unions or otherwise, to finance CPD for engineers. Yet there is a foundation Trygghetsrådet, which to some extent can finance education for employees that have lost their jobs. According to collective agreements the employers pay a percentage of the wages

to the fund.

A couple of years ago there were negotiations about starting a CPD foundation, from which money for CPD could be applied for by engineers. The Swedish Association of Graduate Engineers, Sveriges Ingenjörer objected to this arrangement since it should have been of little benefit to our members compared to the other groups involved, primarily, white-collar workers with lower education than engineers, but also because the price for the foundation should have been a decrease in job security.

BUSINESS ENVIRONMENT

Sveriges Ingenjörer has 150 000 members, where 112 000 are working members. 16% are working in the public sector and 84% – in the private sector. In Sweden the engineers employed in the public sector are all covered by collective agreements. The corresponding number in the private sector is 82%.

In Sweden you are entitled to apply for leave for studies according to the Study Leave Act (studieledighetslagen). The employer has the option to postpone this leave up to six months.

ICELAND

OVERVIEW

- CPD centres are operated in various locations in Iceland.
- Adult education is offered by CPD centres, unions, companies, associations and others.
- A growing number of courses are available that can be taken concurrently with work and which are assessed by final examinations.
- Separate education funds are operated by unions and employers. Members can apply for refunds of course fees or grants for education.

EXISTING PROVISION

Adult education in Iceland consists of two main sectors. One within the formal school system; in colleges of further education and the other – CPD centres operated in universities.

The other sector has developed in recent years after the Icelandic government agreed to finance increasing educational opportunities for people with little formal education. Educators receive formal approval from the Ministry of Education and undertake competence assessment, study and career counselling.

In Iceland there is less common tradition of folk high schools and liberal adult education compared to the other Nordic countries.

In rural areas there are adult educational centres, which are non-profit cooperatives, founded by municipalities and all parties of the local labour market. Some financial support from the state is supplied for part of the operation.

There are seven universities in Iceland. Most

of them have departments that are run as CPD centres for adult education. In the field of engineering and for example project management the two main institutions are Continuing Education University of Iceland and The Open University (at Reykjavík University).

FINANCES

Unlike the situation in the other Nordic countries, most adult education is not funded by the state or municipalities. Learners pay for their studies and apply for a refund to their vocational training fund and/or the fees are paid by the employer.

FUNDS

Most occupations today have a vocational training fund. Agreements have been concluded with employers, according to which they divert a percentage of salaries into such funds. Employees can either apply for partial or full repayment of course costs they have already paid or be given free admission to courses arranged by their employers or trade unions and funded through grants.

A new step was taken in this project during the salary's negotiations of 2003-2004, when some organisations agreed to investigate the possibility of setting up individual fund accounts where credits for education would accumulate in the same way as pension rights accumulate and pay for this by increased fund contributions.

EDUCATIONAL FUNDS AT VFÍ

The Association of Chartered Engineers in Iceland, VFÍ operates two funds dedicated to continuing education. One is for the members who work in the public sector, the other for the private sector.

Employers pay a certain percentage of wages according to the collective agreements.

Public sector 1.0 – 2.2% (of netto wages, overtime not included).

Private sector 0.22% (of brutto wages, overtime included).

BUSINESS ENVIRONMENT

VFÍ has 4 450 members, where 3 970 are working members. Around 13% are working in the public sector. In Iceland the engineers employed in the public sector are all covered by collective agreements. The corresponding number in the private sector is approx. 90%.

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