



Et lille ø-samfund i Danmark, med 4.300 indbyggere, valgte i 1997 at gå i gang med at gøre øen selvforsyndende med vedvarende energi over en periode på 10 år. Samsingerne er i fuld gang, og øen kan allerede med stolthed kalde sig Danmarks Vedvarende Energi Ø.

I de 6 år Vedvarende Energi Ø har eksisteret, er man nu færdig med et af projektets største milepæle, nemlig realiseringen af Havvindmølleprojektet Samsø Havvind, som omhandler opstillingen af 10 off shore vindmøller lidt syd for Samsø.

Samsingerne har selv investeret 120 millioner kr. i projektet og ejer således halvdelen af møllerne. Vi mener, der ligger en rigtig god historie i den lokale forankring og det engagement, der præger projekterne i VEØ.

For mig, som fotograf, har det været en skøn blanding af udfordring og lyst, der har drevet mig til at skildre denne kraftpræstation.

In 1997 a small island community in Denmark, with only 4.300 inhabitants, chose to start working towards making the island self sufficient with renewable energy over a period of 10 years. The Samsonians are hard working and the island can now proudly call itself Denmarks Renewable Energy Island.

Now, after 6 years, the project has reached a milestone, namely the finalisation of projecting and building 10 off shore windmills a little south of Samsø.

The Samsonians have themselves invested 120 million kr. in the project, thus claiming ownership of half the mills. We think there is an important story to be told about this local ownership and entrepreneurship so characteristic to the Renewable Energy Island projects.

For me, as a photographer, it has been a beautiful melange of challenge and exploration that has driven me to document this feat of strength.

# Vingesus

## The whisper of wings



Vingesus  
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# Vingesus

## The whisper of wings

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**Vind**



**Wind**



## **"Jeg vil begynde med en historie om vind, som denne bog jo handler om."**

**"I want to share a story about the wind with you, as the wind is what this book is all about."**

Vinden og møllerne er uløseligt forbundet med hinanden.

Jeg er nød til at forsoner mig til vinden, da havet og vinden uvilkårligt har en pagt, og man kan intet stille op. Man må bøje sig.

Vinden og havet er vist foreskede i hinanden, for bølgerne løfter sig ikke når vinden har lagt sig. De holder sammen i en konstant bevægelse.

Da vi i Danmark i 2000 oplevede en storm, hærgte hen over landet, skete der noget med vores fællesskab og vores fornemmelse for stedet, hvor vi bor. Vi kom nådesløst tættere på hinanden og på naturen.

For 3 år siden var jeg i gang med at slagte lam sammen med min nabokone. Det trak op til storm. Vi gik og hørte radio og diskuterede, hvad der var hvad på dyrene. Jeg havde lavet en aftale med min svigermor, som skulle rejse til Jylland, at hvis færgerne var indstillede på grund af for meget vind, så skulle hun da lige komme om og få en kop kaffe.

I vores arbejde med at suge luft ud af fryseposerne med kødet, blev min opmærksomhed fanget af mine heste, som gik lige uden for vinduerne. Deres adfærd var anderledes, de var synligt nervøse.

The wind and the mills are tied forever to each other.

I have to reconcile myself to the wind. I must bow to the unbreakable pact of the wind and the sea, against it I can do nothing.

When Denmark in 2000 was brought to her knees by a storm that devastated the country our sense of community and country changed. We were invariably brought closer to each other and to nature

3 years ago my neighbour and I were slaughtering lambs. A storm was drawing near. We were listening to the radio while we discussed what was what on the lambs. I had made an appointment with my mother in law that she would stop by for a cup of coffee if the ferries were cancelled and she could not go to Jutland as she intended

During our work with sucking out the air of the freezer bags with the meat in them, my attention was drawn to my horses outside the windows. Their behaviour was different than usual, they were visibly nervous.

Mit venskab til vinden er fyldt med sanselige udfordringer, som giver mit liv substans og fylde.

My friendship with the wind is filled with sensual challenges that give my life substance and abundance.

Det fik mig til at slippe indpakningen af lammekødet et øjeblik og dele min fornemmelse med min nabo.

Jeg trak i tøjet og mærkede straks, da jeg kom ud, at der var en forandring på vej. Vinden var tiltagende.

Hestene var vilde, og jeg måtte styre dem med fast hånd. De kom tilbage til stalden, fik hø og faldt til ro.

Min svigermor kom til kaffe, færgerne var indstillede.

Det var dejligt med en pause fra kødet, og vi fik vendt vejrliget og vinden. Hvor alvorligt ville det blive med stormen?

Jeg havde på fornemmelsen, at jeg skulle følge hende på vej, da vinden var tiltagende.

Vi grinede lidt sammen og bevægede os ud af grusvejen, jeg kunne mærke at småsten og jord fængsle rundt i luften.

Jeg kunne ikke høre hvad hun sagde. Det blæste så meget at man fik ondt i tænderne. Da vi var nægt halvvejen, skiltes vi.

Det mærkelige var, at en halv time senere blæser taget af den ejendom, hvor vores veje skiltes, altså en af mine naboyer på vejen mistede taget. Sådanne oplevelser gør indtryk på én. Man kan intet gøre i stormen andet end at vente på, at vinden skal løje af.

Jeg kæmpede mig hjem, og imens kredsede mine tanker omkring, at vi i det flade Danmark egentlig er meget forskjedne for kraftige naturfænomener.

Hvor andre områder som Færøerne og Grønland er meget tættere på den

I let go of the freezer bags for a moment and shared my observation with my neighbour.

I got on my jacket on and immediately felt that the wind was gaining strength when I got outside. A change was under way.

The horses were wild and I had to steer them with a firm hand, but they calmed down in their booths with some hay.

My mother in law came by for a cup of coffee as all the ferries had been cancelled.

A break from the meat was nice and we talked about the weather situation and the wind. How serious would the storm be?

I had a feeling that I should see her on her way as the wind was constantly gaining.

We were laughing as we were walking together on the dirt road. I felt dirt and small stones raising in the air.

I could not hear what she was saying, the wind was so strong it made your teeth hurt. When we got half way we parted.

The strange thing was that half an hour later the roof blew off the building where we had just parted – one of my neighbours lost the roof.

Such an experience never leaves you. In a storm you can do nothing but to wait for it to die down.

I fought my way back home meanwhile I was thinking that in Denmark, a relatively flat country, we are rarely affected by the power of nature, whereas other areas like The Faroe

The wind and the sea must be in love, because the waves no longer lift themselves when the wind has settled down, they stay together in one constant movement.

The wind has a special place in my life as I live so close to it. I have to be its friend.

kraft naturen rummer. Det må forme fællesskabet og landet på helt særlig vis.

Jeg kom godt hjem, og min nabo kunne se, at kuløren i mit ansigt var tegnet af den kraftige vind.

The wind has taught me to scent the new day. It has sharpened my inner compass so I know exactly where I am.

Jeg hørte i radioen, at man begyndte at advare bilister og at broer var lukkede og toge var indstillede. Jeg skulle hente min mand fra arbejde i Tranebjerg, og da jeg kørte gennem havnebyen Kolby Kaas, så jeg mandskabet på vores færge gå i stormen og surre færgen ekstra fast til molen. Det havde jeg ikke set før. Min fornemmelse var rigtig, der var noget stort og voldsomt på vej.

Vinden fylder en stor del af mit liv, da jeg bor så tæt på den. Jeg nød til at være dens ven.

Jeg blev på en måde lidt ophidset og bekymret, men samtidig vidste jeg én ting, nemlig at stormen ville gå over, det var sikkert.

Men hvor lang tid ville det vare, og hvem vil det ramme, vidste jeg selvfølgelig ikke.

Det at man var en del af noget meget større og ikke havde noget at skulle have sagt, bragte mig tættere på naturen og ikke mindst på mig selv.

Stormen mørklagde Samsø, og holdt os alle inden døre de næste mange timer. Vores søvn var ikke så dyb og tryg, som den plejede.

Vi kom lidt tættere på hinanden den dag, vi mærkede kraften fra stormen og vinden der susede over Samsø.

Vinden har lært mig at veje morgen duft. Den har skærpet mit indre kompas, så jeg ved hvor jeg befinder mig.

Islands and Greenland are much closer to the power of nature. It must shape their sense of community and the country in a very special way.

When I got home my neighbour noticed that the colour on my face was mirroring the power of the wind.

On the radio a general warning was given to motorists, that bridges were closed and trains not running. I was picking my husband up from work in Tranebjerg and when I passed through the costal village of Kolby Kaas, I saw the workers on the dock tying the ferry securely to the dock. I had never seen them do that before, so it only reinforced my feeling that something big and powerful was under way.

It made me both excited and worried, at the same time I knew one thing for sure – the storm would pass. For how long it would blow, whom it would affect I could not know. But sensing the magnitude of the forces at work and having absolutely no power over them brought me closer to nature and to myself.

The storm blacked out Samsø and kept us all indoors for many hours. Our sleep was not as deep and comfortable as it used to be.

We got a little closer to one another that day where we felt the power from the storm that swept over Samsø.



# **“Familien Fredelig”**

# **“The Peacefuls”**



## "Hvor længe mon havvindmøllerne skal stå der?"

### Mit arbejde med at dokumentere opførelsen af havmøller i Samsøs natur har givet mig mange gode veneskaber

### My documentary work on the building of the offshore windmills has given me a lot of friendships

Der er særligt én familie der har vakt min interesse. Skarvfamilien som beboer en større koloni på pynten ved Grydenæs lidt nord vest for Paludan Flak ved Samsø.

I starten fløj de hurtigt deres vej, når de så min skikkelse komme vandrende langs stranden mod deres bosted. Men som månederne er gået, har de lige så stille vænnet sig til min vandring og er begyndt at ytre sig uforbeholdent om deres syn på Havvind mølle projektet "Paludan Flak".

Jeg må først fortælle, at skarvfamilien består af Hr. & Fru Fredelig og to mindre børn, der hedder Li og Mi. Li og Mi bruger det meste af deres tid på at lære at fange friske fisk, så de er klar til at flytte hjemmefra til næste vinter.

Men i dette efterår har der været en del stress og uro i deres liv, som har givet dem mindre søvn og fået dem til at overveje, om de skulle flytte med kolonien længere op af kysten. Men familien Fredelig har valgt at blive fordi fiskene er ikke forsvundet. Som Hr. Fredelig siger; "hvorfor flytte, når vi bare kan tilpasse os det omkringliggende?".

Helt naivt spørger jeg til, hvad

My work with the documentation of the raising of wind mills in Samsøs nature have given me many interesting friendships.

Especially one family has drawn my attention, a cormorant family that lives in a large colony on Grydenæs a little north west of Paludan Flak near Samsø.

In the beginning they flew away quickly when they saw my figure approaching their habitat along the beach. But as the months have passed, they have slowly gotten used to my wanderings and have started to express their opinion on the Sea Wind project on Paludan Flak freely.

First I need to tell you that the cormorant family consists of Mr. and Mrs. Peaceful and two young children named Li and Mi.

Li and Mi spend most of their time learning to catch fish, so that they are ready to leave home the coming winter.

But this fall there has been a good deal of stress and unrest in their lives that has affected their sleep and made them consider moving further up the coast with the colony.



det er, der har stresset dem? Jo, siger Mi "prøv at se hvordan vores udsigt er blevet ændret".

Li siger, " jeg er simpelthen skrækslagen hver gang jeg skal flyve i nærheden af møllernes store vinger. Jeg tror de vil suge mig ind og hakke mig til plukfisk".

Hr. Fredelig hæver næbet og kigger på sine to børn og kigger på mig – "ja, vi er begyndt at flyve omkring møllerne for at lære ungerne, hvordan de skal gebærde sig. Vi skarver ved om nogen, hvordan man skal tilpasse sig. Det har vi gjort i århundreder".

"Vi vil jo også gerne se vores børn vokse op i et godt miljø"

Fru Fredelig har spurgt, om hun ikke kunne få lov at medvirke i denne bog, for hun vil gerne sige sin uforbeholdene mening til menneskene inde på Samsø. Hun synes umiddelbart, det er imponerende, at sådan en lille stamme som Samsingerne har kunnet stå sammen om at bygge sådan nogle store møller. Hun ved også, at der andre steder i verden kun findes få tilsvarende projekter – så de må være gjort af noget særligt, de Samsinger.

Jeg har derfor inviteret hele familien Fredelig ind i bogen, så de kan stille os spørgsmål og ytre sig frit til os mennesker, der jo er ligeså fredede som Skarven.

Tag venligt i mod dem.

"I wonder for how long them windmills will last ?"

But The Peacefuls have chosen to stay because the fish have not disappeared. As Mr. Peaceful puts it: "why move, when we can just adjust to the surroundings?"

Naively, I ask what it is that has stressed them? "Well", says Mi, "look at how our view has changed".

Li says, "I am terrified every time I have to fly close to the huge wings of the mills. I think they want to suck me in and make minced meat of me". Mr. Peaceful raises his beak and looks at his two children and looks at me – "yes, we have begun to fly around the mills to teach the children how to handle them. We cormorants know, if anyone, how to adjust, we have done that for centuries. We really do want our children to grow up in a healthy environment"

Mrs. Peaceful has asked me, if she could be a part of this book. She wants to tell the people on Samsø her unreserved opinion. She is rather impressed that such a small tribe as the Samsonians has been able to come together to build such big wind mills. She also knows that there are only few other projects like that around the world – so they must be mad out of something special those Samsonians.

Therefore I have invited all the Peacefuls into the book, to allow them to ask us questions and utter their opinions freely to us humans, who are just as protected as the cormorants.

Please welcome them.

# **Denmark's Renewable Energy Island**

**Danmarks  
Vedvarende  
Energio**



## **Initiativet til at ville udpege en Vedvarende Energi – Ø stammer fra den nationale energihandlings-plan” Energi 21” fra 1996.**

### **The initiative to appoint a renewable energy island came from the national energyplan “energi21” from 1996**

Et af målene i Energi 21 er at vedvarende energi skal dække 35% af Danmarks samlet energi forbrug i år 2030.

I 1997 dækkede den vedvarende energi ca. 12% af energi forbruget i Danmark til el og varme, og Samsø havde ved projektstarten en VE – udnyttelse, der stort set svarede til dette landsgennemsnit. Ideen var at udpege et afgrænset område til omlægning af energiforsyningen til vedvarende energi. 5 områder bød ind på projektet.

Da Samsø i 1997 vandt konkurrencen, var det med markant miljø og energi politisk linje, i ryggen.

Man mente det alvorligt i Danmark med at tage ansvar for nedsættelse af CO<sub>2</sub> og et af målene var at bruge vedvarende energi til at nå disse mål. En kreds af erhvervsfolk og politikere på Samsø havde fingeren på pulsen og valgte at indsende en projekt beskrivelse for en 10 års plan for omlægning af Samsø’s energiforsyning til 100% vedvarende energi.

One of the targets of “Energi21” is that renewable energy by 2030 shall cover 35% of the total danish energy consumption.

In 1997 renewable energy supplied app. 12% of the danish energy consumption, regarding electricity and heat. Samsø was at the start of the project covered by renewables by the same percentage as the national level. The idea was to appoint a limited area to convert energy supply to 100% renewable energy in 10 years.

Samsø did win the competition. And it was with a remarkable national energy and environment policy as a background.

The government was serious about being responsible for the cutdown of CO<sub>2</sub> and one of the targets was to use renewables to achieve these goals.

A group of politicians and business people from Samsø had a feeling for these possibilities. And they send in the proposal for the conversion of Samsø to 100% renewable energy supply in 10 years.

## **Dags dato på Danmarks vedvarende energi Ø.**

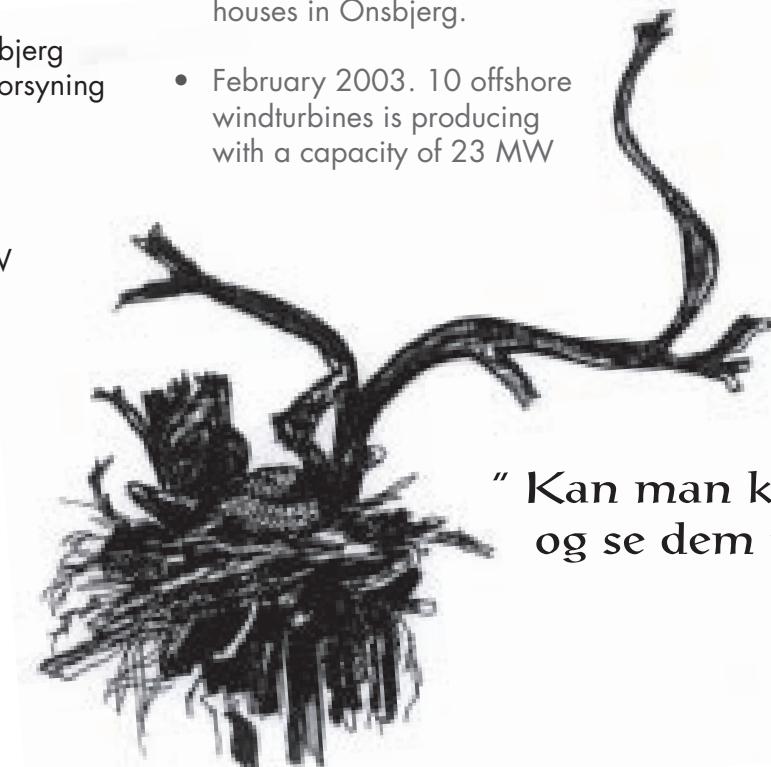
I dag skriver vi 2003, og man er 6 år fremme i projektet, følgende projekter er gennemført i Danmarks vedvarende energi Ø:

- Energimesse afholdes i 1998. 1800 gæster besøger udstillingen om energi
- Mere end 200 individuelle sol/biomasse/varmepumper installeres i perioden
- I 1999 er 11 landvindmøller på hver 1 MW opstillet
- Lossepladsgas åbner et 15kW anlæg ved Pillemark i 2000
- 2001- Fjernvarmeværket Nordby/Mårup baseres på flis og 2500 m<sup>2</sup> solvarme
- 2002 – Fjernvarme Onsbjerg baseret på halm åbner forsyning til 75 huse
- Februar 2003 sættes 10 havvindmøller i gang. Samlet kapacitet 23 MW

## **Status for Samso Renewable Energy Island**

After 6 years of the project the following projects has been realised:

- Energy exhibition held in 1998. 1800 visitors and a massive interest from local people
- More than 200 individual solar/biomass/heatpumps is installed
- In 1999 the 11 land based 1 MW windturbines is installed
- A 15 kW gasplant is established at the old landfill in Pillemark
- In 2001 the district heating plant on solar and woodchips is installed in Nordby/Mårup
- In 2002 the district heating based on straw is opened to supply 75 houses in Onsbjerg.
- February 2003. 10 offshore windturbines is producing with a capacity of 23 MW



**“Kan man komme ud og se dem tæt på ? ”**



## **Selvforsynde med vedvarende energi i løbet af 10 år**

I 1997 indebar det så at Samsø med sine 4.300 indbyggere – og med behørig opbakning fra staten – skulle demonstrere hvordan man i løbet af 10 år kunne blive selvforsynde med vedvarende energi til el - og varmeforsyning. Og det skulle gøres på en måde så det ville være til gavn for forbrugernes pengepung og ikke mindst til gavn for miljøet.

## **Et internationalt demonstra- tionsprojekt**

I energi 21 konstatere man "En markant overgang til vedvarende energi er økonomisk urealistisk på kort sigt".

I den forbindelse ville det være interessant at demonstrere mulighederne for, at et mindre samfund kan basere hele sin energiforsyning på vedvarende energi. Det lokale engagement vil være afgørende for gennemførelse af sådant demonstrasjonsprojekt.

Der ville kunne blive tale om et slagkraftigt udstillingsvindue for Dansk VE teknologi.

Ø- initiativet skal være en demonstration af de praktiske muligheder for, at et mindre dansk samfund kan blive selvforsynde med vedvarende energi, samtidigt med at energiforbruget reduceres gennem energibesparelser.

## **Self supplied by renewables in 10 years**

In 1997 it meant for Samso that the community with 4.300 inhabitants should demonstrate how you in 10 years could convert to 100% renewable energy.

The project was supported by the government but it was still a local initiative and local back up was essential for the realisation of the project. It had to be an advantage in a reasonable way, both for the inhabitants and for the environment.

## **An international demonstration project**

The national plan "energi 21" was mentioning that a serious transition to renewable energy was economically unrealistic in a short term. But to demonstrate the potential of renewable energy it would be interesting to show this potential in a small community, with a 100% conversion. Local engagement would be essential to realise this vision.

The national interest was to make a showcase of danish technical solutions to produce renewable energy. So Samso was meant to create an exhibition window for these products.

## **The exhibition window**

The status for Samso as the Renewable Energy Island and a showcase for the rest of the world is a succes. It has been an incresing project to

### **Dags dato med fokus i udstillings vinduet.**

Samsøs status som Danmarks vedvarende energi Ø – og udstillings vindue ud til resten af verden, er en klar succes. Der har på de 6 år processen har været i gang, år for år været stigning i antal besøgende fra hele verden, som ønsker at se der er sket.

Besøgende er kommet fra hele verden , men nogle lande vender tilbage igen og igen for at vise andre landsmænd dette gode eksempel frem.

U.S.A. – Japan – Polen – Ungarn – Italien – Sverige – Norge – England – Irland - Thailand - Nepal

De kommer til Samsø med det ene fokus, at møde det samfund der på demokratisk vis, forener de mange interesser. Lokaludvikling, kapacitetsopbygning, fælles fodslag og øens overlevelser på sigt.

receive visitors from all over the world who wishes to see what has been done.

Visitors is from all areas but some come back several times to show other fellow citizens the result of renewable energy development.

U.S.A. – Japan – Polen – Hungary – Italy – Sweden – Norway – England – Ireland – Thailand – Nepal.

They all come to Samso with this one target to meet the local community who has in democratic ways united the various interest of the local community. Local community development – the survival of an isolated island.

The island has developed a new form of tourisme. Trade tourisme. The island can in the off season for tourisme now guide and inform "trade" visitors how it is possible to in real life convert a community energy supply to renew-



På Samsø har man et nyt tiltag, nemlig fagturisme, hvor øen med det formål ønsker at vise det virkelige eksempel på en omstilling af vedvarende energi, inviterer fagfolk, politikere og interesseorganisationer til øen for at diskutere i hvilken grad et lignende projekt kan bruges i de respektive hjemlande.

Medarbejderne i VE-Ø projektet inviteres ligeledes som oplægsholdere til seminarer og workshops i en række udenlandske projekter.

able energy. And at the same time gain from it. New jobs, improved local economy, business in the off season.

Businesspeople, politicians, NGO's and people who are generally interested in sustainable development visit the island to participate in seminars and discussions with the people from the island.

**" Hvad siger en vindmølle ?"**



**" What is it saying?"**

**Øens stemme**

**The Island's Voice**



Fra Vanløse til Samsø.

Dorthe Knudsen, 36, yogalærer, flyttede i 1998 fra Vanløse til Samsø med sin mand Jens Peter og deres tre børn, Pil, Ask og Birk.



From Vanløse to Samsø.

Dorthe Knudsen, 36, yoga teacher, moved to Samsø in from Vanløse in 1998 with her husband Jens Peter and their 3 children, Pil, Ask and Birk.

Hvad sker der når man overgiver sig? Og kan man bruge tankens kraft på at skabe sig et liv – et andet liv?

De overvejelser der lå bag det, at vi valgte at flytte til Samsø og bygge vores halmhus, var et spørgsmål om at tage konsekvensen af ikke at have mange penge. Hvordan får man så en god bolig?

Vi sad i Vanløse og hørte Radio en

What happens when you surrender? And is it possible to use your mind energy to create a life – a different life?

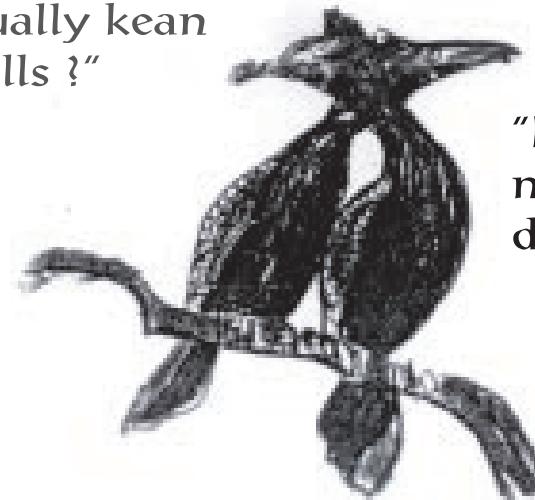
The considerations that were the basis of our decision to move to Samsø and build house of straw, was really a matter of taking the consequences of not having much money. How do you acquire a good home then? We were listening to the radio one evening and there was a guided meditation about using your mind energy to manifest your wishes. We both had a strong wish for a good home, so we listened in on the meditation. It lasted about half an hour and after that we were able to tell each other in detail about our new house of straw. It was a beautiful experience, because the shapes of what we had seen were identical. We had seen the same rooms both from the inside and outside. And the wonderful thing was that our wishes also had the same direction – namely towards Samsø.

That Samsø became Renewable Energy Island meant that building a

**Jeg synes det er vigtigt, at vores historie kommer med i bogen, fordi den giver en anden vinkel på VEØ og hvad den kan føre med sig.**

**I feel it is important that our story is a part of this book because it gives another perspective on The Renewable Energy Island and what it entails.**

"Are all folks equally keen on them windmills ?"



"Er alle Øboerne nu så glade for de der Havvind møller ?"

house of straw was a much easier process legally, the local authorities were very helpful and forthcoming. It made the dream concrete, real. Actually, I am really proud of living in an area that takes in all these new things – in spite of the fact that it



is traditionally a conservative farming area. We had the feeling that we were getting on a prairie wagon when we first moved here.

At Samsø blev VEØ betød, at det at bygge et halmhus blev en meget nemmere sag rent juridisk. Kommunen, teknisk forvaltning etc. viste en meget stor velvilje. Det gjorde drømmen konkret, virkelig. Det er rart at bo et sted hvor udviklingen går i en for os god retning. Ja, jeg er sgu egentlig stolt over at bo et sted, der tager alle de her nye ting ind – på trods af at det er sådan et cowboy bonde land. Vi havde det lidt sådan, at det var lige som at sætte sig ind i en prærievogn, da vi flyttede herover.

Det, der har drevet os, er jo grundlæggende ønsket om frihed. Jeg synes, vi har fået enormt meget for næsten ingenting, og det har været enormt skægt ar lave. Folk har grinet.

I byggeprocessen har vi også gevundet vores egen styrke. Der behøver ikke være store politiske beslutninger bag det at gøre noget.

What has driven us is basically a wish for freedom. I think we have gained so much for very little money, and it has been great fun to do, people have been laughing in the process.

In the building process we have also regained our own strength. You don't really need big political schemes behind the decision to do something. We needed a good place to live. Look around you, what do you see, ok, there is a slate of roof maybe we can use that.



Vi havde brug for et ordentligt sted at bo. Og så står man der - hvad er der brug for? Hov, der er en tagplade, den må vi kunne bruge til noget.

Jeg tror, det jeg holder allermest af

ved at bo på Samsø er, at det ikke er upersonligt. Og så kan jeg altså bedre lide at se ud over landskabet her end jeg kan lide at se ned ad Ålekistevej. Jeg tror, det er det der med, at når der er plads omkring én så kan man meget bedre virke.

I think what I love most about living on Samsø is that it is not impersonal. And looking at the landscape here is a good deal nicer than the view of

Ålekistevej. I believe that having space around you is very important for your well being and creativity.

**Samsø havvind**



**Samsø Windmill**



**"Why did they end up here  
- is it because of the  
good wind?"**



## **Historien om vindmøller på Samsø, startede som alle andre steder i landet, med små stubmøller, senere hollandske møller med det formål at kværne korn og lave mel**

**"Hvorfor kom  
de til at stå  
der, er det på  
grund af god  
vind ?"**

### **The history of windmills on Samsoe started just like every where else in Denmark with small "stub windmills", followed by Dutch-type windmills, all of these were used to grind corn to flour**

Senere kommer der flere metaldele i møllerne, og de begynder at kunne trække pumper, kværne og hakkelsesmaskiner ude på de enkelte gårde. Der var mange møller spredt over hele øen. Med elektriciteten og et udbredt elnet forsvandt alle disse møller, og bare nogle få stykker er bevaret for eftertiden.

Under krigen kom den første rigtige elproducerende mølle, med klapsjælsvinger og en forfærdelig larm når den kørte. Den stod midt i den største by på Samsø, Tranebjerg. Det var før nabohøringer.

Møllen lavede ikke mere strøm end at det var nødvendigt for aftagerne af strømmen at skiftes til at starte motorer op.

Først i begyndelsen af 80'erne kom der nye møller til øen igen. Denne gang moderne elproducerende møller. En efterskole rejste miljøbevidst en 55 kW Vestasmølle, Syd-Samsø vindmøllelaug en 55 kW Nordtank, Samsø Vindenergi fik bygget 2 smedemestermøller, på

Technical progress allowed moving parts in iron, and corresponding additional purposes like water pumps, mills, and chaff cutters located on individual farms. There were many windmills distributed over the island. The coming of electricity and the grid marked the end for the windmill era, only a few windmills were preserved for posterity.

The first electricity producing windmill was built during the Second World War, with a flapping metal rotor fitted with fabric they were terribly noisy. It stood in the middle of Tranebjerg, the largest town on Samsoe. It was long before local democracy required neighbourhood hearings. The few kilo-watt hours produced by the windmill required a rigid discipline of the consumers regarding who and when could start their motors.

It was first in the beginning of the eighties that new windmills came to the island again. This time it was modern wind turbines. An environmental conscious boarding school erected a 55 kW. Vestas wind turbine, South-

hver 80 kW hos Ballen Maskinfabrik. Og så var der igen produktive møller på øen, og der kom flere til i de følgende år, og der var således 9 moderne møller, med en kapacitet på ca. 700 kW i produktion indtil 1999.

### **Den offentlige planlægning**

Men allerede i 1997 var der høring om amtets regionplantillæg. Af dette fremgik det tydeligt at der ikke var tænkt på vindmøller på Samsø. Det fik private lodsejere til at handle hurtigt, og foreslå en plan for opstilling af møller. Omtrent samtidig blev der udskrevet en konkurrence om at blive Danmarks vedvarende energi-Ø. Samsø vandt som bekendt den ære, og det satte for alvor skub i planerne om at genoptage forhandlingerne om vindmølleplaceringer.

Samsoe windmill association erected a 55 kW. Nordtank wind turbine, and Samsoe Wind Energy erected two wind turbines built by a local smith, Ballen Maskinfabrik. After a break of 35 years, electricity was again being produced by windmills. More followed during the next years making a total of nine wind turbines with a capacity of approximately 700 kW. producing electricity until 1999.

### **Regional Planning**

But already in 1997 a Hearing was held regarding Aarhus County's Supplement to the Regional Plan. It was apparent from the material that construction of new wind turbines on Samsoe was not on the agenda. Landowners reacted quickly and proposed an alternative plan including the construction of wind turbines. At approxi-





### VE-Ø Planen

Det var en klar fordel at have et beregnet behov for elproduktion at planlægge efter. Energiplanen for Samsø angav at der skulle bruges 15 stk. 750 kW møller for at producere 75% af det daværende behov for elektricitet. (resten skulle skaffes ved biogas og besparelser).

Der viste sig at være overvældende interesse for at opstille møller. 40 individuelle ansøgninger havnede på bordet i teknisk forvaltning, deriblandt også en ansøgning fra Samsø Vindenergi I/S om udskiftning af eksisterende møller.

Den følgende tid blev meget følelsesladet. Hvem får en mølle? Eller planlægges der i et andet område. Mange organisationer og personer kom i spil. Der blev holdt borgermøder, indsamlet informationer, og forhandlet med amtet i mere end et år før den endelige plan blev vedtaget. Resultatet blev en plan med færre men større møller. Antallet skrumpede ind til 11 møller på hver 1 MW. Rent produktionsmæssigt ville resultatet være det samme, så konsekvensen skulle ses i det lokale engagement.

### Den gode proces

Det blev en god proces på Samsø. Alle vidste hvad endemålet ifølge energiplanen var. Det blev vigtigt, dels fordi vi så var enige om at der ikke skulle være flere møller på land, og dels fordi alle involverede mølleansøgere måtte erkende at ikke alle kunne få en mølle.

Energi- og Miljøkontoret deltog i hele processen især i den lokale plan-

mately the same time a competition was arranged for Danish islands, the winder having the honour of being Denmark's Renewable Energy Island. History shows that Samsoe won the competition, an honour that meant increased pressure on the County to renegotiate their position on wind turbines.

### Renewable Energy Island Master Plan

It was a distinct advantage to have figures describing electricity needs in the planning phase, The Master Plan for Samsoe proposed fifteen land-based 750 kW. wind turbines in order to produce 75% of the electricity consumption at that time, ( the remaining 25% should be procured through biogas and energy saving). Interest for constructing wind turbines was overwhelming, 40 individual applications landed on the table at the local administration office including an application for replacement of existing wind turbines from Samsoe Wind Energy Company.

The following time became very emotional. Who gets a windmill? Or has the planning moved to a new district? Many organizations and individuals got involved. Citizens meetings were held, information collected, and negotiations with the County went on for more than a year before the final plan was agreed on.

The result was a plan with fewer but larger wind turbines. Eleven 1 MW. wind turbines received planning permission. Seen in terms of electricity





lægning. Herfra var hovedargumentet for møllerejsning, at det folkelige engagement var afgørende for en positiv proces. Vi blev enige om at der skulle være plads i projektet til at alle interesserede lokale borgere skulle få opfyldt deres behov for andele i møller. Samsø Vindenergi etablerede salg af andele, og efter en lidt træg start kom der gang i salget og vi endte med at sælge 2 møller i 4600 andele til 438 personer.

production, the result was the same as the Master Plan  
this consistency was important for the local involvement.

#### The “good” process

It was a good process on Samsoe. Everybody knew the objective as it was precisely described in the Master Plan. It was important, partly because we agreed that this was the limitation for wind turbines on land, and partly because the applicants had to accept

#### Det lokale ejerskab

Lokalt andelsejerskab for ca. 14 mio. kroner, og 9 privatejede møller til i alt 63 mio. Med en total investering på i alt 77 mio. kroner har Samsø's befolkning på 4500 mennesker for alvor investeret i energiø projektet. Kritikerne af projektet blev tilgodeset i flere omgange. Antallet af møller blev reduceret, og det planlagte område der mødte mest modstand blev, som følge af kritikken, taget ud af planen igen. Foreningen ”Naboer til vindmøller” forsøgte at gøre sig gældende i processen men fandt ikke gehør på Samsø. Vi kunne heldigvis selv håndtere processen på en ordentlig måde. Der var 2 argumenter der tegnede debatten. Det ene gik på at det offentlige(kommunen) skulle eje alle møllerne. Fordelen skulle være at alle ville få gavn af projektet. Men der var ikke i kommunalbestyrelsen enighed om en så radikal beslutning. Realiteterne i beslutningssituationen blev som det andet argument. Sikring af frivillig investering i møller. Men altså begrænset af det planlagte effektbehov, og den offentlige planlægning.

#### Realisering

Møllerne står der nu og er en realitet. De er store, synlige og alligevel i det store hele accepteret af naboer og befolkningen på øen. 3 ”gamle” møller blev taget ned for at give plads til 3 nye. Og selv om de nye er 10 gange så store, er de ikke 10 gange så dominerende. De støjer langt mindre, og de er rolige og

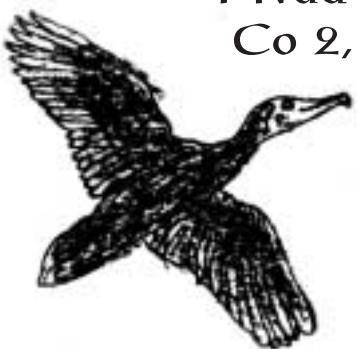
the fact that not all of them would be allowed to build a wind turbine. The Energy and Environment Office took part in the whole process, especially local planning. A requirement for our support was, that public involvement should have a decisive effect had on a successful process. We had agreed that it should be possible for all interested local citizens to buy shares in a wind turbine. Samsoe Wind Energy were responsible for sale of shares and after a slow start were able to sell 4600 shares in two wind turbines to 438 people.

#### Local Ownership

At the end of the day the wind turbines were cooperatively owned for approx. 14 mill. dkr., and privately owned for 63 mill.dkr.. With a total investment of approx. 77 mill.dkr., Samsoe's population of 4500 people has seriously invested in the Energy Island project. The concerns of critics of the project were entertained at several stages. The number of wind turbines was reduced, and the planning area with the greatest local resistance was, as a result of the criticism, taken out of the plan again.

The organization ”Neighbours to Windmills” tried to influence the process but were unable to find support from local citizens. We had the good fortune to be able to tackle these problems in our own way. There were two main arguments in the local debate. The first argument preferred a scenario where the municipality owned all the turbines. The advantage

# "Hvad er betyder det at formindske Co 2, hvad gør det godt ?"



**What  
does it mean  
to reduce  
Co 2, what's  
the big deal ?**

harmoniske at se på. Der er en vis stolthed over de samske selvforsyningssanlæg. Måske også fordi man i det lokale ejerskab er begyndt at se afkast på investeringerne. Vi har fået en ny lokal virksomhed på øen. Og fordelen ved den er at den ikke "lugter". Den koster ikke kommunen noget, tværtimod betaler "virksomheden" skat til øen. Skattekrone der er hårdt brug for i det lille samfund. Vedvarende energianlæg kan, i fremtiden, gå hen og blive vigtige indtægtskilder.

## Perspektivet

Vi har siden arbejdet med at etablere en fond med frivillig indbetaling af en procentdel af produktionen fra vindmøllerne, således der kunne blive penge til andre gode energiprojekter på øen.

Et af disse projekter er etablering af havmøller. Ambitiøst, ja men samsingerne er tilsyneladende klar til det næste skridt i etablering af Samsø som selvforsynet energi- ø. Og der investeres i øjeblikket i forarbejdet til havanlægget. (havmøllerne skal producere den mængde energi der bruges til transport) Processen fortsætter, øen er i gang med at etablere en ny erhvervsudvikling, med flere spændende arbejdspladser, og en forbedret "energibetalingsbalance".

would be that everybody would profit from the project. The political leadership in the municipality could not agree on this radical solution. The second argument that followed the realities of the situation would ensure the voluntary principle regarding investment. The planned electricity production and public planning considerations designated the limits of investment.

## Realization

The wind turbines are here now and they are a real part of our lives. They are big and visible but still overall accepted by neighbours to wind turbines and the population on the island. Three "old" wind turbines were dismantled to make room for three new. And even though the new are three times as big, they are not three times as dominating. They are much less noisy and they have an air of calmness and harmony. There is a sort of pride in the Samsoe self sufficiency plants. Maybe it is because the local owners are now beginning to see the first yields from their investments. We have a new local company on the island with the advantage that this one does not "smell", and it does not cost the municipality anything, On the contrary "the company" pays taxes to the island. Taxes that this small society really needs. Renewable energy plants can, in the future, become an important source of income.



## Perspective

We are working on the establishment of a foundation, the income being voluntary payment of 1% of wind turbine production intake. The proceeds will be used to promote promising new energy projects on the island.

One of these projects is the building of offshore wind turbines. Ambitious? Yes, but the islanders are apparently ready to take the next step in reaching

the goal of total self sufficiency from renewable energy. At this very moment investment has begun on the preliminary studies for the offshore plant. ( the offshore wind turbines will produce an amount of energy corresponding to energy consumption in the transport sector). The process continues , the island is establishing a new commercial development with new stimulating places of work and an improved energy balance.

**Courage and Determination**

**Mod og vilje**



## **Vi kom til Samsø i 1983, hvor vi købte en lille gård. Vi har 110 malkekør, og så dyrker vi majs, korn og græskar.**

## **We moved to Samsø in 1983 and bought a small farm. We have 110 dairy cattle and besides that we grow corn, wheat and pumpkins.**

Fra Vestjylland til Samsø  
Jørgen Tranberg, 49, Bestyrelsес-  
medlem Samsø Energi- og Miljøk-  
ontor, Bestyrelsесformand Samsø  
Havvind.

Flyttede til Samsø fra Vestjylland  
i 1983 med sin kone og deres  
3 børn.



Jørgen Tranberg, 49, Board  
member Samsø Energi- og Miljøk-  
ontor, Board Director Samsø Sea  
Wind.

Moved to Samsø from West Jut-  
land in 1983 with his wife and  
3 children.

Den første vindmølle jeg investerede i var andelsmøllen i Kolby Kås i 1985. Jeg ville også have haft en ude på min egen mark, men så faldt vingerne af den ude i Kolby Kås, og så blev det besværligt at bygge flere møller. Men da vi så blev Vedvarende Energi-Ø, gik det fremad igen.

Jeg kom med i VEØ, fordi jeg blev spurgt, om jeg ville være med i bestyrelsen i Samsø Energi- og Miljøkontor. Samtidig var jeg jo interesseret i vindmøller og i miljøet – men ikke i økolologien som sådan. Jeg synes det er bedre at det konventionelle landbrug rykker på det område, det er der mere volumen i. Men jeg er også sådan indrettet, at jeg vil have en ordentlig løn for gå på arbejde, så penge tæller nok mere end miljøet.

Jeg havde en vindmølle på land, fordi det var en god forretning. Jeg ville selvfølgelig ikke have den, hvis den gav underskud. Det vil også stadig være en god forretning at eje vindmøller, når vi kommer ud af de statsstyrede faste KW priser.

Det, der har drevet mig, er nok udfor

The first windmill I invested in was the co-operative mill in Kolby Kås in 1985. I also wanted to build one in my own field, but then the wings fell off the mill in Kolby Kås and it became more difficult to get permission to build. When we became Renewable Energy Island things started to move forward again.

I joined the Renewable Energy Island organisation because I was asked to sit on the board of Samsø Energi- og Miljøkontor. At the same time I was interested in windmills and the environment – but not ecology as such though. I like the idea that conventional farmers do something in that area as the volume of conventional farming creates a much greater effect. But I also emphasize that I want to make money on the work I do, so maybe money are more important than the environment.

I had a landmill because it was good business, I wouldn't have had it if it didn't yield a profit. And I am confident that it will still be a profitable business to own windmills when we get out of the fixed KW prices that are controlled by the state at the moment.



## **"What's an island?"**

dringen i at få det til at fungere. For du kan jo ikke sige at det kun er pengene, der driver det - der er jo ikke nogen der går sultne i seng. Måske er det det, at man kan se resultater med det samme.

Da Samsø Havvind projektet startede, fik Energikontoret en plads i bestyrelsen og jeg blev valgt til at bestride det hvert. Det Samsø Havvind har lært mig er jo svært at beskrive, men jeg synes, at når det var så nemt at lave møller på landjorden, så kunne det jo ikke være så svært at lave nogen ude på havet. Og det gode ved de store projekter er, at der er mulighed for at hyre nogle professionelle folk til at lave alle papirerne og undersøgelserne.

Men jeg tror ikke, jeg ville have været formand for Samsø Havvind, hvis jeg ikke selv var investor.

Samsø Havvind har været en stor succes og det næste vi skal i gang med er brint og salg af viden. Hvis vi får brnten, har vi hele energien rundt til transportsektoren.

Jeg tror nok, at jeg er optimist. Selv om det ser negativt ud, kan jeg jo altid vælge at se det positive i situationen. Sådan er det også med landbrug, tingene udvikler sig jo for det meste mere positivt end man troede. For mig har det været noget med at se klart og ikke komme med dårlige undskyldninger for ikke at gøre noget. Og så kan vi selvfølgelig prøve at sænke forbruget noget mere.

What has driven me is probably the challenge of making it work. You cannot really say that it is the money that motivates you – no one here goes to bed hungry. Maybe it is the joy of seeing immediate results that is so motivating.

When The Samsø Sea Wind project started Samsø Energi- og Miljøkontor was offered a chair on the board and I was chosen to represent the organisation.

What the Samsø Sea Wind project has taught me is difficult to say, but I was thinking that when it was so easy to build landmills it couldn't be too difficult to build some off shore. And the wonderful thing about projects of that magnitude is that they give you the opportunity to hire professionals to do all the projecting and the paper work.

But I don't think I would have been Board Director in Samsø Sea Wind if I wasn't an investor myself.

Samsø Sea Wind has been a huge success. The next step is hydrogen production and export of know how. If we get the hydrogen we will have a full circle of energy sources also for the transportation sector.

I believe I am an optimist. Even though prospects look bleak I can always choose to see the positive side of the situation. That's the way it is with farming too, more often things turn out better than you thought they would. To me it is about clear sight and no bad excuses for doing nothing. And then we can always try to lower our use of energy even more.

**Frem i tiden**

**Forward in time**





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