

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 11-K



05058938

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2004

TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____

Commission File Number 001-09057

A. Full title of the plans and the address of the plans, if different from that of the issuer named below:

Wisconsin Energy Corporation Employee Retirement Savings Plan

B. Name of issuer of the securities held pursuant to the plans and the address of its principal executive office:

Wisconsin Energy Corporation
231 West Michigan Street
P.O. Box 1331
Milwaukee, WI 53201

✓
PROCESSED
JUN 28 2005
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FINANCIAL

Financial Statements and Exhibits:

(a) Financial Statements:

Wisconsin Energy Corporation Employee Retirement Savings Plan
Report of Independent Registered Public Accounting Firm.
Report of Independent Registered Public Accounting Firm.
Statements of Net Assets Available for Benefits
as of December 31, 2004 and 2003.
Statements of Changes in Net Assets Available for Benefits
for the years ended December 31, 2004 and 2003.
Notes to Financial Statements.
Form 5500, Schedule H, Part IV, Line 4i – Schedule of Assets
(Held at End of Year) as of December 31, 2004.

(b) Exhibits:

- 23.1 Consent of Independent Registered Public Accounting Firm –Clifton Gunderson LLP
- 23.2 Consent of Independent Registered Public Accounting Firm – Deloitte & Touche LLP

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Committee which administers the plan has duly caused this annual report to be signed on its behalf by the undersigned hereunto duly authorized.

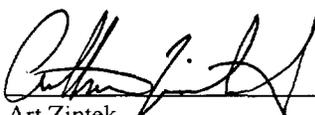
Wisconsin Energy Corporation Employee Retirement Savings Plan

Name of Plan

By: Employee Benefits Committee

Date: June 23, 2005

By:



Art Zintek
Vice President of Wisconsin Energy Corporation
and Chairman of the Employee Benefits Committee

**WISCONSIN ENERGY CORPORATION
EMPLOYEE RETIREMENT SAVINGS PLAN
Milwaukee, Wisconsin**

**FINANCIAL STATEMENTS AND
SUPPLEMENTAL SCHEDULE
December 31, 2004 and 2003**

**WISCONSIN ENERGY CORPORATION EMPLOYEE RETIREMENT
SAVINGS PLAN**

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Report of Independent Registered Public Accounting firm

Plan Administrator
Wisconsin Energy Corporation
Employee Retirement Savings Plan
Milwaukee, Wisconsin

We have audited the accompanying statement of net assets available for benefits of Wisconsin Energy Corporation Employee Retirement Savings Plan as of December 31, 2004, and the related statement of changes in net assets available for benefits for the year then ended. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audit. The financial statements of the Plan as of and for the year ended December 31, 2003 were audited by other auditors whose report dated April 30, 2004, expressed an unqualified opinion on those financial statements.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Plan is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for benefits of Wisconsin Energy Corporation Employee Retirement Savings Plan as of December 31, 2004 and the changes in net assets available for benefits for the year then ended.

Our audit was made for the purpose of forming an opinion on the basic financial statements taken as a whole. The accompanying supplemental information is presented for purposes of additional analysis and is not a required part of the basic financial statements, but is supplementary information, required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. This supplemental information is the responsibility of the Plan's management. The supplemental schedule has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is presented fairly, in all material respects, in relation to the basic financial statements taken as a whole.

Clifton Gunderson LLP

Milwaukee, Wisconsin
June 13, 2005

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Plan Administrator of the
Wisconsin Energy Corporation
Employee Retirement Savings Plan:

We have audited the accompanying statement of net assets available for benefits of Wisconsin Energy Corporation Employee Retirement Savings Plan (the "Plan") as of December 31, 2003 and the related statement of changes in net assets available for plan benefits for the year then ended. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such financial statements present fairly, in all material respects, the net assets available for benefits of the Plan as of December 31, 2003, and the changes in its net assets available for benefits for the year then ended, in conformity with accounting principles generally accepted in the United States of America.

Deloitte & Touche LLP

Milwaukee, Wisconsin
April 30, 2004

**WISCONSIN ENERGY CORPORATION EMPLOYEE
RETIREMENT SAVINGS PLAN**

**STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS
AS OF DECEMBER 31, 2004 AND 2003
(In Thousands)**

	2004	2003
ASSETS		
Investments, at fair value		
Investment in Master Trust	\$ -	\$749,057
Investments	<u>844,583</u>	<u>12,852</u>
NET ASSETS AVAILABLE FOR BENEFITS	<u>\$844,583</u>	<u>\$761,909</u>

These financial statements should be read only in connection with the accompanying summary of significant accounting policies and notes to financial statements.

**WISCONSIN ENERGY CORPORATION
EMPLOYEE RETIREMENT SAVINGS PLAN**

**STATEMENTS OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
FOR THE YEARS ENDED DECEMBER 31, 2004 AND 2003**

(In thousands)

	2004	2003
ADDITIONS		
Contributions:		
Participants	\$38,309	\$36,515
Rollover	2,750	1,631
Employer	<u>10,359</u>	<u>10,231</u>
Total contributions	51,418	48,377
Investment income		
Net investment income from Master Trust	72,451	158,161
Interest on participant loans	<u>756</u>	<u>784</u>
Total investment income	<u>73,207</u>	<u>158,945</u>
Total additions	124,625	207,322
DEDUCTIONS		
Administrative expenses	72	61
Benefits paid to participants	<u>41,879</u>	<u>27,403</u>
Total deductions	<u>41,951</u>	<u>27,464</u>
NET INCREASE	82,674	179,858
NET ASSETS AVAILABLE FOR BENEFITS, BEGINNING OF YEAR	<u>761,909</u>	<u>582,051</u>
NET ASSETS AVAILABLE FOR BENEFITS, END OF YEAR	<u>\$844,583</u>	<u>\$761,909</u>

These financial statements should be read only in connection with the accompanying summary of significant accounting policies and notes to financial statements.

WISCONSIN ENERGY CORPORATION EMPLOYEE RETIREMENT SAVINGS PLAN

NOTES TO FINANCIAL STATEMENTS FOR THE YEARS ENDED DECEMBER 31, 2004 AND 2003

1. DESCRIPTION OF PLAN

The following description of the Wisconsin Energy Corporation (the "Company") Employee Retirement Savings Plan (the "Plan") is provided for general information purposes only. More complete information regarding the Plan's provisions may be found in the Plan document.

General—The Plan is a defined contribution plan covering all employees who are employed by a participating company and who are not represented by a union or are represented by a union designated by the Company, as defined in the Plan document; and who are projected to complete at least 1,000 hours of service within one year from their hire date. The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended ("ERISA").

The Plan was a participant in the Wisconsin Energy Corporation Master Trust (the "Master Trust") which was maintained by Fidelity Management Trust Company (the "Trustee"). All contributions were made to the Master Trust. Deposits from the Plan along with deposits from other participating plans were commingled in the Master Trust. Allocation of assets to each of the plans participating in the Master Trust and to each participant in the Plan was based upon each participant's account value on the valuation date. Allocation of net investment income of the Master Trust (interest and dividend income, net gain or loss on investments sold and unrealized appreciation or depreciation in the market value of investment assets) was based on equity totals for each plan. Effective December 31, 2004 the Plan assets are no longer held in a Master Trust arrangement but all assets are still held in a trust as maintained by the Trustee.

Effective April 1, 2004, the Plan was amended. At that time, the Company Common Stock Fund, which is an investment option in the Plan, was converted to an employee stock ownership plan for participants who are not represented by a union or who are represented by a union who elected to participate in the employee stock ownership plan. The remaining portion of the Plan remains a profit sharing plan.

Contributions—Contributions are subject to certain limitations of the Internal Revenue Code ("IRC"). Participants are allowed to make pre-tax and post-tax contributions of up to 20% of their base wages, as defined. Participants may also contribute amounts representing distributions from other qualified defined benefit or defined contribution plans ("rollovers"). The Company matches 50% of participant contributions of up to 6% of wages as defined in the Plan. Company matching contributions are made to the employee stock ownership plan or the Company Common Stock Fund, as the case may be. Additionally, each participant over age 50 can elect to make catch up contributions subject to certain limitations of the Internal Revenue Code.

Participant Accounts—Individual accounts are maintained for each of the Plan’s participants to reflect the participant’s contributions and related employer contributions, as well as the participant’s share of the Plan’s income and any related administrative expenses. Allocations are based on the proportion that each participant’s account balance has to the total of all participants’ account balances.

Vesting—Participants are immediately vested in their contributions plus actual earnings thereon. Upon completion of one year of service or upon attainment of 59-1/2 years of age while in the service of the Company, participants become 100% vested in the Company’s matching contributions. Forfeited balances of terminated participants’ nonvested accounts are used to reduce future employer contributions. At December 31, 2004 and 2003, forfeited nonvested accounts totaled \$3,750 and \$31,747, respectively. Total forfeitures used to reduce future employer contributions were \$10,047 and \$12,236 in 2004 and 2003, respectively.

Investment Options—The participants’ deposits and the Company’s annual contributions are paid to the Trustee who invests the deposits, as directed (in whole percentages) by the participant, within prescribed limitations, into 17 investment funds offered by the Trustee, which includes Company common stock. Company contributions are initially made to the employee stock purchase plan or the Company Common Stock Fund, as the case may be, but can then be transferred to other funds by the participant.

Benefit Payments—A participant may take a distribution due under the Plan as a single lump-sum cash payment or installment payments over a period not extending beyond the life expectancy of the participant. The full value of a participant’s account is automatically distributed through a lump-sum cash payment to the employee or designated beneficiary upon retirement, termination of employment or death, for account balances less than \$5,000. As the Plan is primarily designed to meet long-term financial needs, employees may permanently withdraw amounts from their accounts under the terms of the Plan’s financial hardship withdrawal guidelines. Additionally, participants may withdraw all or a portion of the value of their after-tax contributions; however, these withdrawals are limited to once per Plan year per participant.

Participant Loans—Participants may borrow from their fund accounts a minimum of \$1,000 up to the lesser of 50% of their account balance or \$50,000, minus any outstanding loan balances over the past 12 months. Loans are repayable monthly over periods not to exceed five years. The interest rate charged on participant loans is fixed at the beginning of each loan at the then current prime rate plus 1%.

The interest paid by a participant on their loan balance is credited directly to their individual account. Interest rates on participant loans ranged from 5.0% to 10.5% at December 31, 2004 and 5.0% to 10.5% at December 31, 2003.

2. ACCOUNTING POLICIES

Basis of Accounting—The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America.

Income Recognition—Investment transactions are recorded on trade date. Interest is recorded as earned. Dividends are recorded on the ex-dividend date.

Investments—Investments, including those of the Master Trust, are stated at fair value, except for investments in guaranteed investment contracts held in the Blended Rate Income Fund (“BRIF”), an investment option in the Plan, which are stated at contract value. The investments in guaranteed investment contracts and synthetic guaranteed investment contracts held in the BRIF are valued at contract value because the contracts are fully benefit responsive. Contract value represents contributions made under the contract, plus earnings, less withdrawals and administrative expenses. Participant loans are stated at the outstanding principal balance, which approximates fair value. Shares of mutual funds and Company common stock are valued at quoted market prices. Units of collective trust funds are valued at the fair value as determined by the Trustee through reference to published market data.

The Plan provides for investments in mutual funds, collective trusts, and Company stock. Investment securities are exposed to various risks, including, but not limited to, interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investments will occur in the near term.

Administrative Expenses—Substantially all administrative expenses of the Plan are paid by the Company, except for loan origination fees which are paid by the borrowing participant and charged against the fund from which the borrowings are made.

Payment of Benefits—Benefit payments to participants are recorded upon distribution. Amounts allocated to accounts of persons who have elected to withdraw from the plan but have not yet been paid were \$0 at December 31, 2004 and 2003.

Use of Estimates—The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires the Plan’s management to make estimates and assumptions that affect the reported amounts of assets and liabilities and changes therein, and disclosure of contingent assets and liabilities. Actual results could differ from those estimates.

3. INVESTMENT IN MASTER TRUST

The Plan was a participant of the Master Trust until December 31, 2004. Effective January 3, 2002, the SHURflo 401(k) Profit Sharing Plan (the “SHURflo Plan”), and the Hypro Corporation Retirement Plan (the “Hypro Plan”) became participants in the Master Trust. Effective January 10, 2002, the Sta-Rite Industries Incentive Savings Plan (collectively with the Plan, the SHURflo Plan and the Hypro Plan, the “Plans”) became a participant in the Master Trust.

On February 3, 2004, the Company entered into an agreement to sell Sta-Rite Industries, LLC, Shurflo, LLC and Hypro, LLC (the sponsors of three of the four Master Trust participants) to Pentair, Inc. The transaction closed effective July 31, 2004. Upon sale, the three Master Trust participants other than the Plan withdrew

from the Master Trust.

Units of participation in the Master Trust were owned in various amounts by each of the Plans. The income of the commingled portion of the Master Trust was determined monthly and allocated to each Plan based on the number of units owned by the respective Plan.

The fair market and contract values of the assets in the Master Trust as of December 31, 2004 and 2003, are as follows (in thousands):

	2004	2003
Guaranteed investment contracts	-	\$145,519
Company common stock fund*	-	172,220
Common stock mutual funds	-	404,500
Equity common collective fund	-	74,627
Government securities mutual funds	-	9,225
Corporate debt securities mutual funds	<u>-</u>	<u>32,809</u>
Total Master Trust	<u>\$ -</u>	<u>\$838,900</u>

* Party-in-interest

Allocation of the commingled Master Trust assets to the Plans was as follows at December 31, 2003 (in thousands):

Wisconsin Energy Corporation Employee Retirement Savings Plan	\$749,057	89.3%
Sta-Rite Industries Incentive Savings Plan	45,125	5.4
SHURflo 401(k) Profit Sharing Plan	20,215	2.4
Hypro corporation Retirement Plan	<u>24,503</u>	<u>2.9</u>
	<u>\$838,900</u>	<u>100.0%</u>

The contract values and fair values, as confirmed by the Trustee, of investment contracts as of December 31, 2003 are as follows (in thousands):

	Contract Value	Fair Value
Guaranteed investment contracts	\$ 2,913	\$ 2,913
Synthetic guaranteed investment contracts	<u>142,606</u>	<u>146,758</u>
	<u>\$145,519</u>	<u>\$149,671</u>

The weighted average yield for the Master Trust's investments in guaranteed investment contracts was 4.5% for the year ending December 31, 2003. The weighted average crediting interest rate was 4.4% as of December 31, 2003. The crediting interest rates reset on a quarterly basis based on the contract and fair values of the investments as well as the portfolio duration at that time.

Net Master Trust income from commingled assets allocated to the Plans for the years ending December 31 is as follows (in thousands):

	<u>2004</u>	<u>2003</u>
Interest and dividend income	\$22,732	\$17,156
Net appreciation (depreciation), by type:		
Company common stock fund * #	1,177	43,328
Common stock mutual funds	41,096	98,069
Equity common collective fund	6,778	16,381
Corporate debt securities mutual funds	(253)	(149)
Lifestyle mutual funds	<u>273</u>	<u>-</u>
Total net appreciation	<u>49,035</u>	<u>157,629</u>
 Total Master Trust income	 <u>\$71,767</u>	 <u>\$174,785</u>

*Represents a party-in-interest

Includes Company common stock fund and employee stock ownership plan

At December 31, 2003, the Master Trust held 5,104,295 shares of Company common stock, and 9,909,066 units of the Company Common Stock Fund. The Company Common Stock Fund invests in Company common stock and money market accounts. It is accounted for on a unitary basis.

4. INVESTMENTS

At December 31, 2004, the Plan held 4,878,379 shares of Company common stock and a total of 9,466,460 units of the Company Common Stock Fund and the employee stock purchase plan.

The fair values of individual investments that represent 5 percent or more of the Plan's net assets as of December 31, 2004 are as follows (in thousands):

Common Stock	
Company Common Stock	\$ 164,455
Mutual Funds	
Fidelity Equity Income	93,109
Fidelity Growth Company	111,767
Fidelity Balanced	50,810
Fidelity Low Preferred stock	73,909
Fidelity Diversified International	50,100
Equity Common Collective Fund	
Fidelity U.S. Equity Index Pool	68,670

The contract values and fair values, as confirmed by the Trustee, of investment contracts as of December 31, 2004 are as follows (in thousands):

	Contract Value	Fair Value
Guaranteed investment contracts	\$ 1,859	\$ 1,859
Synthetic guaranteed investment contracts	<u>124,107</u>	<u>125,626</u>
	<u>\$125,966</u>	<u>\$127,485</u>

The weighted average yield for the Plan's investments in guaranteed investment contracts was 4.2% for the year ending December 31, 2004. The weighted average crediting interest rate was 4.2% as of December 31, 2004. The crediting interest rates reset on a quarterly basis based on the contract and fair values of the investment as well as the portfolio duration at that time.

5. PLAN TERMINATION

Although it has not expressed any intent to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA and of the Company's labor agreements. In the event of Plan termination, participants will become 100% vested in their accounts.

6. FEDERAL TAX STATUS

The Internal Revenue Service has determined and informed the Company by a letter dated November 12, 2003 that the Plan was designed in accordance with the applicable regulations of the Internal Revenue Code. The Plan has been amended since receiving the determination letter; however, the Company and the plan administrator believe that the Plan is currently designed and operated in compliance with the applicable requirements of the Internal Revenue Code and the Plan continues to be tax-exempt. Therefore, no provision for income taxes has been included in the Plan's financial statements.

7. RELATED PARTY TRANSACTIONS

The Plan invests in Company common stock. In addition, certain Plan investments represent shares of mutual funds and collective trust funds managed by the Trustee. These transactions are considered party-in-interest transactions. These transactions are not, however, considered prohibited transactions under ERISA regulations. Fees paid by the Plan for investment management services were included as a reduction of the return earned on each fund.

* * * * *

SUPPLEMENTAL SCHEDULE

**WISCONSIN ENERGY CORPORATION
EMPLOYEE RETIREMENT SAVINGS PLAN**

**FORM 5500, SCHEDULE H, PART IV, LINE 4i-SCHEDULE OF ASSETS
(HELD AT END OF YEAR)
DECEMBER 31, 2004**

<u>Identity of Issue and Description of Investment</u>	<u>Contract Value or Fair Value (in thousands)</u>
Blended Rate Income Fund (BRIF)	
AIG Financial Products Co., 4.52%	\$ 31,026
Chase Manhattan Bank, 4.51%	31,026
Morgan Guaranty, 4.51%	31,029
UBS AG, 4.51%	31,026
Fidelity Short-Term Investment Fund, 1.90% *	1,859
Wisconsin Energy Corporation Common Stock Fund #	
Wisconsin Energy Common Stock *	164,455
Interest bearing cash	1,398
Mutual Funds	
Vanguard MidCap Index I	34,444
Fidelity Equity Income*	93,109
Fidelity Growth Company*	111,767
Fidelity Balanced*	50,810
Fidelity Low Preferred Stock*	73,909
Fidelity Diversified International*	50,100
Fidelity Small Cap Stock*	9,721
Fidelity Freedom Income*	61
Fidelity Freedom 2010*	1,811
Fidelity Freedom 2020*	855
Fidelity Freedom 2030*	170
Spartan Total Market Index	3,134
Spartan International Index	2,564
Fidelity Ret Government Money Market*	7,946
Fidelity U.S. Bond Index*	27,156
Fidelity Freedom 2040*	105
Fidelity Freedom 2005*	469
Fidelity Freedom 2015*	831
Fidelity Freedom 2025*	376
Fidelity Freedom 2035*	64
Equity Common Collective Fund	
Fidelity U.S. Equity Index Pool*	68,670
Other	
Participant loans – 5.0% to 10.5%, with various maturities*	<u>14,692</u>
Total	<u>\$ 844,583</u>

*Represents a party-in-interest

Includes shares held in both the Company Common Stock Fund and the employee stock ownership plan

EXHIBIT INDEX

Exhibit No.	Description
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23.1	Consent of Independent Registered Public Accounting Firm - Clifton Gunderson LLP
23.2	Consent of Independent Registered Public Accounting Firm - Deloitte & Touche LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-86467 on Form S-8 of our report dated June 13, 2005 appearing in this Annual Report on Form 11-K of Wisconsin Energy Corporation Employee Retirement Savings Plan for the year ended December 31, 2004.

Clifton Gunderson LLP

Milwaukee, Wisconsin

June 23, 2005

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-86467 on Form S-8 of our report dated April 30, 2004 appearing in this Annual Report on Form 11-K of Wisconsin Energy Corporation Employee Retirement Savings Plan for the year ended December 31, 2004.

Deloitte & Touche LLP

Milwaukee, Wisconsin
June 23, 2005