# THE NORDIC-INDIA COOPERATION

## UNDERSTANDING THE STRATEGIC PARTNERSHIP FOR INNOVATION AND CLIMATE ACTION

Dissertation submitted to Goa University in partial fulfilment of the degree of

**Master of Arts in International Studies**


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DECLARATION

I hereby declare that this master's thesis titled, **"THE NORDIC-INDIA COOPERATION UNDERSTANDING THE STRATEGIC PARTNERSHIP FOR INNOVATION AND CLIMATE ACTION",** submitted by me, in partial fulfilment of the degree in Master's of Arts in International Studies, at Goa University, is my original research work.

This dissertation has not been submitted for any other degree, either of this or any other University.

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CERTIFICATE

This is to certify that the dissertation titled **"THE NORDIC-INDIA COOPERATION UNDERSTANDING THE STRATEGIC PARTNERSHIP FOR INNOVATION AND CLIMATE ACTION",** undertaken by the candidate, Ms Divyali Mehrotra, is a record of original work carried out in partial fulfilment of the Master's degree in International Studies, from Goa University in the year 2021-2022, and that, it has not previously formed the basis for the award of any degree elsewhere.

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## CONTENTS

## GLOSSARY

AGFE- Working Group for Renewable Energy

ASEAN- Association of Southeast Asian Nations

BBIN- Bangladesh, Bhutan, India and Nepal

BEE- Bureau of Energy Efficiency

BIMSTEC- Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation

CBDR- common but differentiated responsibilities

CDRI- Coalition for Disaster Resilient Infrastructure

CII- Confederation of Indian Industry

CIP- Climate Initiatives Platform

COP- Conference of Parties

DSIF- Danida Sustainable Infrastructure Finance

EMG- Electricity Market Group

EU- European Union

EUR- Euros

FICCI- Federation of Indian Chambers of Commerce and Industry

G2G- Government to Government

GCAA- Global Climate Action Agenda

GDP- Gross Domestic Product

GHG- Greenhouse Gas

GW- Giga Watts

HDI- Human Development Index

ICI- International Cooperative Imitative

IEA- International Energy Agency

INC/FCCC- Intergovernmental Negotiating Committee for a Framework Convention on Climate Change

IPCC- Intergovernmental Panel on Climate Change

ISA- International Solar Alliance

LeadIT- Leadership Group for Industry Transition

MDG- Millennium Development Goals

MEA- Ministry of External Affairs

MNRE- Ministry of New and Renewable Energy

MoU- Memorandum of Understanding

MR-M- Nordic Council of Ministers for Environment

MSA- Market Surveillance Authority

NDCs- Nationally Determined Commitments

NER- Nordic Energy Research

NETP- Nordic Energy Technology Perspectives

NEVO- Nordic Electric Vehicle Outlook

NGEE- Networking Group on Energy Efficiency

NGO- Nongovernmental organisation

NOAK- Nordic Working Group for Global Climate Negotiations

NSA- National Security Agency

PDP- Project Development Programme

RDI- Research, Development and Innovation

RED I- Renewable Energy Directive I

RED II- Renewable Energy Directive II

SDGs- Sustainable Development Goals

UN- United Nations

UNFCCC- United Nations Framework Convention Climate Change

WHR- World Happiness Report

# CHAPTER 1

## An Introduction to the India-Nordic Dynamic and their Imperatives for Climate Action

## Introduction

Every year, since 2013, the annual World Happiness Report (WHR) is published with a ranking of countries, of which the five Nordic countries have always been in the top ten, with the Nordic countries occupying the top three in 2017, 2018 and 2019. When it comes to the level of average life evaluations, the Nordic states rank highly, which speaks to the Nordic exceptionalism- not just in terms of citizen's happiness but even in the state of democracy, political rights, lack of corruption, social cohesion, gender equality, distribution of income, environment and climate action and the Human Development Index (HDI). [1]

Several early analyses quantified welfare as an aggregate measure of government welfare spending such as the percentage of gross domestic product (GDP) devoted to public welfare. However, these aggregates tend to find no link between welfare expenditure and happiness, or even a negatively correlated link. Thus, government spending does not necessarily seem to be linked to satisfaction. In the Nordic countries, people have higher levels of happiness and satisfaction because there is easy access to relatively generous welfare benefits, and a regulated labour market which avoids employee exploitation, which is independent of economic cycle and demographic changes, unlike government spending dependent on GDP. Nordic countries are also famous for low levels of income inequality. The ethos of quality that manifests in the universal public services provided in the Nordic countries, reduces the social and economic risks that come with calamities and disasters. Being poor in the Nordic countries does not have a harsh effect on the happiness and satisfaction of citizens. The Nordic countries have well-functioning and democratic institutions that provide citizens extensive benefits and security, and have historically, invested heavily in universal and free education for all its citizens. [2]

In addition to their exceptional welfare state policies, the Nordic countries have had a long-standing tradition of forward-looking climate and energy policies, that have been designed on the basis of well planned, and researched efforts to reduce, greenhouse gases and mitigate

[1] F Martela, B Greve, B Rothstein, & J Sari. (2020). (rep.). *Chapter 7: The Nordic Exceptionalism: What Explains Why the Nordic Countries Are Constantly Among the Happiest in the World, in World Happiness Report (WHR)*. Sustainable Development Solutions Network. Retrieved March 20, 2022, from https://worldhappiness.report/ed/2020/the-nordic-exceptionalism-what-explains-why-the-nordic-countries-are-constantly-among-the-happiest-in-the-world/.

[2] Ibid.

climate change, while maintaining and promoting sustainable economic growth. Fossil fuel emissions across the region have reduced by 9% between 1990 and 2011, while total Nordic GDP rose by 55% in the same period of time, signalling that the Nordic countries have managed to successfully decouple emissions from economic growth, while a third of the energy used across the region is renewable. [3]

## The Nordics and Environmental Development

When placed in context of the larger European Union (EU) environmental policy, the Nordic states enjoy greater influence than their size would merit. This could be due to a number of factors such as a domestic consensus and united external front, along with the promotion of high environmental standards, which has lent to it the reputation of being environmental experts. Nordic countries have traditionally been described as countries that emphasis on national sovereignity during cooperation, especially advocating for a strong intergovernmental stance on environmental issues. Consisting of five states, Finland, Sweden, Norway, Denmark and Iceland, along with the semi-autonomous regions of the Faroe Islands, Greenland and the Aland Islands. While only three of them are EU member states (Finland, Sweden and Denmark), all of the belong to the European Economic Area.

There has always been a distinguishing factor between the Nordic countries and the European countries in terms of governance, which places the Nordic countries higher up on performance indices. They are often viewed as model countries concerning government reform because of their efficient and exemplary welfare states and successful economies. The Nordic states differ from other European countries due to low levels of corruption and to financially strong local governments, which act as the main providers of welfare services and also enjoy unusually high levels of trust among citizens. The Nordic countries have been described as environmental leaders as they aim for high levels of environmental protection. The Nordic countries collaborate on several environmental issues through various national actors and through the Nordic Council of Ministers, which has established a unified Nordic strategy for sustainable

[3] NORDEN. (2015, May 22). *Nordic action on climate change*. Nordic Co-operation. Retrieved November 19, 2021, from https://www.norden.org/en/publication/nordic-action-climate-change

development. [4] The Nordic countries, individually are leaders in alternative energy and sustainable development, and by setting their own ambitious targets, they can potentially fulfil their own international obligations, and demonstrate how it is possible to reduce emissions sustainably and cost-effectively.

## Rationale for the Study

There are few areas in the world that would feel the effects of climate change more acutely than the Nordic Countries, and the Nordic model is considered to be one of the most successful models of the world, for climate action. In this context, India, as developing nation, can greatly benefit from the Nordic countries' forward-looking climate and energy policies, which are designed on scientific targets of reduction in greenhouse gas emissions (GHG), which mitigate climate change and promote sustainable economic growth. Studying the India-Nordic cooperation, provides a larger picture of the benefits and ramifications of this economic and political engagement for both nation states. It should bring to light the details of the cooperation, and the role of the India-Nordic engagement under the gambit of the larger India-European Union engagement. This engagement should be pursued with the utmost diligence, as it can become critical to the India's commitment to its climate goals and critical for the Nordic countries to solidify and expand their circle of influence. This study, will be focusing on the mapping out the details of the India-Nordic engagement on climate change and the joint action all the countries can take to mitigate the climate crisis. It will elucidate upon Nordic exceptionalism in the field of climate innovation and green technology, and India's imperative for climate diplomacy and its role in her foreign policy. The study will also attempt at looking for solutions on more specific issues where a section of this study is dedicated to examining clean energy transitions, from non-renewable sources of energy to green energy; innovations in policy making, knowledge creation, and the possibility of creating a sustainable model for development, for India.

[4] S. C. Po Sääksjärvi. (2020). Positioning the Nordic countries in European Union Environmental policy. *The Journal of Environment & Development*, *29*(4), 393–419. https://doi.org/10.1177/1070496520933324

## Objectives and Hypotheses

In the context outlined above, this research study proposes the following hypotheses, which informs the objectives of this study:

1. The India-Nordic Engagement on Climate Action offers strong and veritable opportunities for India to find smart sustainable solutions to her developmental challenges.

2. Cooperation with the Nordic Five on Innovation for environmental oriented solutions has the potential to drive India's socio-economic growth.

In view of this, the study aims at mapping out the details of the India-Nordic engagement on climate change and the joint action all the countries can take to mitigate the climate crisis. It will elucidate upon the Nordic exceptionalism in the field of climate innovation and green technology, and India's imperative for climate diplomacy and its role in her foreign policy. The study explores the following questions:

1. In the context of the progression of the global stance from understanding climate change, to recognising the climate crisis and the impending climate action, what are the apposite strategies used by the Nordic countries that serve the interests of India's climate imperative? What are the opportunities that India can avail from the Nordic Five, for sustainable solutions to her environmental issues?

2. What is the role of governments, and the private sector in the Nordic countries via this innovative collaboration against the climate crisis? What are the lessons that India can learn from the Nordic countries endeavour to mitigate climate change?

3. What are the lessons that India can learn from the Nordic countries endeavour to mitigate climate change? How can India develop its own model for sustainable development?

The methodology followed to explore and answer these questions will largely follow a qualitative framework, where data would elucidate upon and support the narrative. It is a descriptive study that will utilise a policy analysis, and provide a comparative multi-country perspective. The study, under policy analysis, will expand upon the existing policies between the individual Nordic countries and India, and the larger policy of the India-Nordic cooperation.

It will identify the strengths and weaknesses of this cooperation and the role of different parties involved. There will also be an analysis of the political, organizational, budgetary and legal environments that form the superstructure within which the given policy may need to be implemented, so as to identify the conducive conditions to make the policy a success.

## The Framework of this Study

While this chapter provides the details and the rationale of this study, Chapter 2 entails the history of the cooperation in the Nordic region, the challenges they have faced while pursuing their environmental targets and how successful their policies have been in their commitment against climate change. It will explore the collaboration between the Nordic countries and the rest of Europe, and how the Nordic countries influenced climate policy in the European Union. Thus, it provides insights into the micro-level functioning of policies in the Nordic region.

Chapter 3 seeks to elucidate upon the basic logic of the partnership, and the points of convergence between India and the Nordic countries. The chapter covers the Indian imperative for climate diplomacy and the Nordic niche of expertise in green technologies and innovation. The chapter will elaborate upon the multilevel cooperation between Nordic countries and India through governments, multinationals, academia and non-governmental organisations, which plays the dual role of bolstering domestic ambitions and boosting international cooperation.

The basis of understanding chapter 4 covers the concepts of climate action such as “green technology” and “blue economy”, the various initiatives that governments from the Nordic countries and India helm, the mechanisms by which the bilateral and regional cooperation will be achieving their goals, the role this multi-layered diplomacy plays in the efficacy of this engagement and what are the outcomes on the anvil of this robust rendezvous.

Chapter 5 marks a slight shift in perspective from climate on a macro level, to solving issues on more specified levels to positively impact climate action. The chapter looks into clean energy transitions, from non-renewable sources of energy to green energy; innovations in policy making, knowledge creation, and the possibility of creating an sustainable model for development, for India.

Finally, chapter 6 lays down the final conclusion of this study, and how the evolving dynamics of the world order, in a COVID-19 era are going to further affect this engagement. The chapter lays down the future scenarios of innovation and collaboration in specific areas, and what to expect at the frontiers of this relationship.

## Understanding the Nordic Five in the Global Context

In 2018, the Intergovernmental Panel on Climate Change (IPCC) issued a report on the impacts of global warming of 1.5 °C above pre-industrial level and global greenhouse gas emissions pathways in line with this target. Biodiversity loss is expected to be more severe, the extreme weather patterns numerous and the sea level to become higher. At the emission pledges of the Paris Agreement, the world is on a course to 3°C warming or more, and the emissions pledges promised at Conference of Parties (COP)26 in 2021 need to be a lot more robust to mitigate the worst effects of climate change.

The Paris Agreement of 2015, targets of limiting global temperature rise and building resilience in countries to deal with the adverse impacts of climate change, requires the global action of all sections of society, not just governments. In an effort to promote this multistakeholder partnership in global climate action, to boost cooperation among governments, cities, businesses and on governmental organisations, the Global Climate Action Agenda (GCAA) was launched at the Marrakech climate conference, also known as COP22 in 2016. The GCAA was built on the Lima-Paris Action Agenda of 2014, which brought together a large number of non-state actors in support of the Paris Agreement, which was later signed in 2015.

The Emission Gap Report of 2018, explains how the climate initiatives and actions from non-state actors have greatly proliferated over the last couple of decades. Non- state climate action is the key to means the bridge between emissions gap. Voluntary climate initiatives that involve more than one country, known as international cooperative initiatives (ICIs), are often multistakeholder and multisectoral. The number of cooperative initiatives has increased rapidly, amounting to nearly 300 initiatives globally (as of 2019). The impact of ICIs ranges from reducing greenhouse gas emissions to enhancing resiliency to climate change vis-à-vis providing technical, financial and capacity building support to developing countries.

Additionally, these initiatives link and contribute to many of the seventeen Sustainable Development Goals (SDGs), in addition to SDG 13 on climate action.

The Nordic countries have been leading by example since the Global Climate Action Agenda. The Nordic Council of Ministers initiated the Climate Initiatives Platform (CIP), which was hosted by UN Environment, and the NAZCA portal (known as Global Climate Action portal as of November 2021) hosted by United Nations Framework Convention Climate Change (UNFCCC). Both the portals collect and add information sections on the initiatives' quantitative and qualitative impacts.[5]

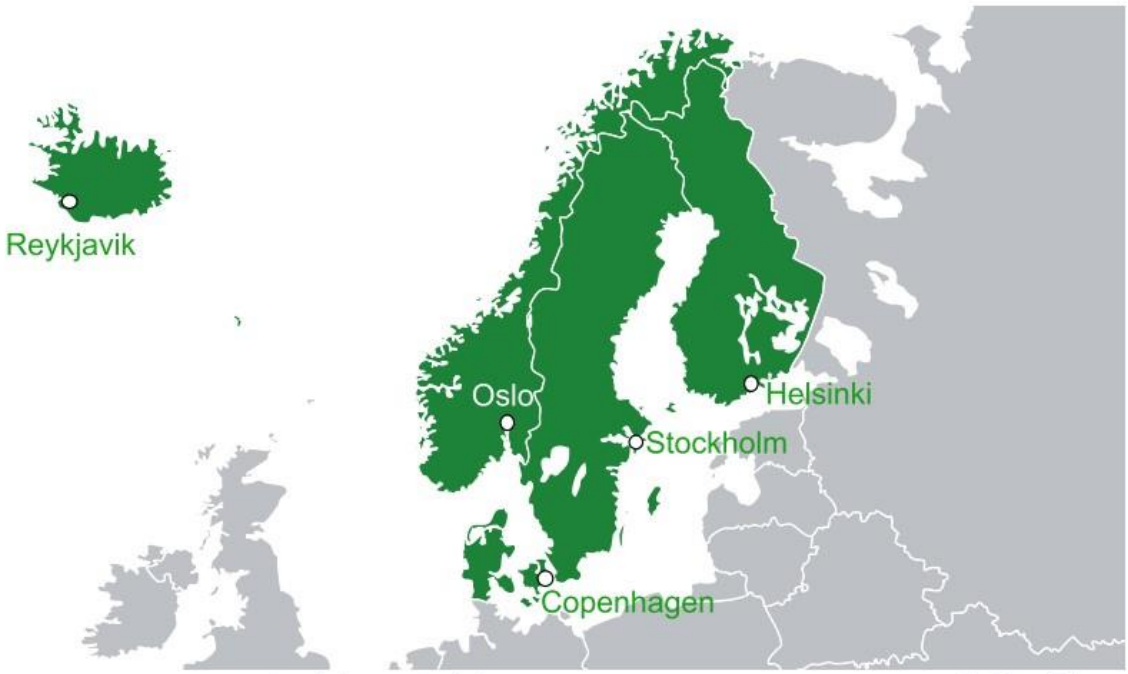
The total emissions from the Nordic countries constitutes only a small share, about less than 0.5% of global emissions. While the direct effect of Nordic countries reducing their emissions on global temperatures is miniscule, the ambitious targets of the Nordics may have a larger effect on terms of moral obligation.[6]

The countries have ambitious plans and targets for climate action, apart from the collective commitments ascribed by the Nordic Council. Denmark, Norway and Sweden committed to 100% renewable energy use, Finland committed to a target of 80% and Iceland committed to a range of 50-75%. These policies rely on renewable energy and energy-efficiency technologies, a field in which these countries are pioneers in their own right. Denmark is specialising in wind energy, Finland and Sweden in bioenergy, Norway in hydroelectric and Iceland in geothermal energy. The carbon dioxide emissions from energy supply have steadily declined in the region, with 87% of the electricity being generated across the Nordic is carbon free of which 63% is from renewable sources, as of 2017. [7]

[5] A Laine, M Halonen, K Lütkehermöller , N Höhne, & M. J. de V Casas. (2015, May 13). *Nordic opportunities to provide leadership in the Global Climate Action Agenda*. Nordic Co-operation. Retrieved March 8, 2022, from https://www.norden.org/en/publication/nordic-opportunities-provide-leadership-global-climate-action-agenda

[6] M Greaker, R. Golombek, M. Hoel, 2019, Global impact of national climate policy in the Nordic countries, Nordic Economic Policy Review, 157-202, DOI: 10.6027/Nord2019-012. Accessed: 8th March, 2022

[7] Sovacool, B. K. (2017). Contestation, contingency, and justice in the nordic low-carbon energy transition. *Energy Policy*, *102*, 569–582. https://doi.org/10.1016/j.enpol.2016.12.045




| City | Country | Population (city)[a] | Population (city region)[a] | Emissions target[b] | City $CO_2$ emissions (ktCO2)[c] |
|---|---|---|---|---|---|
| Copenhagen | Denmark | 613,228 | 2,030,718 | Carbon neutral by 2025 | 1,356 |
| Helsinki | Finland | 643,272 | 1,475,095 | Carbon neutral by 2035 | 2,559 |
| Oslo | Norway | 673,469 | 1,287,495 | Reduce GHG emissions by 95% by 2030 (compared to 1990 levels) and carbon neutral by 2050 | 1,100 |
| Reykjavik | Iceland | 126,041 | 222,484 | Carbon neutral by 2040 | 353 |
| Stockholm | Sweden | 949,761 | 2,308,143 | Fossil free by 2040 | 2,089 |

*Source: Learning from Nordic Cities on Climate Action, Oliver William Johnson*

In 2019, the Nordic prime ministers, as part of the Norden Council, declared that the Nordic Region will become the most sustainable and integrated region in the world, and published an action plan titled, "Our Vision 2030". The action plan elucidates on the plan on how the Nordic Council of Ministers will work to achieve the objectives of the vision through several initiatives, linked to the three strategic priorities of the Nordic countries:

- a green Nordic Region,
- a competitive Nordic Region,
- and a socially sustainable Nordic Region.

The strategic priority, "A green Nordic Region", pertains to the Nordic countries efforts for climate action, and is linked to the following United Nations Sustainable Development Goals of the Agenda 2030, in addition to following the conditions set down by the Paris Agreement

- SDG 6- Clean Water and Sanitation
- SDG 7- Affordable and Clean Energy
- SDG 11- Sustainable Cities and Communities
- SDG 12- Responsible Consumption and Production
- SDG 13- Climate Action
- SDG 14 - Life Below Water
- SDG 15- Life on Land [8]

The Nordic countries all adopted the target of a maximum 2.0°C global warming and committed to work towards maximum 1.5°C global warming. The target manifests itself in the ambitious climate policies in all five Nordic countries, as described in the chapters to come.

## The India-Nordic Engagement

India's engagement with the Nordic countries represents a shifting paradigm in Indian foreign policy. The role that India plays as a regional power and a growing economic powerhouse, has the trappings for an essential partnership with the Nordic countries; owing to these countries pioneering innovation in clean energy and green technology an area in which India is looking to expand its own expertise. For the Nordic Five [9], India represents a fast-growing economy

[8] Nordic Council of Ministers. (2020, December 14). *The Nordic Region – towards being the most sustainable and integrated region in the world Action Plan for 2021 to 2024*. Nordic Co-Operation. Retrieved March 6, 2022, from https://www.norden.org/en/publication/nordic-region-towards-being-most-sustainable-and-integrated-region-world

[9] The Nordic Five, also known as Norden is defined as consisting of the five sovereign states Denmark, Finland, Iceland, Norway and Sweden.

with a large, untapped market space. [10], and a mode to expand their influence beyond the boundaries of the European continent.

India's focus in foreign policy has traditionally been on the Western powers such as the United States, United Kingdom, France, Germany and others. This resulted in a neglect of the advanced Nordic nations with whom India shares some significant political and economic complementarities, which rank the highest along various human development indices. The contours of global governance have undergone a massive shift the with the rise of revisionist powers like China which are challenging the existing status quo. This demands a paradigm shift in Indian foreign policy, and collaboration with the Nordic countries is now a must. [11]

India's Prime Minister Narendra Modi visit to Sweden in 2018, was not only the first visit of an Indian Prime Minister to Sweden in 30 years, but also an attempt to reach out to the wider Nordic region with the first India-Nordic summit, which saw India interact with the prime ministers of Denmark, Finland, Iceland, Norway, and Sweden on one platform. For the Nordic countries, this was significant as they had only held a summit of this kind with the United States only, India being the second nation state to do so. The Joint Statement of the First India-Nordic Summit identified four areas of cooperation between India and Nordic countries in its joint statement– Economic Growth, Innovation, Climate Change and Global Security. [12]

In an effort to boost innovation and shift foreign policy perspectives, India has increased its engagement with the Nordic countries, multilaterally and bilaterally since 2018. Till date India has had virtual summits with 3 Nordic countries-- Denmark, Sweden, and Finland, which is highest in any specific region of the world, and is scheduled to have the second Nordic-India summit later this year, or in the coming year. (Which was postponed due to COVID-19).

In terms of climate change, the Nordic region has always had a tradition of looking after the environment, which is evident in their relatively low levels of pollution, and have historically been a leading figure in climate action. In 2018, the Arcadis Sustainable Cities Index of 100 major cities across the world, Stockholm, Oslo, and Copenhagen were ranked second, eighth

[10] A Dutta. "Issues of Cooperation in India-Nordic Relations." Indian Council of World Affairs. Indian Council of World Affairs, November 1, 2018. https://www.icwa.in/show_content.php?lang=1&level=3&ls_id=4825&lid=2841

[11] H Pant. https://thediplomat.com/2018/04/making-sense-of-indias-outreach-to-the-nordic-states/. (2018, April 19). *Making sense of India's outreach to the Nordic States*. The Diplomat. Retrieved October 5, 2021, from https://thediplomat.com/2018/04/making-sense-of-indias-outreach-to-the-nordic-states/

[12] Ibid

and eleventh respectively. In fact, their tradition of climate change mitigation dates back to the early 90s, as seen in the actions of the Swedish municipalities that introduced policies, in relation to the Local Agenda 21 movement for sustainable development. In 1996, Växjö set out the long-term goal of becoming fossil-fuel-free, and by the mid-2000s, 50% of Swedish municipalities had developed local emission targets in line with the ambitious national targets at the time. [13]

As of 2017, a third of the energy used in the Nordic region is renewable, and half is fossil-carbon-free. [14] The regional commitment of the Nordic countries is evident in The Helsingfors Declaration, or the Declaration on Nordic Carbon Neutrality, which was signed in 2019 by the Prime Ministers and Ministers of the Environment of the Nordic Five. With this declaration they commit themselves to working towards carbon neutrality in the five Nordic states and pursue climate diplomacy in international forums. They, "will catalyse global mitigation efforts to limit the increase in the global average temperature to 1.5°C in response to the findings of the Intergovernmental Panel on Climate Change Special Report on Global Warming of 1.5°C" [15] The Nordic Council of Ministers also signed up to a new vision to become the world's most sustainable and integrated region by 2030, working together to promote a green, competitive and socially sustainable Nordic region.

In India, large development, and economic growth has to view positive climate action as a co-benefit. India, in the recent years has been investing in clean energy transitions, as it acknowledges the economic benefits, by creating jobs, and also helps in mitigating the impact of climate change. In fact, India is one of the few countries that is on track to meet its Nationally Determined Commitments (NDCs), under the Paris Agreement. While India can have its own carbon neutrality targets in place, it needs a lot more as the task is more complex as a developing nation. India needs to balance climate transitions while building resilience and enabling development. India's infrastructure needs are huge and its investment and capacities required to meet the current and future needs are also large.

[13] O. W. Johnson. (2020). Learning from Nordic cities on Climate action. *One Earth*, *2*(2), 128–131. https://doi.org/10.1016/j.oneear.2020.02.001

[14] Ibid. n.3

[15] Nordic Council of Ministers. (2020, November 4). *Declaration on Nordic Carbon Neutrality*. Nordic Co-Operation. Retrieved October 5, 2021, from https://www.norden.org/en/declaration/declaration-nordic-carbon-neutrality

In conjunction with the Paris Agreement, India, like the Nordic countries, also made commitments to honour the fight to stay under 2.0°C. [16] Under the deal, India has committed to ensuring that at least 40% of its electricity will be generated from non-fossil sources by 2030. At the COP 26, in 2021, India introduced a five-point climate action plan set to give a firm push to India's plans for increasing renewable energy, and switching to electricity and hydrogen fuels for transport. The five points of the action plan are:

1) Net zero by 2070
2) 500 GW non fossil fuel by 2030
3) Cutting Carbon emissions by 1 billion tonnes
4) Reducing carbon intensity by 45%[17]
5) To meet 50% of the country's energy requirements using renewable energy sources by 2030

Currently, India is one of the leading players when it comes to installed renewable energy capacity, and its non-fossil fuel energy has increased by more than 25% in the last seven years. However, India will continue to grow on fossil fuels for another 20 years. Currently, it is considered to be South Asia's largest economy and expected to grow by 8.3% in the fiscal year 2021-22, according to the latest report from the World Bank., India faces challenges in economic development, which is to be met from limited resources; with minimum externalities and in presence of an uncertain climate, while still trying to mitigate climate change.

For example, India's coal consumption has nearly doubled in the last decade, and, continues to import large quantities of coal. But an average Indian still consumes far less power than a British citizen or an American, which reflects the low carbon emission per capita that India has in comparison to the developed nations, and with a population of more than 1.3 billion people, India's energy needs are set to rise more than any other nation in the next twenty years, according to the International Energy Agency (IEA).

[16] Associated Press. (2016, October 2). *India ratifies Paris Climate Agreement*. BBC News. Retrieved January 10, 2022, from https://www.bbc.com/news/world-asia-india-37536348

[17] Carbon intensity measures emissions of CO2 for per unit of the Gross Domestic Product (GDP). So, reducing carbon intensity means India will emit less carbon for its economic growth and its adaptation of cleaner technologies in various sectors of the economy.

In such a scenario, how does a nation like India balance environmental concerns and its energy needs, with that of economic growth and development? [18] India's engagement with technologically advanced nations, and a cooperation in the field of environmental development may be the answer to this dilemma.

[18] R Vaidyanathan. (2021, September 28). *Climate change: Why India can't live without coal*. BBC News. Retrieved November 1, 2021, from https://www.bbc.com/news/world-asia-india-58706229

# CHAPTER 2

## The Nordic Exceptionalism

## The Nordic Role in Global Environmental Governance

Consisting of five states, Finland, Sweden, Norway, Denmark and Iceland, along with the semi-autonomous regions of the Faroe Islands, Greenland and the Aland Islands. While only three of them are EU member states (Finland, Sweden and Denmark), all of the belong to the European Economic Area. There has always been a distinguishing factor between the Nordic countries and the European countries in terms of governance, which places the Nordic countries higher up on performance indices. They are often viewed as model countries concerning government reform because of their efficient and exemplary welfare states and successful economies. The Nordic states differ from other European countries due to low levels of corruption and to financially strong local governments, which act as the main providers of welfare services and also enjoy unusually high levels of trust among citizens. The Nordic countries have been described as environmental leaders as they aim for high levels of environmental protection. The Nordic countries collaborate on several environmental issues through various national actors and through the Nordic Council of Ministers, which has established a unified Nordic strategy for sustainable development. [19]

The early focus on sustainable development and the awareness of environmental impact of companies and industry has led to an increasingly more environmentally aware European market. The Nordic countries have had a long tradition of advancing the goals of sustainable development at the national level as well as jointly internationally such as the launch of UNEP in Stockholm in 1972, the formulation of the definition of sustainable development in the Brundtland report, as well as the Nordic contribution to the Rio summit in 1992, which led to the development of the Millennium Development Goals (MDGs), in 2000.

The launch of the first Nordic Strategy on Sustainable Development took place in 2001, and subsequently the 17 new Sustainable Development Goals (SDGs), in the 2030 Agenda at the UN General Assembly, were adopted in September 2015. Agenda 2030 signals a shift to a more universal understanding of joint global challenges. This shift is echoed in the Paris Agreement

[19] Ibid, n.4

reached at COP21 in December 2015 which recognises the need for all nations and all actors (including private, public and civil society actors) to jointly address the climate challenge. [20]

The Nordic countries have a long-standing tradition of regional cooperation, which has led to the harmonisation of national legislation to promote common goals globally. The Nordic countries consider environmental policy a key to their national interest which they strive to endorse at all levels of international negotiations. An example of this can be seen as early as 1982, when Denmark, Finland, Norway and Sweden collectively aspire to introduce the internationally most rigorous binding directives during the negotiations for the protection of the stratospheric ozone, which later developed into the Vienna Convention for the Protection of the Ozone Layer, signed in March 1985. [21]

The Nordic countries, in this manner, have managed to influence global policy on environment, and especially in the European Union legislation. Domestically as well, the Nordic countries lead through example. Denmark began implementing measures to regulate consumer behaviour regarding energy in the 1970s; campaigns, direct regulations and subsidy schemes were introduced to influence consumer behaviour to save energy, reduce greenhouse gas emissions and reduce soil acidification. During this time, environmental groups emerged in the countryside which managed to convince the Danish government to launch an organic food labelling scheme, in 1989. This is an illustrative example of how small states can utilise their coalition to pursue a policy that is a part of their key national interest vis-à-vis regional cooperation. [22]

[20] Ibid, n.5

[21] E.B. Weiss. (2009). *Vienna Convention for the protection of the ozone layer*. United Nations. Retrieved March 3, 2022, from https://legal.un.org/avl/ha/vcpol/vcpol.html

[22] L Tunkrova. (2010). The Nordic Countries' 'Exceptionalism' in EU Environmental Policy. *Contemporary European Studies*, *22*(52), 21–46. https://doi.org/https://www.researchgate.net/publication/311494807_The_Nordic_Countries'_Exceptionalism_in_the_EU_Environmental_Policy

## Nordic Exceptionalism: Regionalism and the Nordic Council

Keskitalo, argues that the Nordic region developed as a choice made on specific historical and political groups. [23] Therefore, the region in this view is not a given but a construct; which implies that the people in this region have a sense of collective identity, and share certain characteristics as a precondition for the construction of the region. The development of the Nordic region supports this premise, as there is a sense of a common identity through language, historical and institutional characteristics. [24]

For environmental policy, the Nordic countries utilise their history of cooperation, and their early interest in the environment to their advantage when promoting environmental protection nationally, regionally and globally. They carry the reputation of environmental forerunners in their domestic policies and in their international activities in various forums. This gives them an advantage in terms of business as they can offer business solutions developed by companies in the Nordic to solve environmental problem, as the scientific expertise and knowledge helps them collect evidence and offer solutions.

Nordic countries along with Germany and the Netherlands, are forerunners in environmental protection in Europe. John Dryzek (as cited by Turnkova) argues that Nordic countries have the potential to cope with the environmental consequences of capitalism. The concept of ecological modernisation has helped build this potential in Northern Europe. [25]

Based on the principle that pollution prevention has economic benefits, ecological modernisation argues that environmental protection will be achieved through pressure on business. This is because it implies that pollution translates to inefficient usage of resources, which results in economic losses. Therefore, companies that use environment friendly technologies will lower their production costs and increase product quality so they will benefit from the process. The approach used to be largely focused on large, multinational companies, however the potential for smaller businesses to become environmentally sustainable has also been recognised. The Nordic countries along with Germany, Netherlands and Japan have had the highest-ranking ecological modernisation in the world. The Nordic countries are perceived

[23] C Keskitalo (2007) 'International Region-Building: Development of the Arctic as an International Region', *Cooperation and Conflict*, 42, 2: 187–205

[24] Ibid, n.22

as leaders in this policy and the general public is aware of their individual responsibility. The Nordic countries have created an environmentally aware population and motivated businesses to introduce environmentally friendly practices through effective regulation and innovative practices. This has contributed to the view that these two factors complement each other.

There is a clear trend and focus in the Nordic Cooperation on environment, climate action and sustainable development. This has not only contributed to the development of effective policies on environmental protection, but has also made valuable contributions to the state of knowledge on environmental and climate related problems.

The Nordic cooperation on environment and climate change ranges across various themes, such as the protection of wetlands, and building of sustainable business models such as the circular economy. However, the Nordic council recognised that the focus on these issues is fragmented and that the cooperation did not function as effectively in terms of achieving its overall strategic objectives and priorities. There was a need for a clearer prioritisation of specifically selected area for action. [26]

In order to solve this issue, the Nordic Council adopted its core vision in 2019, of becoming "the most sustainable and integrated region in the world by 2030". In order to realise this vision, the Nordic Council of Minsters identified three strategic areas to focus on in the next four years:

- A Green Nordic Region
- A Competitive Nordic Region
- A Socially Sustainable Nordic Region

The Nordic Region follow the framework laid down by The Paris Agreement and Agenda 2030. To succeed in these efforts, all of the individual councils of ministers and Nordic institutions as well as the Nordic Council have been involved in providing concrete proposals for projects and priority areas. The outcome of these efforts is outlined in the Action Plan for 2021-2024, which lays down 12 objectives linked to the three main strategies for their core vision of being the most sustainable and integrated region in the world.

Under the Green Nordic region gambit, by 2024 the Nordic Council of Ministers will:

[26] T Sundoft. (2018, April 13). *The Nordic countries in the green transition – more than just neighbours*. Nordic Co-Operation. Retrieved March 24, 2022, from https://www.norden.org/en/publication/nordic-countries-green-transition-more-just-neighbours

- strengthen research and development and the promotion of solutions that support carbon neutrality and climate adaptation, including in relation to transport, construction, food, and energy
- help to safeguard biodiversity and ensure the sustainable use of the Nordic Region's nature and seas
- promote a circular and bio-based economy, sustainable and competitive production, sustainable food systems, and resource-efficient and non-toxic cycles in the Nordic Region
- make it much easier and more attractive for Nordic consumers to prioritise healthy and environmentally and climate-friendly choices, with joint efforts relating to sustainable consumption
- contribute to the positive development of international co-operation on the environment and climate, such as by promoting Nordic green solutions in the rest of the world.

The strategic priority area, a green Nordic Region is linked primarily to the following sustainable development goals of Agenda 2030- SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 11(Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), SDG 14 (Life below Water), and SDG 15 (Life on Land). In addition, this strategic objective is linked to the objectives of the Paris Agreement for combatting climate change. [27]

The Nordic climate co-operation is aimed at reducing greenhouse gas emissions in the Nordic area, and as well as in nation states where it finds synergies between initiatives related to the climate. The strategic focus areas by the Nordic countries supports their ambitious implementation of the Paris agreement and their role in global climate governance, climate financing, and is also a demonstration of Nordic solutions to climate change. A major area of emphasis of the work is to provide information basis to help the Nordic countries in their efforts to reach climate neutrality. This work is based on the Prime Ministers' Declaration on Climate Neutrality from January 2019. The Nordic Working Group for Climate and Air has the mandate to implement the Nordic Co-operation on Environment and Climate (2019-2024), which fulfils its mandate via activities that reflects the priorities of the co-operation programme. This

[27] Ibid, n.8

working group coordinates within the Nordic Council of Ministers as well as other bodies such as the UNFCCC and the Arctic Council. [28]

## The Synergies of the Nordic: Cooperation on Energy and Beyond

Apart from the Declaration on Climate Change, and the "Green Nordic" agenda adopted by the Nordic Council recently, the Nordic countries have been collaborating on several focus areas, that helped strengthen their collective effort for efficient and sustainable usage of resources, which is the marker of the great Nordic exceptionalism.

### The Nordic Electricity Market Cooperation

Norway, Sweden, Finland and Demark have shared a single electricity market for a long time, and serve as a prime example on how to harmonise and deregulate electricity markets across borders. This common electricity market aims at promoting competition on equal terms and at the efficient use of production and transmission resources, which have larger socio-economic benefits. The Electricity Market Group (EMG) is a working group under the Nordic Council of Ministers and commissions analyses and provides advice on electricity market issues to the Nordic energy ministers. The group has experts from the ministries and energy authorities in the four Nordic countries that participate in the common market. The common market seeks cooperation to advance an integrated electricity market, where demand and production structures, flexibility measures and other relevant issues complement each other within the Nordic market area as a whole, in addition to promoting synchronised rules for all market participants, both companies and consumers.

The focus areas of the Electricity Market Group are:

- Function of the regional electrical system with particular emphasis on the integration of renewable power generation, security of supply, demand flexibility and smart networks

[28] Ministry of Economic Affairs and Employment, Ministry of the Environment, Ministry of Agriculture and Forestry, Ministry of Transport and Communications, & , Ministry of Finance, *Finland's Integrated Energy and Climate Plan* 1–180 (2019). Helsinki, Finland; Ministry of Economic Affairs and Employment.

- Network investment and network planning
- Representing Nordic interests in an EU context
- Taking the initiative to involving the Baltic states in electricity market development, when appropriate
- Establishing relevant collaboration with market stakeholders
- Following trends and possible research, development and innovation (RDI) needs within the Nordic electricity market

As the electricity system is adapting with the influx from large shares of renewable energy, there is a need for system solutions on both supply and demand and new European legislation. This is introduced by the Nordic energy minsters at the Annual Nordic Electricity Market Forum, first held in 2018, in Stockholm and 2019 in Oslo. The Nordic electricity market cooperation is transforming the market into an efficient and well-functioning one, with high levels of security of supply, an equal competitive playing field, environmental friendliness, transparency and incentives for price elasticity, which is in accordance with the guidelines set by the Nordic Council of Ministers.

The activities of the Electricity Market Group contribute to benefiting the Nordics through initiating Nordic collaboration on initiatives that would otherwise be undertaken at a national level, and where significant positive effects are achieved through joint Nordic solutions; which is another testament to how their regionalism lends into the Nordic exceptionalism.

**Nordic Cooperation on Energy: Renewables and Efficacy**

The Nordic Cooperation on energy efficiency is conducted by a group known as the Networking Group on Energy Efficiency (NGEE), which consists of experts from the ministries and energy authorities in the Nordic countries. The objective is to promote Nordic cooperation on energy efficiency initiatives and to implement EU directives and programmes. Cooperation is conducted via this networking group where specific topics in relation to clean energy are discussed. The Nordic countries make a special effort to develop and increase the use of renewable energy, with the aim of diversifying the energy system and be less dependent on imports, while reducing GHG emissions. A separate working group known as the Working Group for Renewable Energy (AGFE), has been set up for this purpose.

Consisting of experts from the ministries and energy authorities in the five Nordic countries, the AGGFE supports the Nordic countries' work on policy and development in the renewable energy sector by exchanging information and enhancing the collaboration between Nordic countries. Additionally, the AGFE also disseminates information about the relevant projects that are commissioned by it in tackling different issues on renewable energy in the Nordics. The group works to develop and manifest Nordic collaboration, and thereby increase Nordic competencies and competitiveness. The AGFE has worked towards enhancing Nordic cooperation for implementing the current EU renewable energy directive (known as RED I) to 2020 as well as preparing for the revised directive (RED II) that has been implemented from 2020–2021. In fact, as the new forest biomass sustainability criteria was set down in RED II, the AGFE, commissioned a study on the emerging Bioenergy Sustainability Policy and its possible impacts entitled; "A Nordic analysis of the proposed EU policy for bioenergy sustainability".[29] This work contributed to the process of revising the Directive and increasing the knowledge of its impact on the bioenergy sector in the Nordic region. The AGFE has also conducted studies that aim at investigating State Aid Guidelines in Nordic countries that promote renewable energy which has led to the revision and restructuring of the design of Nordic support schemes.

## Nordics on Eco-Design and Energy Labelling

Nordic cooperation on market surveillance and policy on eco-design and energy labelling is conducted in the Nordsyn working group. The Nordic Market Surveillance Authority (MSA) and other policy agencies of the Nordic council cooperate on this. Eco-design and energy labelling can save 10% of energy use. Effective regulations and efficient market systems are necessary for this potential to be realised. Nordsyn aims at improving the efficiency of the Nordic market surveillance and policy input. Nordic authorities, producers and consumers benefit from Nordsyn, while green growth and energy efficiency are supported. The most appreciated result of Nordsyn is that the Nordic countries now regularly share questions, commission answers, discussions, test results and plans through email and Skype. Even though

[29] Pöyry Management Consulting Oy. (2018, January 23). *A Nordic analysis of the proposed EU policy for bioenergy sustainability*. Nordic Co-Operation. Retrieved February 12, 2022, from https://www.nordicenergy.org/publications/a-nordic-analysis-of-the-proposed-eu-policy-for-bioenergy-sustainability/

the core of Nordsyn is continuous contact and exchange of market surveillance results, Nordsyn has also been given the possibility to perform a number of projects that improve Nordic market surveillance and knowledge of legislation among producers, retailers and consumers. A study conducted by Nordsyn shows that shared eco-labelling and surveillance prevented energy loss worth EUR 28 million. This shows that market surveillance is cost efficient, especially if countries cooperate.

## The Nordic Energy Research Cooperation

Speaking of cooperation, the Nordic Energy Research (NER) is a platform for cooperative energy research and analysis in the Nordic region under the Nordic Council of Ministers. The NER funds research of joint Nordic interests and supports the ambitions of the Nordic region. It promotes and supports the region by expanding knowledge of sustainable energy and contributing to the development of new, competitive energy solutions. The NER is closely connected to the national political systems of the five Nordic countries as well as the intergovernmental Nordic system. The board of the NER consists of not only representatives from the national funding agencies but also the energy authorities and ministries, along with the Nordic Council of Ministers' secretariat. There is a constant interaction between research, strategies, results and discussions on key issues on the political agenda. The NER's vision is to create the knowledge basis for the Nordic countries to become political leaders in smart energy.

In 2015, the NER launched projects to serve as "Flagships" for Nordic cooperation in energy, which covered diverse areas such as flexible electricity market design to allow for more wind and solar energy; modelling how to achieve an energy-efficient and low carbon transport system; and enabling negative CO2 emissions through new combustion-related technologies. The regional aspects of the Nordic effort for climate mitigation is linked to the national energy and climate plans, as seen through the Nordic Energy Technology Perspectives (NETP) (which is the Nordic twist on the International Energy Agency (IEA), and the subsequent Tracking Nordic Clean Energy Progress (2019), which is a tracking report that shows the Nordic progress towards a carbon neutral society, which found that the Nordic countries are on track to meet the carbon neutral pathway, but it's likely that additional measures will be necessary to continue this trend.

Another great project launched by the NER is the Nordic Electric Vehicle Outlook 2018 (NEVO 2018), developed in collaboration with the IEA. It aims to identify the developments

of electric mobility and transport systems in the five Nordic states. The report assesses the current status of the electric vehicle market, the deployment of charging infrastructure and the integration with the electricity grid at the country level. It analyses the role of European, national and local policy frameworks in supporting these developments. The analysis also provides insights on consumer behaviour and includes an outlook on the progress of electric mobility in the Nordic region up to 2030.

The Nordic inter-governmental cooperation on environmental issues is overseen by the Nordic Council of Ministers for Environment (MR-M). The members that come from all the countries and regions of the Nordics meet regularly to coordinate on strategic issues, and funding cooperation. The collaboration supports the Nordic countries to use their collective weight in international forums. The Nordic Working Group for Global Climate Negotiations (NOAK) coordinates Nordic efforts to promote the adoption of a binding global climate agreement incorporating ambitious commitments. The Nordic Council of Ministers also has a cross sectoral working group on Environment and Economy funds Nordic projects that review how economic instruments can be used to help mitigate climate change and promote sustainable green growth.[30]

The plethora of knowledge creation frameworks set in place ensure constant efficacy of the nations and region. The focus on energy, renewables, research and economy, through this truly complicated but efficient network, on usage of energy and renewables defines the essence of Nordic exceptionalism.

[30] Ibid, n.28

# CHAPTER 3

## India's Role in Global Climate Governance

## A Brief History of Global Climate Governance

Climate Change has emerged as one of the top security challenges in the early 21st century and now is widely acknowledged in international cooperation and collective action has been recognised as the key to addressing the challenges it brings. Since the 1992 Rio summit, till the 2015 Paris Conference and more recently the COP26 in Glasgow, has shown the tremendous difficulty of bringing together nations, with different national interests in achieving progress in the area of climate action. Beginning with the United Nations Conference on Human Environment in 1972, the issue of climate change was brought forth on the agenda of international politics. In the 1990s, environmental issues became headlines in the global media and climate change negotiations gained importance through the wave of environmental activism. In five sessions between February 1991 and May 1992, the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (INC/FCCC), participants from over 150 countries discussed the contentious issues, commitments and targets for the reduction of carbon dioxide emissions, financial mechanisms and technology transfer. The negotiations also laid down the conceptual framework for "common but differentiated responsibilities (CBDR)" for developed and developing countries. As a result, the UNFCCC was finally adopted on May 9, 1992, Rio de Janeiro, Brazil, and opened for signature at the UN Conference on Environment and Development in June 1992 in Rio (also known as the Rio Conference 1992), with 155 signatories. The UNFCCC had universal membership by March 1994.[31]

The Kyoto Protocol is regarded as the turning point for climate governance, as the legally binding document placed compulsory targets in the place for climate mitigation, for all developed nations. By 1997 over 150 nations had adopted the Kyoto Protocol. To balance out the historic legacy of emissions by developed nations, the treaty did not include developing countries. The Kyoto Protocol came into force in February 2005, after Russia ratified the treaty, thereby meeting the requirement that at least 55 countries representing more than 55 per cent of the global emissions were participating. The Copenhagen conference in 2009, (COP15) was considered a horrible failure due to several reasons, among them being that the Danish government unable to physically accommodate NGOs at the negotiating table, and secondly

[31] H Yu. (2015). Evolution of the global climate governance system and its implications. *China Quarterly of International Strategic Studies*, *01*(03), 423–446. https://doi.org/10.1142/s2377740015500220

when Edward Snowden's revelation to the world exposed how the National Security Agency (NSA) of the United States had provided US delegates with advance details of the Danish plan to 'rescue' the talks should they founder, and the leak of an "advanced" copy of the Copenhagen Agreement, due to which Developing countries accused the developed countries of working behind closed doors and making an agreement that suited them without seeking consent from the developing nations. [32]

As global warming passed 1 degree Celsius, in 2015, the world community became increasingly restless at the lack of progress and the watered-down, ineffective deals that had been signed since 2005. Extreme weather events such as floods, droughts and wildfires continued to become more frequent and severe around the globe, as countries floundered to counter these immediate threats from climate change. [33] With the Paris Agreement, global climate negotiations reached another milestone, where for the first time, there was a call for emissions pledges from both developing and developed nations. Nationally Determined Contributions (NDCs), were introduced, with increasing ambitions every five years. The failure of COP15 in Copenhagen overshadowed the successive COP meetings. It took over five years for the negotiations to recover from this severe blow. The climate negotiations of Paris in 2015, are a landmark in global climate change governance. France as the host, played an important role in ensuring a smooth negotiation process. The Paris Agreement states that parties to the treat will hold temperatures "well below 2 degrees Celsius, above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 degrees Celsius, above pre-industrial levels.". The political support that the Paris Agreement garnered allowed the IPCC to write its seminal global warming report on 1.5 degrees Celsius, published in 2018. [34]

The remarkable shift in narrative of the progression of the global stance from understanding climate change, to recognising the climate crisis and the associated climate action can be observed in the history of climate negotiations from the 1980s till 2021. The first wave of environmental movements in the 1980s provided global support for the Rio Summit. The

[32] M.A. Maslin. (2021, February 3). *A short history of international climate change negotiations – from Rio to Glasgow*. Global Governance Institute. Retrieved April 18, 2022, from https://www.ucl.ac.uk/global-governance/news/2021/jan/short-history-international-climate-change-negotiations-rio-glasgow

[33] A Januta. (2021, October 29). *From 1800 to COP26: A history of key climate conversations*. World Economic Forum. Retrieved April 18, 2022, from https://www.weforum.org/agenda/2021/10/timeline-climate-change-cop-26/

[34] Ibid, n.32

second wave in 2008 and 2009 focused on the hope of building a major climate deal, which unfortunately could not materialise. With the focus on the global economy, post the Global Financial Crisis of 2008, the action for climate change mitigation stagnated for a decade. However, after this decade of stagnation, things began to rapidly change.

In 2018 and 2019, three extremely significant IPCC reports were published. In the Special Report on Global Warming of 1.5 degrees Celsius. The report was significant because it documented how the significant increase in the impact between a 1.5 degree Celsius and 2 degrees Celsius affects the world. It outlines how the limits of 1.5 degree Celsius can be achieved. The report also elaborates on how the world must have net zero carbon emissions by 2050. [35] The second report was a special report on the land; how climate change was causing rapid desertification, and the importance for effective land management strategies, food security and terrestrial ecosystems. [36] The third report by the IPCC, titled the Special Report on the Ocean and Cryosphere, detailed the impacts of climate change on the speed of melting of ice sheets, glaciers and the sea ice, and its severe implication on sea level rise and marine ecosystems. [37]

The COP26 at Glasgow of 2021, held great expectations of the world. It was the first COP meeting where 'net zero' carbon emissions targets were the primary global ambition. On 13th November, 2021, the 26th UN Climate Change Conference of the Parties (COP26) concluded 'successfully' with the adoption of the Glasgow Climate Pact. However, there were a variety of assessments as to what the convention, has achieved after two weeks of negotiations. The Glasgow Climate Pact adopted, among other commitment, (1) a resolution to pursue efforts to limit the temperature increase to 1.5℃; and (2) recognition that limiting the rise in temperature to 1.5℃ requires reducing global emissions by 45% by 2030, relative to the 2010 level, and to net zero around mid-century.

The decade starting 2020, is regarded as a critical decade, with calls to adopt a plan to scale up actions during this time until COP27. The Glasgow Pact also urged the parties to revisit and

[35] IPCC. Special Report: Global Warming of 1.5 ˚C. https://www.ipcc.ch/sr15/ (2018)

[36] IPCC. Special Report: Climate Change and Land https://www.ipcc.ch/srccl/ (2019)

[37] IPCC. Special Report: Ocean and Cryosphere in a changing climate. https://www.ipcc.ch/srocc/ (2019)

strengthen their Nationally Determined Contributions, which is necessary to align with the Paris Agreement goals by the end of 2022. [38]

These events have led to a shift in narrative, where nation states across the world finally declared that the world is in a state of climate emergency. Despite the COVID-19 pandemic, climate change continued to remain a global issue, which is testament to the urgency of the issue.

## India's History in Global Climate Action

At the 1972 United Nations Conference on the Human Environment, the speech of the then Prime Minster of India, Indira Gandhi, initiated an intellectual tradition in Indian climate and environment policy and discourse that juxtaposes the socio-economic development against environmental protection, which essentially places the blame on developed countries of the Global North for the world's environmental problems. [39]

The historical burden of responsibility of the Global North and the per capita rights of the global carbon emissions were adopted as India's position in climate change negotiations.[40] At the UNFCCC in 1992 India identified itself with the Group of 77(G77)- a group of developing nations that urged the developing nations to take action on climate change. However, they may only take on voluntary commitments that would be contingent upon receiving finance and the technology required to combat climate change, from industrialised nations. [41]

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[38] J Arima. (2022, February 2). *COP26: What did it achieve?* World Economic Forum. Retrieved March 14, 2022, from https://www.weforum.org/agenda/2022/02/cop26-assessment-challenges-climate-change/

[39] A Mohan. (2017). *From Rio to Paris: India in global climate politics* Occasional Papers: Observer Research Foundation (ORF). URL: https://www.orfonline.org/research/rio-to-paris-india-global-climate-politics/ . Accessed: 10 March, 2022.

[40] N K Dubash. (2013). "The politics of climate change in India: Narratives of equity and cobenefits". Wiley Interdisciplinary Reviews: Climate Change, 4(3), 191-201. DOI: https://doi.org/10.1002/wcc.210

[41] C Dasgupta, 2012. "Present at the creation: the making of the UN Framework Convention on Climate Change". In Navroz K. Dubash, (ed.) *Handbook of climate change and India: development, politics and governance*. New Delhi: Routledge. 89-97

From then on, India continued to be active in the global climate negotiations and was instrumental for the Berlin mandate of 1995, which guided the two-year long lengthy, process to produce a legal framework that focused on mitigation actions by developed nations. These negotiations resulted in the Kyoto Protocol in 1997; which played a significant role in placing more responsibilities on developed nations. According to the Protocol, Annex I parties of the UNFCCC (developed nations,) were to commit themselves to "quantified emission limitation and reduction objectives", while developing nations would be exempt from these legally binding commitments. [42]

For the G77 countries, the Kyoto Protocol signified the relevance of this differentiation between developed and developing nations with respect to the burden of responsibility for climate action; a stance that India had been advocating for some time, thereby protecting its right to socio-economic development while pursuing the developed nations to take up their share of responsibility [43]. This intellectual tradition was the driven by the need for economic development, prioritising eradicating poverty over climate action. This has led to India's steadfast commitment to push for stronger action by Annex I countries and why India then acquired a reputation of being a difficult partner in climate negotiations. [44]

At COP 19 in Warsaw, 2013, the idea of Nationally Determined Commitment was first developed which later transformed into the Intended Nationally Determined Contributions (INDCs) which was adopted by countries in 2014 at COP 20 in Lima. Prior to COP 21 in Paris, all countries were asked to submit INDCs outlining their plans for climate action up to 2030.[45]

In October 2015, as part of its NDC, India committed to installing clean energy capacities that are equivalent to 40 percent of the total installed electrical capacity in the country by 2030. India also pledged to reduce the carbon intensity of the economy by 33-35 percent by 2030 (according to 2005 levels). [46] Signalling to the world that it was ready to play a more significant role in climate change governance.

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[42] UNFCCC, 1997. Kyoto Protocol. URL: https://unfccc.int/resource/docs/convkp/kpeng.html. Accessed: 14 March, 2022.

[43]Ibid, n.39

[44]Antto Vihma. (2011). "India and the Global Climate Governance: Between Principles and Pragmatism". The Journal of Environment & Development. 20(1): 69-94. DOI: https://doi.org/10.1177/1070496510394325

[45] Ibid, n.39

[46] Ibid, n.39

This was further confirmed by the fact that in 2021, at the COP26 in Glasgow, India announced more ambitions targets to cut its emissions to net zero by 2070, sourcing 50 percent of energy requirement from renewables by 2030, and installing non fossil fuel electricity capacity of 500GW among other commitments. These new pledges go significantly beyond its current nationally determined contribution under the Paris Agreement. [47]

India has also stepped up its international climate and clean energy diplomacy by establishing the International Solar Alliance (ISA) in 2014 and the Coalition for Disaster Resilient Infrastructure (CDRI) in 2019.[48]

It was at the 1992 Rio Earth Summit, the ideological foundations of India's climate policy were laid down in the report by the Centre of Science and Environment called 'Global Warming in an Unequal World' and which accused developed countries of "carbon colonialism", arguing that developed countries bear the bulk of responsibility for climate change given their historical emissions of greenhouse gases. This problem was later acknowledged in the United Nations Framework Convention on Climate Change (UNFCCC) in 1992, in Article 3 through the phrase 'Common But Differentiated Responsibilities' (CBDR) [49], which was significant to the G-77 countries and India as it justified their resistance to equally share in the burden of climate action, while advocating for equity. While the CBDR justifies India's imperative for climate diplomacy, it does not provide the complete picture.

This is because this perspective of India's need for climate diplomacy is based on the *past* actions of developed nations, and their GHG emissions. However, if one had to examine climate change through the lens of *current and future* GHG emissions, India is the world's third largest emitter, with continued rising emissions.[50] Therefore, India cannot claim to not have any responsibility, as India's actions matter significantly for the future of climate action.

Apart from India's international role in climate governance, the responsibility it holds for its own people takes precedence in which climate action also plays an important role. For India,

[47] S Tiwari. (2021). "COP26: PM Modi's 5 Big Climate Goals for India". HOT NEWS: The Quint. URL: https://www.thequint.com/news/hot-news/cop-26-pm-modi-announces-5-big-climate-goals-for-india. Accessed: 14 March, 2022.

[48] M Joshi. (2021). Strengthening climate diplomacy: An imperative for Indian climate in the new decade. Terra Nova: Observer Research Foundation (ORF). URL: https://www.orfonline.org/expert-speak/strengthening-climate-diplomacy-imperative-indian-climate-new-decade/. Accessed: 10 March, 2022

[49] Ibid, n.39

[50] Ibid, n.39

development and growth were always a policy priority. India has been making huge strides in lifting millions out of poverty while making the transition to a low carbon future. Investing in clean energy makes economic sense as it helps create jobs and mitigate impacts on climate change. [51]

India's approach to multilateral action, anchored in the five S's of — *samman* (respect), *samvad* (dialogue), *sahyog* (cooperation), *shanti* (peace) and *samriddhi* (prosperity) go hand in hand with the concepts of climate justice and inclusive transitions, which now form the basis of India's climate diplomacy. As a world leader in solar and wind energy, ranking fifth and fourth respectively in cumulative capacity installations (as of 2019), along with the ISA, with 90 signatories, India has set its foreign policy goals in the right direction [52]

The duality of India's position of being the highest emitter currently but not bearing historical responsibility is a problem that India's climate diplomacy attempts to continuously balance. This gives India a unique and important role in climate change governance. Along with this, and its shining credentials as a leader in renewable energy, examining India's role in climate governance has provided useful and important insights into the dynamic nature of global climate politics and governance.

## Understanding India's Stance in Global Climate Commitments

As the country with the world's second highest population, and as an emerging global economic and political power, while also being a significant current and future emitter of GHGs, India has become one of the central players in international climate negotiations in the past three decades. However, it has undergone a significant shift in its stance over its course of international engagements.

India's primary national response was rooted in its colonial past and new-found independence, in 1947. Its main goal was to eradicate its deep-rooted poverty, achieve modernisation and development, through industrialisation and economic growth to gain its place in the world. The Government of India, realised early on that international treaty agreements would curb

[51] Ibid n.48

[52] Ibid, n.48

greenhouse gas emissions, would impinge upon these core national interests and impede on the country's future, because of the intrinsic correlation of GHGs, to national energy use, economic growth and development.

Indian negotiators opined in the negotiations of the UNFCCC in the early 1990s, that this was not just an environmental treaty for India but rather a major multilateral economic agreement, in which the sharing of costs and benefits are implied, which has the potential to alter the economic pathways of individual countries. India was driven by this interest-based conceptualisation of the international climate regime and a desire to secure to a position in the policy space. Furthermore, this was accompanied by an equally strong normative sentiment that was based on notions of equity and justice; that tackling climate change was not the responsibility of developing countries, but a problem caused primarily by the developed world. [53]

India continued to resist several changes to the regime established by the UNFCCC and Kyoto Protocol, and successfully negotiate for its position. This resilience to change, in this time period, could be explained by the following factors:

According to the Rio Agreement of 1992, the economic North was supposed to support the South, on how to tackle climate change, however, there was little movement from the North to actually deliver on its promises, either in terms of reducing their own GHG emissions or in terms of providing technology and financial support. In fact, it seemed to the South that the entire North seems to be focused on undoing and revising the terms of the original Rio deal. In such circumstances, there seems little reason for India to change its foreign policy on the issue of climate changes, especially with international law on its side.

During this period there was a general consensus within India that the external position on climate change was legitimate and valid, and therefore did not require any changing. Even environmental NGOs which used to heavily criticise the domestic environmental policies of the government, rallied to defend India's foreign policies on the international climate change regime. India's internal policymaking also played a role in the way India's external climate policy has been shaped Traditionally, India's climate policy has been the prerogative of a small group of government servants from the MEA, who believe that their core traditional positions

[53] N K Dubash, & S Sengupta. (2015). International climate negotiations and India's role. In *Handbook of climate change and India: Development, politics and governance* (1st ed., pp. 101–118). essay, Routledge, Taylor & Francis Group.

are right. In fact, barring some exceptions, science and scientists have played a limited role in determining India's policies on climate change. India's stance has been informed by its economic and developmental considerations, rather than environmental concerns or science. Therefore, given limited governmental capacity the Indian bureaucracy stuck to its traditional policies. [54]

However, there have been significant changes in India's climate foreign policy especially in the lead up to Copenhagen and Paris. There has been an emergence of powerful new voices within India's policy making on climate change. As climate change began to featured more frequently at high level discussions, the country's political leadership and its bureaucrats to take political risks and consider and accept options and decisions that extend beyond India's traditional negotiating positions. In the lead up to the 2009 Copenhagen Summit significant policy shifts were triggered by the then Environment Minister and Prime Minister of India's implicit support. More recently in a more direct role played by Prime Minister Modi, India's policies have gone through a dramatic change. PM Modi himself played an important role in the making and approving of political judgment calls, trade-offs, and compromises on what India's core interest in this matter are, following COP 21.

India's understandings of what its core interests are on this topic have been enabled by the growing scientific knowledge encapsulated in several IPCC reports, which has led to more appreciation today amongst policymakers of India's vulnerabilities such impacts of climate change on India's monsoon-dependent agriculture, or its glacier-fed river systems, or its 7,500-kilometre-long coastline. There is also a growing understanding that taking action on climate change will not necessarily come at the cost of development but in a manner that can yield co-benefits, such as an improvement local health, vehicular and industrial emissions, and even enhancing the country's energy security by lowering dependence on fossil fuel imports and therefore minimising foreign exchange outflows. [55] There is a growing recognition of the fact that cost competitive alternative energy options based on renewables exist, offer realistic pathways as well as business and growth opportunities for the country to achieve clean development. Domestic consensus on climate change within India is no longer as solid and unidimensional as it used to be. Until the mid-2000s the main non state actors working on the issue were largely congruent with India's traditional positions. Similarly, domestic business

[54] Ibid, n.53

[55] Ibid, n.53

groups Confederation of Indian Industry (CII), and the Federation of Indian Chambers of Commerce and Industry (FICCI), also rallied behind these traditional views.

Now, there is greater proliferation of non-state groups engaged on climate change with a wider variety of views. Transnational groups based in India have been strongly critical of some of the core preconditions of India's traditional positions, both in the NGO sector and industry. The industry has pointed to the growing business opportunities and advantages that stem from taking greater and early action on climate change, thereby also providing a societal context for India to consider more alternative policies on climate change. Apart from growing domestic pressures, growing international pressure has also played a critical role in the changes to India's foreign policy. [56] Such as in the instance of the BASIC countries which announced their voluntary mitigation goals in the lead up to COP 15 and COP 21, which encouraged India to follow suite, playing into its desire to be a more "responsible member" of the international community, and to avoid isolation and blame. Finally, the emergence of India as a powerful economic and political actor since its liberalisation 1991, led to the recent changes seen in its climate diplomacy, while reappraising the necessity of pursuing an entirely defensive external strategy on this issue. This was aligned with a growing sentiment within India's political establishments that a rising, confident India should shed its image as being uncooperative and a naysayer, in global climate change, which befits its national aspirations for great power status. Broader geopolitical changes in the international arena have also influenced India's priorities on this issue. For example, the growing importance of the bilateral relationship with the US and the security benefits from arise from it, make India more willing to accept Western preferences on global climate regime, rather than to pursue a line of unidimensional opposition to them.

Recently, the international negotiations have opened up new spaces for India to substantively rethink its national interests. Post Paris agreement, India's challenge has become to balance the imperatives of securing a just international agreement while also taking up definitive climate action domestically. India also has to ensure that this is done in a manner that minimises the country's vulnerability and maximises its prospects for national welfare, environmental and smart development in a carbon constrained world. [57] The answer to India's balancing act, could

[56] Ibid, n.44
[57] Ibid, n.53

lie in a growing and robust engagement with sustainable states that pioneer in climate mitigation and green technology such as the Nordic states.

# CHAPTER 4

The India-Nordic Compact

## Understanding the Convergence: The India-Nordic Summits

The past eight years have marked a great shift in India's foreign policy paradigm, and its diplomatic modus operandi has also undergone a remarkable pivot towards re-imagined national interests and objectives. India's engagement with the Nordics, reflects its evolving foreign policy. This is a mutual attempt to rectify the deficit of attention and engagement towards one another, from over the decades. The Nordic countries have come to appreciate the potential that India holds in shaping the world order- as the world's largest democracy and one of the rising economies of the world, while acknowledging its current status and capabilities for regional and global stability. India represents a young population, with a complex socio-economic structure, that has the potential, but lacks the resources to be a vibrant global R&D hub- a potential for business and social opportunities. India, on the other hand, views the Nordics as high value economies that are pioneers in innovation processes, from technology, knowledge creation, policy and sustainability. New Delhi has come to finally realise the exceptionalism that is characteristic of the Nordic states, after focusing on the other traditional European powers (such as Germany and France), for far too long. The lack of engagement of the Nordics and India can be perhaps blamed on the lack of adequate understanding of each other's world views. The Nordics viewed the democracy in India as chaotic, and idealistic and even unrealistic from time to time, especially in global climate change negotiations; a part of the problem rather than the solution.

India has now been working on incorporating the Nordics as a stakeholder in national development, by collaborating on projects for human and sustainable development. A change in the political relations required a mutual prioritisation in the strategic calculus. Since the advent of the Modi administration in India, the relations have grown stronger and gotten the required boost to further continue the relationship, both on a bilateral level and regional level. The first presidential visit by India took place in 2014, when Pranab Mukherjee visited Norway and Finland, and subsequently to Sweden in 2015. The relationship took a significant turn with the India-Nordic Summit in 2018, with Prime Minister Modi visiting Sweden; the first prime ministerial visit by India in thirty years. Since then, the ministers of Norway, Sweden, Finland and Denmark have also visited India and infused this relationship with the engagement it needs, with a great deal of virtual summits, to help grow the relationship, during the pandemic.

The Nordic-India framework, through the various bilateral Joint Statements and the Joint Statements from the Nordic-India Summits of 2018 and 2022, have rapidly progressed into the making of the G2G framework of MoUs, the establishment of G2G Joint Working Groups and a renewed commitment to this innovative partnership through roadmaps, developmental and institutional collaboration.[58]

India and the five Nordic states have a large area of complementarities; they share a common interest in democracy, pluralism, fundamental freedoms of speech, religion and media. All the countries are free market economies, that promote gender equality, women empowerment, social justice, human rights and respect for the rule of law. The Nordic region is one of the most peaceful regions, boasting of political and economic stability, with a high standard of living for all its citizens. As a region, the five Nordic countries have a high level of international, regional and bilateral cooperation, which has a far-reaching progress over the years. Additionally, these countries have some of the best innovations and technology in terms of clean energy, green technologies, education, health care, waste management, not to mention the highest numbers in good governance, transparency, and social justice, while regularly appearing in the top ten ranks in the World Happiness Index. The Nordic framework for governance and society presents a plethora of opportunities for India to factor in the strengths and progress of these countries into a mutually beneficial relationship.

It is also extremely beneficial for these countries to engage more robustly with India. India is a fast-paced economy, the third-largest global economy at $9 trillion in purchasing power parity terms, with the annual GDP growth of 7.4 per cent in 2022-23, after taking into account the adverse impacts of the pandemic and the Russia-Ukraine conflict. In the recent years, India has taken some important steps such as introducing the Goods and Services Tax, improving the Ease of Doing Business, and Productivity Linked Incentive Scheme- which has significantly improved India's attractiveness as a business partner and investment destination. The new flagship schemes launched by India such as Make in India, Aatmanirbhar Bharat, Smart Cities initiatives, Start Up India, Digital India, Skill India, etc., all give Nordic companies that chance to invest in, and create win-win solutions. India also presents an ideal opportunity for these countries due to the access they can provide to large markets, and its

[58] D.D Parulekar. (2021, September). *India-Nordic Engagement: A veritable strategic partnership in reimagine and Configure*. Focus Asia. Retrieved October 4, 2021, from https://isdp.eu/publication/india-nordic-engagement/

youth dividend. Compared to the Nordic countries, who have aging populations, the young, educated and skilled population of India can meet the demands in the Nordic region. The Nordics need large markets, with assured returns and reliable commercial partners. India can meet these salient requirements.[59]

## The India-Nordic Summit 2018

During Prime Minister Narendra Modi's visit to Stockholm in 2018, a first in 30 years, along with the usual bilateral communication, India and Sweden co-hosted the first ever India-Nordic Summit. A forum which explored areas for cooperation and strategic convergence, that represents a new approach in the foreign policy matrix of both sides. The summit focused on the trade, investment and expansion of this mutually beneficial cooperation; one where the Nordic strengths can complement India's developmental needs. The two parties, at the Summit, underlined the importance of the rule based multilateral trading system that enables inclusivity along with free trade.

The Summit also helped identify opportunities that the Nordic model of innovation and their expertise in clean technology and environmental conservation, marine ecosystems, military and engineering technology, agriculture and food processing and health and public welfare, cane provide. This expertise would synergise well with India's programmes such as Clean India, Make in India and Start up India. Both sides discussed their common strategic issues and non-proliferation objectives as well. In fact, the Nordics even supported India's bid for a permanent membership of the United Nations Security Council, which is in stark contrast to their stance on the Indian nuclear programme post-Pokhran II.

This is a significant marker of the fact that in 2018, the summit managed to break the inertia in the regional and bilateral relationships of India and the Nordics, and a significant break away from past traditions. The Nordic states have been willing to engage with other partners as a group, in order to improve their collective bargaining power. In fact, in 2014, the Nordic Council laid down a declaration in which they laid emphasis on a "joint Nordic experiences"

[59] A Sajjanhar. (2022, May 10). *The second India-Nordic Summit: Why it is a win-win proposition for all?* Firstpost. Retrieved May 5, 2022, from https://www.firstpost.com/opinion/the-second-india-nordic-summit-why-it-is-a-win-win-proposition-for-all-10654241.html

for other players in the international system. India is the second country with which the Nordics have engaged in regionally, the first being with the US in 2013 and 2016. [60]

## The India Nordic Summit (2022)

While some were not too optimistic of the longevity of the collective regional forum of the India-Nordic Summit of 2018, it was reassuring to see that the second summit finally took place in May 2022; a sign of continued commitment of this relationship. While the PM's visit to Denmark for bilateral visit to Denmark and the India-Nordic Summit was packed onto a hectic tour between the high-profile visits to Germany and France, the Summit was no less momentous in terms of optics, substance and outcome. Like in 2018, PM Modi met the prime ministers of all five countries individually before the collective meeting for the Joint India-Nordic Summit, 2022. The primary focus of this summit was green energy, green technology, climate change, innovation and digitalisation. The prime ministers also pledged to cooperate further in key areas of security and global peace, emphasising on the Russia-Ukraine conflict.

The leaders reviewed the progress since the first summit in 2018, and discussed cooperation in areas such as post-pandemic economic recovery, the climate crisis, sustainable development, digitalisation and green growth, while reaffirming their commitment and support for a rule-based order, transparency, and accountability in global governance. The reaffirmed the importance of free trade as a driver to achieve inclusivity and achieve the SDGs.

On the front of environmental sustainability, the discussion including clean water, clean air and the circular economy. They also agreed on the blue economy, and how it can deliver economic growth, reduced rates in unemployment, improved nutrition and food security. The leaders lay emphasis on the potential for stimulating business and investment under this banner, including robust systems for martime, marine and offshore wind sectors. PM Modi invited the Nordic companies to invest in India's Sagarmala project, and commented that India's new Arctic

[60] Ministry of External Affairs. (2018, April 17). *Joint Press Statement from the Summit between India and the Nordic Countries*. Media Center. Retrieved October 20, 2021, from https://www.mea.gov.in/bilateral-documents.htm?dtl%2F29828%2FJoint_Press_Statement_from_the_Summit_between_India_and_the_Nordic_Countries

Policy is a sustainable framework for the expansion of this cooperation, inviting the soverign wealth funds of the Nordics to invest in India.

Jointly, the leaders committed to fight climate change and described the acceleration of global green transition as one of the most urgent challenges of the world, underlining the need for ambitious goals for emissions reduction restrict the increase in the global average temperature to below 2° Celsius above pre-industrial levels. [61]

## India- Denmark

In a virtual summit in 2020, Danish Prime Minister Mette Frederiksen and Indian Prime Minister Narendra Modi officially announced a Green Strategic Partnership between the two countries, with the aim of expanding cooperation in renewable energy, environmental policy, trade, climate policy, and science and technology. The ambitious partnership was accelerated with PM Frederiksen's three-day state-visit to India, in 2021. This marked the first summit level meeting in India since COVID-19. In the joint press conference, PM Modi and Frederiksen stated that both the countries, as democracies, believe in the rule based international system, especially a greener world.

Additionally, PM Modi welcomed Denmark as the first non-tropical member of the International Solar Alliance that aims at reducing dependency on fossil fuels. The Green Strategic Partnership agrees to expand on the existing partnership on health, and agriculture and further signed four bilateral agreements which will contribute to more robust cooperation in the areas of water, science and technology, and climate change as part of a five-year Joint Action Plan. While India and Denmark already had strong business and investment ties, this Partnership broadened the scope of their relationship to include other areas, especially sustainable development. The Green Partnership is a testament to the budding relationship, which has the potential to shape the region, especially in terms of sustainability. Denmark is

[61] Ministry of External Affairs. (2022, May 4). *Joint Statement : 2nd India-Nordic Summit*. Ministry of External Affairs, Government of India. Retrieved May 6, 2022, from https://mea.gov.in/bilateral-documents.htm?dtl%2F35276

the only nation with whom India has a Green Strategic Partnership[62]. The details of the *India-Denmark Joint Action Plan (2021-2026): Green Strategic Partnership*, with a focus on environmental cooperation, are enumerated as follows:

**For Energy and Climate:**

The Joint Action plan describes the task under this domain, as creating an "enabling environment for lowering the cost of offshore wind power and integrating renewable energy into the grid", with an emphasis on best practices. It also emphasises on the cooperation on energy planning, guided by state-of-art- long term-energy modelling tools, and cooperation in bioenergy, and waste-to-energy. The joint action plan details several methods, such as knowledge exchange, and cooperation through ministries and institutions. In particular, the countries pledged to launch a virtual joint Centre of Excellence on offshore wind and renewable energy that combines Danish expertise on offshore wind and energy islands with Indian ambitions on renewable energy. The partnership will also explore the feasibility for the Danish Energy Agency and Danish Technical University to assist the Indian National Institute for Wind Energy in the development of a test centre for wind components. This section targets SDG 7 (Affordable and Clean Energy), SDG 8 (Decent Work and Economic Growth), and SDG 13 (Climate Action).

**For Environment, Water and Circular Economy**

This section of the joint action plan focuses on sustainable water supply, environment and circular economy, mobilising Danish, Indian, and international financing sources, joint skill building, knowledge exchange and research and development, and joint innovation on challenges on water. The action undertaken to achieve these tasks will be jointly developed, signed and implemented by the working plan, on cooperation between the Ministry of Jal

[62] Media Center. (2022, May 3). *India–Denmark Joint Statement during the Visit of Prime Minister to Denmark*. Ministry of External Affairs, Government of India. Retrieved May 5, 2022, from https://www.mea.gov.in/bilateral-documents.htm?dtl%2F35261

Shakti and the Danish Environmental Protection Agency for an initial period of three years (2021-2023) on sustainable water supply. The Work Plan will be developed in close collaboration with new and already existing initiatives like city-to-city collaboration between Udaipur and Aarhus, the Urban Living Lab in Goa, the Indo-Danish Water Technology Alliance, and activities in science technology and innovation, where these initiatives/setups will enable case studies, pilot projects, and proof of concepts to test and upscale the activities to regional and national level. The action plan also describes a Joint Working Group for Environment, under the MoU on India-Denmark cooperation in areas of Environment. The plan lays out the following financial instruments to provide financing for water pilot projects in India: Danida Sustainable Infrastructure Finance (DSIF) Project Development Facility and IFU Project Development Programme (PDP). The plan lays out a framework of cooperation between the NITI Aayog, and the Innovation Centre Denmark. This section of the plan focuses on SDG 6 (Clean Water and Sanitation), SDG 12 (Responsible Consumption and Production) and SDG 14 (Life Below Water).

**Sustainable and Smart Cities**

The Joint Action Plan recognises the urgent call for developing and establishing best practices for sustainable and liveable cities, in today's rapid urbanisation. The countries will cooperation on sustainable and smart urban development with a view to promoting a circular economy, creating sustainable, smart and liveable cities. The framework is the MoU on Smart and Sustainable Cities (2018), with action plans ranging from the launch of the Urban Living Lab in Panaji, Goa; knowledge sharing from the city-to-city cooperation between Udaipur and Aarhus and the city-to-city cooperation between Tumakuru and Aalborg. The countries commit to jointly identify suitable sites and develop proposals for pilot projects, demonstration projects and proof of concepts that showcase how Danish urban solutions can improve the efficiency and sustainability of water distribution, water supply, waste water treatment, resource management and energy and mobility. This section aims at SDG 6 (Clean Water and Sanitation), SDG 11 (Sustainable Cities and Communities), and SDG 12 (Responsible Consumption and Production).

## Business, Trade and Investment

Denmark and India recognise the great potential this relationship has for green transformation in their respective economies. The countries also understand that innovation is a pre-requisite in combating climate change and ensuring a smooth transition to sustainable development. This section aims to "improve conditions for the establishment and operation of Indian and Danish enterprises on the two markets, not least to promote green growth", and further develop government to government cooperation and a well-functioning system for intellectual property rights, while also mapping out financing opportunities for India. In terms of green cooperation, the agreement wishes to build partnerships between Indian and Danish authorities, businesses and research institutions with a view to further expanding cooperation, exchange of know-how and experience as well as development of new technology, and improve conditions for new technology to make it possible to achieve the ambitious carbon emissions reduction targets.

## Science, Technology and Innovation

India and Denmark recognise the importance of the science and technology in promoting the Green Strategic Partnership. The partnership aims to enhance and develop bilateral cooperation in the gambits of science, technology, and innovation, particularly in the areas of climate, energy, water, environment and biodiversity. The Innovation Fund Denmark, and the NITI Aayog will also be involved in this effort.

In addition to these, the underlying element to the partnership is to support and promote an open, rule based multilateral collaboration, with a special focus on combating the challenges of energy and climate change, under the Paris Climate Agreement. [63]

[63] Ministry of Foreign Affairs of Denmark. (2020, September 28). *India-Denmark joint action plan (2021-2026)*. India-Denmark Joint Action Plan (2021-2026). Retrieved February 3, 2022, from https://indien.um.dk/en/denmark-in-india/green-strategic-partnership/india-denmark-joint-action-plan-2021-2026-

## India-Sweden

Prime Minister Modi's visit to Sweden in 2018, marked a turning point in the bilateral relationship, that had been stagnant for decades. In the virtual summit in March 2021, between PM Modi and his Swedish counterpart Stefan Lofven has accelerated the relationship towards further consolidation and convergence of strategic priorities, on issues such as to defence, counterterrorism, peace and security, climate change, science and technology, start-up innovation, medical innovation, and industry integration. The industries of Sweden and India in various sectors such as technology, and health formulate a basis for a robust relationship, between Stockholm and New Delhi. The foundations of countries based on shared values of democracy, rule of law, pluralism and respect for human rights, forms a reason for natural partnership. At the virtual summit in 2021, both the prime ministers deliberated upon a strategi roadmap for a dynamic, proactive and strong bilateral cooperation on several issues on regional and global dimensions. Apart from the expansion on defence and security, the two leaders called for further collaboration on climate change, high-tech and innovation partnership, research and development, healthcare innovation, trade and investment, leadership skill and industry transition. India and Sweden are laden with the rich and diverse proficiency and skills in each of these focus areas, based on their resources, mobilisation, and the shared politico-socio-economic and technological progress.

Climate change was recognised as one of the strategic focus areas of top priority for both, where India and Sweden can extend their collaboration. In the wake of the global pandemic, both countries affirmed their perspective on balancing human development with environmental conservation, while complying with the goals and commitments made as signatories of the Paris Agreement 2015. Undeniably, India's push for renewable energy also has the enhanced potential for a mutually beneficial cooperation, in the domain of clean energy technologies. Sweden, in this tangent, also joined the ISA, thus creating the synergy required to build on and harness advanced green technologies. The consistency and commitment shown towards efficient environmental governance will further enhance the Leadership Group for Industry Transition (LeadIT), which is currently transforming its perspectives in pursuing net zero carbon emissions by 2050. Under the Sweden India Joint Action Plan, both Prime Ministers reiterated their commitment for cooperation and dialogue on areas of mutual concern including

climate change, Agenda 2030, peace, security and human rights. The salient features of the *Sweden India Joint Action Plan* (focusing on environmental development) are as below:

**Innovation:** The two countries, under the plan, have initiated a multi-stakeholder Innovation Partnership for a Sustainable Future, underpinning which is their mutual commitment to drive prosperity and growth, while addressing the challenges posed by climate change and sustainable development, through innovation. They further committed to carry out dialogue and cooperation in the field of intellectual property rights under the MoU signed by the Swedish Patent Registration Office and the Department of Industrial Policy and Promotion of India.

**Smart Cities and Transportation***:* Under the joint action plan, the countries commit to exchanging knowledge and cooperation on smart cities, including air pollution control, transitioning urban development, waste management, waste water treatment and circular economy. The countries will also exchange the technical know-how in the areas of electromobility and renewable fuel; and promises for enhanced cooperation in the areas of railways, for railway policy development, training, operation and maintenance were also made.

**Renewable Energy***:* The two countries wish to engage and seek mutual collaboration on the demonstration and development of smart grid technologies for better power quality management, as well as building electric vehicles infrastructure. The collaboration will also cater to renewables integration through research, innovation in capacity building and policy cooperation. Through the India-Sweden Accelerator, the research, innovation and business cooperation on innovative energy technologies will utilise renewable energy and promote energy efficiency.[64]

## India-Norway

When Prime Minister Erna Solberg visited New Delhi in 2018, her principal focus was on deepening economic and technological cooperation in the Blue Economy. PM Solberg even delivered the inaugural address at the Raisina Dialogue when she urged India to work together for the sustainable development of ocean resources. The following day, the two governments

[64] Media Center. (2018, April 17). *Sweden India Joint Action Plan*. Media Center. Retrieved April 5, 2022, from https://www.mea.gov.in/bilateral-documents.htm?dtl%2F29824%2FSweden%2BIndia%2BJoint%2BAction%2BPlan

signed an MoU on Ocean Dialogue and the announced the establishment of a joint task force "to promote multi-sectoral cooperation in various aspects of Blue Economy."[65] Norway's interest in India is best outlined by its "India Strategy", enshrined in the *Norway-India 2030* framework.

The Norwegian government launched the India Strategy in 2018, with clear priorities for the government to follow until 2030, which boosted the development of the India-Nordic bilateral cooperation.

The India Strategy outlines five thematic priorities:

- Democracy and a rules-based world order
- The oceans
- Energy
- Climate and Environment
- Research, higher education and global health

In this framework, the points on Oceans, Energy and Climate and Environment lay out the salient features of this bilateral cooperation on climate action.

**Oceans**

The Norwegian government will make use of policy instruments to strengthen Norway-India cooperation through political contact and cooperation in this area. It will involve regular meetings and exchange of visits at a political level with discussion of matters arising from dialogue from within the working groups of the India-Norway Joint Commission. The government will also support Norwegian expertise and technology where Norway is at the forefront of developments, with a core focus on network and competence building with India. Thematic areas relating to the oceans, such as climate change, the environment, marine research, the maritime sector and polar research, are at the heart of this cooperation.

[65] Bhatia, R. (2019, January 10). *India, Norway and the Blue Economy.* India, Norway and the Blue Economy. Retrieved May 7, 2022, from https://www.gatewayhouse.in/india-norway-blue-economy/

## Energy

The Norwegian government will seek to facilitate political contact, including visits related to energy. This will be followed up by India's Ministry of Petroleum and Energy and its underlying agencies. Norway is at the forefront of developments in terms of energy, especially harnessing ocean resources and India's key priorities lie in solar power and smart grids. Joint calls for proposals for research projects in these and other areas in the field of clean energy have been published by the two countries, primarily under the Research Council's Large-scale programme for energy research.

## Climate and Environment

On the climate and environment, India requested Norway to continue cooperation with India in this area via political contact and cooperation, and bilateral exchange, while promoting technology for environmentally friendly solutions. In the area of research, the Norwegian institutes will engage with The Energy and Resources Institute (TERI) in India, in an effort for India to reach its climate targets. In addition to this, the Norwegian Programme for Research Cooperation with India (INDNOR) was established by the Research Council of Norway in 2010 to strengthen and promote cooperation between Norway and India on research and funding, with a key element of the work on global sustainability.[66]

# India-Finland

In the recent years, the bilateral relations of India and Finland have been infused with diversity and collaboration in research, innovation and investments. Finland views India as a great market for products and a favourable investment destination, while India views Finland as a repository of modern technology. Both have had a strong bonding in Science, Technology and Innovation. Last year, 2021, marked 70 years of diplomatic relations of India and Finland. In March 2021, Prime Minister Modi and Prime Minister Sanna Marin, had a virtual summit,

[66] Ministry of Foreign Affairs. (2019). *Norway-India 2030*. Norway – India 2030. Retrieved May 1, 2022, from https://www.regjeringen.no/contentassets/66f86b283207423fbda106ce045744d7/indiastrategy_nett.pdf

where they discussed a gamut of bilateral, regional and multilateral issues of mutual concern. The bilateral focus on environmental cooperation is as follows:

- Both countries affirmed the fact that they are natural partners and should enhance efforts to strengthen multilateralism, and pursue the SDGs and focus on robust climate action.
- The two leaders welcomed cooperation in the field of energy and encouraged companies, agencies and other bodies to participate in and explore commercial activities, and promote research and development and cooperation in the field of gas-based economy, biofuels, renewable energy, waste-to-energy, electricity storage and emerging fuels such as hydrogen.
- They noted that green growth and clean energy transitions were elemental for the bilateral and multilateral cooperation. To continue in this cooperation, they admitted the importance of addressing the interrelated issues of biodiversity loss, land use change, freshwater and ocean degradation and deforestation among other challenges.
- They stressed on the need for an inclusive, circular economy to combat climate change, and integrate biodiversity values into national and local policies,
- India and Finland committed to pursuing stronger integration of water and climate policies, and boost efforts to promote technology cooperation to solve water related challenges.
- Finland welcomed the International Solar Alliance and emphasised on the EU's intention to join the Coalition on Disaster Resilient Infrastructure. [67]

## India- Iceland

Perhaps the smallest of engagements, in comparison to the other four Nordic countries, the relationship of Iceland and India is continuing to gain importance, bilaterally and regionally. Iceland, with its pioneering technology on geothermal energy, is an attractive partner for

[67] Media Center. (2021, March 16). *India-Finland Virtual Summit*. Ministry of External Affairs, Government of India. Retrieved March 5, 2022, from https://www.mea.gov.in/press-releases.htm?dtl%2F33631%2FIndiaFinland_Virtual_Summit

sustainable energy transitions. In 2022, PM Modi had a meeting with PM Katrin Jakobsdottir, in Copenhagen, on the side-lines of the second India-Nordic Summit. Iceland and India are celebrating 50 years of the establishment of diplomatic ties with one another. Both leaders discussed ways to further strengthen economic cooperation, in the sectors of geothermal energy, blue economy, the Arctic and renewable energy, fisheries and food processing, as well as digitising education. Especially in terms of geothermal energy, both leaders discussed avenues of collaboration between universities and agencies. [68]

Given that in the past the smaller European countries have flown past New Delhi's radar, the Ministry of External Affairs new strategy to approach the Nordic region as a whole rather than five distinct nations, reflects India's developing and perhaps wiser foreign policy. The increasingly robust engagement of India with the Nordic countries has the potential to be a game changer in international relations, and affect the current geo economic and geo political mappings of the world.

[68] Media Center. (2022, May 4). Prime Minister's meeting with Prime Minister of Iceland. Retrieved May 6, 2022, from https://mea.gov.in/press-releases.htm?dtl%2F35272%2FPrime_Ministers_meeting_with_Prime_Minister_of_Iceland

# CHAPTER 5

Expanding Horizons: Nordic Solutions for Indian Needs

**Propositions for a Sustainable India and Strengthening Regional ties with the Nordics**

India's current focus with the Nordic Region, has progressed from bilateral exchanges to multilateral and regional forums, the current relationship still lacks the regional level cohesion that was expected between the Government of India and the Nordic Council of Ministers. India only has a robust partnership with Denmark, in terms of green technology and environmental sustainability, while it is barely hanging on by a thread in terms of environmental cooperation with Iceland. With Sweden, India's focus has largely been security, economic engagement, investments and trade, while Finland has pushed for a more robust engagement towards digitalisation. While Norway's India strategy has a diverse portfolio of interests, it solely focuses on the blue economy, and oceans, where the energy and climate and environment need of the engagement suffer from a lack of adequate focus. This section details the points in which India and the Nordics can deepen their engagement, and the lessons that India can learn from the Nordic countries.

As seen earlier, the Nordic countries of Norway, Sweden, Finland and Demark share a single electricity market, which has managed to deregulate electricity markets across borders. India has the potential, as a regional power, to also develop an electricity market across the region. The goal of a common grid under the International Solar Alliance (ISA) framework, creates the need to build mechanisms for regional cooperation and cohesion. The common grid, as proposed by the ISA, has to arise from regional networks. As the regional leader, the onus of creating this cohesion falls on India.

India, as a robust solar and renewable energy player, can share these benefits via a shared electricity market with its neighbours, through the network of Bangladesh, Bhutan, India and Nepal, famously, the BBIN network. Additionally, the existing frameworks of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), can boost and further expand the shared electricity markets and help realise the larger, global aims of the ISA, and reach beyond the subcontinent towards to include, Myanmar, Sri Lanka, and Thailand, as well. With the inclusion of Thailand, the implications for collaboration move beyond South Asia, into South East Asia, with the possibility of collaborating with ASEAN as well, promoting deeper South-South cooperation. The potential cooperation can be monitored by equivalent of the Nordic Council's, Electricity Market Group, under the BIMSTEC framework. India can deepen its engagement with the Nordic Council to develop a regional,

shared electricity market that promotes synchronised rules for all market participants, both companies and consumers. The Nordic Electricity Market is also currently developing systemic solutions to deal with the influx of large shares of renewable energy; a factor India definitely needs to incorporate in its own electricity grid while making the transition to clean energy.

The Government of India has a well-functioning Ministry of New and Renewable Energy (MNRE), that lays out and implements the robust plans for India's renewable energy transition. The Nordic cooperation on energy efficiency, conducted by the Networking Group on Energy Efficiency (NGEE), aims at developing and increasing the use of renewable energy, with the aim of diversifying the energy system and be less dependent on imports, while reducing GHG emissions. A separate working group known as the Working Group for Renewable Energy (AGFE), has been set up under this framework for this purpose.

The Ministry of New and Renewable Energy has individual collaborations with the Ministries of Energy for the Nordic states individually. However, the regional cooperation on this is severely lacking. From the NGEE and AGFE, the Ministry of New and Renewable Energy can seek the technical know-how required to manifest the Indian goals on renewable energy. The Nordics can lead the way in helping India create the ecosystem for renewable energy, while showing it the ropes on how to balance and manage this complex web of institutional frameworks.

In terms of promoting energy efficiency, India has the Bureau of Energy Efficiency, that manages the labelling of appliances, under the Ministry of Power. The BEE co-ordinates with designated consumers, designated agencies and other organizations and recognize, identify and utilize the existing resources and infrastructure, in performing the functions assigned to it under the Energy Conservation Act. The Nordics also have a unique cooperation in terms of market surveillance and policy on eco-design and energy labelling, managed by the Nordic Market Surveillance Authority (MSA). The BEE and MSA could partner up in the future, to share technical knowledge and technology, to build better infrastructure for more efficient market surveillance and labelling policies.

Specifically for Energy, the Nordics have a platform for cooperative energy research and analysis in the Nordic region under the Nordic Council of Ministers, called the Nordic Energy Research (NER). As detailed earlier, the NER is closely connected to the national political systems of the five Nordic countries as well as the intergovernmental Nordic system, and provides support for the expansion knowledge of sustainable energy and contributes to the

development of new, competitive energy solutions. The Ministry of New and Renewable energy must pick a leaf out of the book of its partner, and create a separate body for research that plays an advisory role to the Ministry. The NER has launched many projects in the past, the most notable being the Nordic Electric Vehicle Outlook 2018 (NEVO 2018), developed in collaboration with the IEA. India, as a market for electric mobility and even a potential manufacturer on the global supply chain can further boost its electric vehicle infrastructure to transition to a low carbon economy, by collaborating with the NER on projects like NEVO and even launch its own flagship projects.

Currently, India has a National Renewable Energy Fellowship Scheme to train professionals working in the Ministry, on system design, product development, operation, maintenance and repair of deployed systems. The study tour part of the fellowship, also has the provision to train in India and abroad. Other than this, there is the Suryamitra Skill Development Programme is designed with the objective to develop skilled and employable workforce (Suryamitras) catering to the needs of Solar PV industries, trained with the technical know-how to set up the solar energy industry. A framework for institute collaboration, faculty exchange and student exchange programs can boost the industry by infusing educated and skilled youth into the sector. India also has the iRiX platform, a real-time idea exchange platform for the global renewable energy community to ideate, innovate and incubate in the renewable energy sector. Through this, the Nordics and India have the opportunity to engage the educated youth of the country on important matters and promote a healthy exchange of ideas.[69]

These systems, if vigorously engaged with, can help make the India-Nordic cooperation on climate action more efficient and inclusive. While these individual efforts are the points of convergence, that India can look to pursue in the near future, the question still remains; what are the elemental features of the Nordic countries that can guide India's future in environmental sustainability?

## The Nordic Model: What makes it so successful?

While there are some key differences in the economies and policies of the Nordic countries, the similarities are more striking, with some common features such as a comprehensive welfare

[69] Ministry of New and Renewable Energy. Ministry of New & Renewable Energy - Government of India. (n.d.). Retrieved May 10, 2022, from https://www.mnre.gov.in/

state, an emphasis on publicly provided social services financed by taxes (which are considerably high for wage income and consumption), with a lot of spending (both public and private) on investment in human capital including child care and education, and even research and development. The countries also have a set of labour market institutions that include strong labour unions, and wage coordination. The similarities of the Nordics are to such an extent that this can be measured by statistical data. While these similarities are important, they are not exactly the essence of what is known as the Nordic Model. [70]

The key features such as free market, globalisation, outsourcing and democracy all resemble a capitalist system, whereas a high tax rate, welfare stare and higher enrolment in labour unions are characteristic of socialist economies. The Nordic countries cannot nescessarily belong to either category, and this is the foundational basis of the Nordic Model. The Nordic model is unique and yet similar to capitalism and socialism, because it derives features from both models but is distinct in its totality. The Nordic Model is based in a combination of collective risk sharing and openness to globalisation. The mutually supportive interaction between these elements allows the economy to benefit from changing markets and raising productivity and incomes. The Nordics also embrace the market economy and foster competition. There is a sense of wide spread feeling of trust among private citizens and public institutions and a sense of fairness in the ambitions related to the welfare state. [71]

A study conducted in 2020, demonstrated that the willingness to make economic sacrificed for the environment was notably high in the Nordics, especially when asked the question, how willing they were towards paying “much higher taxes” and even accept “cuts in standards of living”, while also studying other pro-environmental attitudes and behaviours to predict the willingness of Nordic citizens. The study stated that the willingness to make economic sacrifices is crucial- considering environmental concerns are a growing concern for citizens in developed and developing nations alike- which has potential value for policy making when

[70] T Andersen, B Holmström, S Honkapohja, S Korkman, H. T. Söderström, & J Vartiainen. (2007). *THE NORDIC MODEL Embracing globalization and sharing risks*. MIT Economics. Retrieved May 2, 2022, from https://economics.mit.edu/files/5726

[71] R Iqbal, & P Todi. (2015). The Nordic model: Existence, emergence and Sustainability. *Procedia Economics and Finance*, *30*, 336–351. https://doi.org/10.1016/s2212-5671(15)01301-5

trying to understand the future behaviour of citizens and judge the acceptance of different types of environmental policy instruments.[72]

A defining feature of this model is universalism- provision of social rights to all. The welfare facilities provided are exceptional in terms of education, health and unemployment benefits. While it is argued that universalism comes at a steep price and is not economically viable, the Nordics prove otherwise. When everyone received education and health care, they automatically add to a more capable, participatory and efficient workforce because they are healthier and more skilled. This in turn causes higher productivity and contributes to the growth of the economy.

Universalism, in turn added to the individualistic spirit of Nordic societies, which has added to the factor of social trust and cohesion, and not the other way round. When people trust each other and the law, deals materialise faster, conflicts get sorted without significant expenditure on litigation and other legal procedures. Despite being highly individualistic, the Nordics endorsed social trust and transparency, not only among family members but even in society and in government institutions, due to the promise of protection and guarantee of individual rights. When the individual does not feel as though their rights will bear the cost for the group's rights, social cohesion increases.

Other than these benefits, the Nordic model also focuses on innovation, which is at the forefront for providing a higher standard of living. Innovation in the Nordics is not limited to the upper-class of the society, where innovation only makes the poor poorer while the GDP of the country rises. The Nordic countries lay emphasis on research, with adequate government aid and redistribution, therefore, innovation is utilised in the right manner.

The governments of the Nordic countries ensures that through an investment in education, infrastructure and technology, more people will go into research and thereby increase the number of citizens that work towards the development of the region. This reiterates the fact, that the Nordic model's emphasis on social welfare, of balancing and reaffirming individuality works for the benefit of society in the long run, in almost all aspects.[73]

[72] J.A Reyes. (2021). How different are the Nordics? unravelling the willingness to make economic sacrifices for the environment. *Sustainability*, *13*(3), 1294. https://doi.org/10.3390/su13031294

[73] Ibid, n.71

## The Underpinnings of an India Model?

India, in the recent past, has risen to the opportunity to be a global leader against climate change. Despite a lack in deeper engagement at the regional level with the Nordics, India does have the capacity to build its own version of the Nordic Model. In fact, the processes for this have already been laid out in India's current climate policy.

At COP26, along with the five climate commitments laid out by India, PM Modi proposed the concept of Lifestyle for Environment (LiFE), which aims at resolving the dilemma of sustainability at the cost of development. LiFE pushes industries to internalise sustainability and promoting mindful consumption amongst citizens.

Traditionally, the onus of implementing sustainable policy was on the states however, to implement LiFE, a robust national policy needs to take place. The most recent data found by the Food and Agriculture Organisation (FAO), shows that 31% of GHG emissions come from the agri-food industry. India faces the dual challenge of eliminating hunger and poverty whole promoting mindful consumption to reduce the carbon footprint generated by the food sector. The rapid rise in electric vehicles in the country makes India's position as a manufacturer in the global value chain more probable in the upcoming future.

In fact, almost all Indian states incentivise electric mobility, which will provide the thrust required to make that shift in the public transportation system as well, and in reducing the worst impacts of urbanisation. Climate conscious infrastructure is growing in India, with a special focus on building renewable energy capacities. India's renewable energy capacity has grown by 286% in the last seven years. The current focus has to be on distributing the benefits of this transition. While states like Gujarat, Karnataka and Goa are leaders in the transition, Chhattisgarh, Bihar, and Jharkhand lag behind this effort. The scattering of outcomes will stagger the growth of the LiFE model.

Along with renewable energy, water management also requires urgent attention at the national level. Only 12 Indian states have 50% access to water, while groundwater resources being overly exploited. Poor water resource management has caused the groundwater to be heavily polluted with fluoride and heavy metals, which are currently used for irrigation and households.

Agriculture utilises 70% of India's resources and therefore the expansion of water-saving initiatives like micro-irrigation capacity in states should be an urgent effort. [74]

When looking at the Nordic Region as a single entity, one can see the convergences and efficient utilisation of induvial strengths and resources. Like the Nordics, every Indian state has something of substance to offer in the national challenge to implement climate policies; Sikkim has a booming industry in organic farming, Meghalaya's water management and rainwater harvesting are marvels and Kerela has impeccable waste management. Each nook and corner of the country has a bounty of climate innovations, suited to individual and national needs. India's embrace of LiFE can keep India on track to reduce its carbon intensity and keep up with its climate goals.

LiFE has the potential of replicating the successes of the Nordic Model. It is in India's interests, socially and economically for society to unify its developmental decisions with climate decisions. Climate change is synonymous with behavioural changes of individuals, with mindful consumption and sustainable practices being at the epicentre of LiFE, certainly making it a movement rooted in people. However, in order to cultivate the willingness for environmental conservation, the country needs to be able to secure individual rights, to promote group rights and social cohesion, in the manner in which the Nordics have perfected. While LiFE has the singular aim at reducing our carbon footprint and increasing our environmental conservation efforts, the process to achieving this mindset is rooted in socio-political and economic factors such as universalism, innovation, individualism and social cohesion. The movement, cannot exist in a vacuum; a fact that needs to be recognised at the central level of policy making, in order to make LiFE a sustainable and viable way of life for the future generations. The LiFE movement, in fact, has the underpinnings of a subcontinental, or regional model for a cohesive movement towards climate action, but currently lacks the wholesome focus on all aspects of social life, in order to cultivate the behavioural shift towards climate consciousness.

[74] A Kapoor, & M Ajith. (2022, May 11). Climate action: India and the Life Force. Climate action: India and the LiFE force . Retrieved May 13, 2022, from https://economictimes.indiatimes.com/news/india/climate-action-india-and-the-life-force/articleshow/91492005.cms

# CHAPTER 6

## Post Script and Conclusion

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The India- Nordic Cooperation on climate action, environmental sustainability and innovation holds great promise in shaping the future of global climate governance. The Joint Statement of the First India-Nordic Summit identified four areas of cooperation between India and Nordic countries in its joint statement– Economic Growth, Innovation, Climate Change and Global Security; they continue to guide the spirit of the India-Nordic cooperation today. Furthermore, the strategic vision of the "green Nordic region", lines up with India's goals on climate action, which further guide the cooperation on climate and environment for both the entities.

The importance that India has as a regional power and a growing economic powerhouse, has the accoutrements for an indispensable partnership with the Nordic countries; owing to these countries' revolutionary innovation in clean energy and green technology an area in which India is looking to expand its own expertise. The Nordic promise to "catalyse global mitigation efforts to limit the increase in the global average temperature to 1.5°C…" can be realised though this partnership, as India's role as the largest democracy and fourth largest emitter of carbon is of great significance in global climate negotiations. India represents a young population, that lacks the resources to be a vibrant global R&D hub- which provides budding affinities for foreign business to create social opportunities. India, on the other hand, views the Nordics as high value economies and repositories in innovation processes, from technology, knowledge creation, policy and sustainability.

India, has to maintain the equilibrium between climate transitions while building resilience and enabling development. India's coal consumption is set to grow as it continues to cater to the needs of 1.3 billion people. In this scenario, to balance environmental concerns and energy needs becomes a trying task. India's engagement with technologically advanced nations, and a cooperation in the field of environmental development has the answers to this dilemma. The overabundance of knowledge creation frameworks set in place by the Nordic Council ensure constant effectiveness of the nations, in the Nordic region, from which India can greatly benefit via an exchange of technical know-how.

India has been working on integrating the individual Nordic countries as stakeholders in national development, by collaborating on projects for human and sustainable development, such as India's flagships projects of Make in India, Skill India and Digital India. While

engaging on a regional level is still at its nascent levels, the robust engagement on a bilateral level seems to be encouraging for the promise of a continued multilateral arrangement.

India enjoys a robust Green Strategic Partnership with Denmark where the fast-tracking, ambitious partnership aims at intensifying cooperation in renewable energy, environmental policy, trade, climate policy, and science and technology. India and Sweden, have historically collaborated on defence and security, and recently expanded their portfolios to include climate change and green innovation for sustainable development, via its Sweden-India Joint Action Plan. India and Norway, on the other hand, have established a joint task for to promote multisectoral cooperation on Blue Economy, and focuses on developing policies for robust but sustainable usage of ocean resources. With Finland and Iceland, India welcomes cooperation in the field of renewable energy and encourages their economies to explore commercial and educational avenues for research and development of natural resources, through inclusive and sustainable means.

However, the vigorous bilateral exchanges still overshadow the attempts to engage with the Nordics as a whole, and thereby adds to the lack of cohesion, in terms of actionable solutions, in the India-Nordic framework. In the short run, India needs to further engage with the Nordic Council of Ministers and focus on creating institutions and centres of excellence that can coordinate efforts on regional levels. A Joint Action Plan for the India-Nordic Cooperation should be furnished to give this engagement the direction it needs.

The Nordic Model, enshrining the fundamentals of universalism and transparency clearly lays the framework for the behavioural shift in creating climate consciousness in a region. It goes onto show that the fight against climate change is not isolated in terms of climate sciences and environmentalism, but needs to be undertaken in all matters of society to inculcate the right attitudes needed for environmental protection. The promising attempt by India to introduce LiFE, holds potential, but it requires efficient, strategic changes in India's national policies on socio-economic aspects of the Indian citizen's life. Only time can tell whether India can successfully manage to transform its domestic climate scenario, and match the promises it has made in global climate change negotiations.

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